



ENVIRONMENTAL, SOCIAL, AND
GOVERNANCE MANUAL

DIRECTORATE GENERAL OF BUDGET
FINANCING AND RISK MANAGEMENT

MINISTRY OF FINANCE

Foreword

As part of the world community, Indonesia has declared its commitment and agreed to the Sustainable Development Goals to end poverty, fight inequality, and mitigate the impact of climate change. This commitment is clearly stated in the Enhanced Nationally Determined Contribution (“ENDC”) by setting an emission reduction target (unconditional emission reduction) of 31.89% (previously 29%), and a conditional reduction target of 43.2% (previously 41%) in 2030.

At the national level, the implementation of this commitment has been translated into a number of policies. In the context of development planning, the National Medium Term Development Plan (RPJMN) for 2020 – 2024 has considered the Sustainable Development Goals as part of the goals to be achieved. This is aligned with the mandate in Presidential Regulation number 111 of 2022 concerning the Implementation of Achieving Sustainable Development Goals.

In the context of fiscal policy, the Ministry of Finance has established several policy breakthroughs and created instruments that are oriented towards achieving sustainable goals and dealing with climate change. We can mention the Climate Change Fiscal Framework (CCFF), Carbon Pricing or the Economic Value of Carbon, Thematic Securities Instruments through the Green Sukuk Framework and SDG Framework, and the initiative to establish the Energy Transition Mechanism Country Platform (ETM Country Platform).

Moreover, the Ministry of Finance also sees great potential in how to encourage more effective use of the state budget to achieve sustainable goals, particularly in infrastructure financing. Embedding environmental, social, and governance aspects in the provision of government support for infrastructure financing is considered effective to promote sustainable infrastructure development: not only contributes positively to the economy, but also minimizes the potential negative impact to the environment and society.

The Environmental, Social and Governance Framework and its Manual (developed by the Ministry of Finance) is one of the efforts to direct infrastructure development that brings benefits now and the future generations. The Framework and its guidance are prepared in a pragmatic approach. While the Framework is conceptual, the Manual provides a clear explanation on how to implement the Framework. I believe both can be used easily by stakeholders.

This Environmental, Social and Governance Framework should be seen as a living document that needs to be continuously improved. If it is a journey, this is just the first step. This journey ahead will bring many lessons that encourage us to continue to make improvements. As a first step, this Framework is certainly not perfect. Therefore, the Ministry of Finance is always open for improvements. And I would invite all stakeholders to provide constructive feedback for better Framework and Manual.

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List of Abbreviations

Abbreviation	Meaning
ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
AMDAL (EIA)	<i>Analisis Mengenai Dampak Lingkungan</i> (Environmental Impact Assessment)
AML	Anti-Money Laundering
AP	Availability Payment
ARCI	Accountable, Responsible, Consulted, and Informed
ASEAN	Association of Southeast Asian Nations
Bappenas	<i>Badan Perencanaan Pembangunan Nasional</i> (National Development Planning Agency)
BD	Business Development
BKPM	<i>Badan Koordinasi Penanaman Modal</i> (Indonesian Investment Coordinating Board)
BPN	Badan Pertanahan Nasional (National Land Agency)
BUMD	<i>Badan Usaha Milik Daerah</i> (Regional-Owned Enterprises)
BUP (IBE)	<i>Badan Usaha Pelaksana</i> (Implementing Business Entity)
CAP	Corrective Action Plan
CBA	Cost Benefit Analysis
CDD	Customer Due Diligence
CDSB	Carbon Disclosures Standards Board
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CEMS	Continuous Emission Monitoring System
CRPD	Convention on the Rights of Persons With Disabilities
CSF	Corporate Strategy and Finance
CTF	Counter-Terrorism Financing
CTP	Confirmation to Proceed
DED	Detail Engineering Design
DINFRA	<i>Dana Investasi Infrastruktur</i> (Collective Investment Contracts)
DPPT (LPPD)	<i>Dokumen Perencanaan Pengadaan Tanah</i> (Land Procurement Planning Document)
ESG	Environmental & Social
EDD	Enhance Due Diligence
EFBA	Environmentally Friendly Business Activities
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EP	Equator Principles
ERP	Emergency Preparedness and Response
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESS	Environmental Social Standard
ESSF	Environmental and Social Safeguards Framework



Abbreviation	Meaning
FBC	Final Business Case
FS	Feasibility Study
FSP	Financial Service Providers
GA	Guarantee Agreement
GAC	Guidance and Consultation
GAP	Gender Action Plan
GBS	Green Bond Standards
GBV	Gender-based Violence
GCA	Government Contracting Agency
GCG	Good Corporate Governance
GEDSI	Gender Equality, Disability and Social Inclusion
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GM	Grievance Mechanism
GoI	Government of Indonesia
GRI	Global Reporting Initiative
GRM	Grievance Redress Mechanism
GSSC	Gender-sensitive Stakeholder Consultation
HAZID	Hazard Identification
HAZOP	Hazard and Operability Study
HSE	Health, Safety, and Environment
IBE	Implementing Business Entity
ICESCR	International Covenant on Economic, Social And Cultural Rights
ICMA	International Capital Market Association
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IIF	Indonesia Infrastructure Finance
ILO	International Labour Organization
IP	Indigenous People
IPA	In-Principle Approval
IPP	Indigenous Peoples Plan
IPPF	Indigenous People Planning Framework
ISSB	International Sustainability Standards Board
KPI	Key Performance Indicator
KSK	<i>Kawasan Strategis Kabupaten</i> (Urban Strategic Regions)
KYC	Know Your Customer
LAC	Legal and Compliance
LARP / LARAP	Land Acquisition and Resettlement Plan
LC	Lifecycle
LKPP	<i>Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah</i> (National Public Procurement Agency)
LMP	Labor Management Procedures
LoI	Letter of Intent
LST (ESG)	<i>Lingkungan, Sosial, dan Tata Kelola</i> (Environmental, Social, and Governance)
Mapare	Makassar - Parepare
MEMR	Ministry of Energy and Mineral Resources
MNDP	Minister of National Development Planning



Abbreviation	Meaning
MoAgr	Ministry of Agriculture
MoCET	Ministry of Creative Economy and Tourism
MoEF	Ministry of Environment and Forestry
MoF	Ministry of Finance
MoFISH	Ministry of Marine Affairs and Fisheries
MoIND	Ministry of Industry
MOT	Ministry of Transportation
MoWECP	Ministry of Women Empowerment and Child Protection
MPWH	Ministry of Public Works and Housing
NDC	National Determined Contribution
OBC	Outline Business Case
OHS	Occupational Health and Safety
OJK	<i>Otoritas Jasa Keuangan</i> (Financial Service Authority)
PAP	Project Affected People
PDAM	<i>Perusahaan Daerah Air Minum</i> (Local Water Company)
PDF	Project Development Facility
PEP	Politically Exposed Person
PIC	Person in Charge
PIDG	Private Infrastructure Development Group
PII (IIGF)	<i>Penjaminan Infrastruktur Indonesia</i> (Indonesia Infrastructure Guarantee Fund)
PMCM	Project Monitoring and Claim Management
PMK / Permenkeu	<i>Peraturan Menteri Keuangan</i> (Minister of Finance Regulation)
PPP	Public Private Partnership
PPRG	<i>Perencanaan dan Penganggaran Responsif Gender</i> (Gender Responsive Planning and Budgeting)
PPTM	PP Tirta Madani
PQ	Prequalification
Pre-FS	Pre-Feasibility Study
PS	Performance Standard
PUG	<i>Pengarusutamaan Gender</i> (Gender Mainstreaming)
RA	Recourse Agreement
RACI	Responsible, Accountable, Consulted, and Informed
RfP	Request for Proposal
RKL	Rencana Pengelolaan Lingkungan (Environmental Management Plan)
RM	Risk Management
RMP	Risk Mitigation Plan
RP	Resettlement Plans
RPF	Resettlement Policy Framework
RPJMN	<i>Rencana Pembangunan Jangka Menengah Nasional</i> (National Medium-Term Development Plan)
RPL	<i>Rencana Pemantauan Lingkungan</i> (Environmental Monitoring Plan)
SASB	Sustainability Accounting Standards Board
SDG	Sustainable Development Goals
SEAH	Sexual Exploitation, Abuse, and Harassment
SEP	Stakeholder Engagement Plan
SEZ	Special Economic Zones
SISPEK	<i>Sistem Informasi Pemantauan Emisi Industri secara terus menerus</i> (Continuous



Abbreviation	Meaning
	Industrial Emission Monitoring Information)
SLO (OFC)	<i>Surat Laik Operasi</i> (Operational Feasibility Certificate)
SMI	<i>Sarana Multi Infrastruktur</i>
SMK3 / K3	<i>Sistem Manajemen Keselamatan dan Kesehatan Kerja</i> (Occupational Health and Safety Management System)
SMV	Special Mission Vehicle
SNG	Subnational Government
SOE	State-Owned Enterprise
SOP	Standard Operating Procedure
SPAM	<i>Sistem Penyediaan Air Minum</i> (Water Treatment Plant/"WTP")
SPPL	<i>Surat Pernyataan Pengelolaan Lingkungan</i> (Statement Letter of the Environment Management and Monitoring)
SPS	Safeguard Policy Statement
SRAP	Supplementary Resettlement Action Plan
TCFD	Task Force on Climate-Related Financial Disclosures
ToR	Term of Reference
UKL	<i>Upaya Pengelolaan Lingkungan</i> (Environmental Management Efforts)
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNSDG	United Nations Sustainable Development Goals
UPL	<i>Upaya Pemantauan Lingkungan</i> (Environmental Monitoring Efforts)
VfM	Value for Money
VGf	Viability Gap Funding
VOC	Volatile Organic Compound
WB	World Bank
WBG	World Bank Group
WTP	Water Treatment Plant
ADB	Asian Development Bank

Glossary

Terms	Meaning
Availability Payment	Periodic payments by the Minister/Head of Institutions to the Implementing Business Entity for the availability of infrastructure services in accordance with the quality and/or criteria as specified in the PPP Agreement
Baseline Surveys	Surveys containing adequate and appropriate quantitative and qualitative, primary and secondary data on the relevant aspects of the existing state of the environment and social context and the likely evolution thereof without implementation of the project, paying attention to any area of particular environmental or social importance and the use of natural resources.
Biodiversity	The variability among living organisms from all sources including, among others, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.
Capital Expenditure	Long-term expenditure on fixed assets such as land, buildings, plant and equipment.
Collective Investment Contract	Contract established by a funds manager and a trustee with the participation from the investors of the collective investment scheme, under which the funds manager is allowed to control and manage the investment and the trustee is allowed to provide the service of custodian of property.
Company Performance Rating Assessment Program in Environmental Management (PROPER)	Evaluation of the performance of the person in charge of a business and/or activity in the field of environmental management.
Condition Precedent	Conditions to be fulfilled by the project company before drawing on the debt, or before the project contracts become effective.
Condition Subsequent	Terms in a contract that causes the contract to become invalid if certain conditions are not fulfilled within a specified timeframe after the contract becomes effective.
Contingent Liability	A liability which is uncertain as to its crystallization, e.g. a guarantee or a contingent debt, either in amount and/or timing.
Cost-Benefit Analysis (CBA)	A type of analysis used to compare two or more options for a project, or a decision based on economic flows duly adjusted, following some patterns. The CBA is primarily used to assess the socio-economic feasibility or value of the selected project or project under assessment (regardless of the method of procurement).
Cultural Heritage	Cultural heritage refers to (i) tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values; (ii) unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls; and (iii) certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles.
Economic Displacement	Loss of assets or access to assets that leads to loss of income sources or other means of livelihood.



Terms	Meaning
Ecosystem Services	The benefits that people derive from ecosystems for free. The ecosystem services have provisioning, regulating, cultural and supportive characters.
Emerging Market and Developing Economy	A nation with an economy with low to middle per capita income and that is moving towards becoming developed or once was. It is usually characterized by a transition from a closed market system to an open market system while developing economic reform programs.
Environmental and Social Impact Assessment (ESIA)	ESIA is an environmental and social assessment of a business plan and/or activity which is undertaken to demonstrate to potential lenders that the project can meet international best practice (e.g. WB ESS, IFC PS, and ADB SPS).AMDALis undertaken when there is a potential lender that will provide loan funds for a business plan and/or activity (project).AMDALwill include additional mitigation, management and monitoring plans designed to minimize potential adverse impacts on the environment, socio-economic condition, and public health during the operational activity of the project.
Environmental and Social Management Plan (ESMP)	An instrument that details (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and (b) the actions that adopt mitigation hierarchy needed to implement these measures.
Environmental and Social Risks	Environmental risk may include issues that if left unmanaged may result in non-compliance with Environmental Laws; issues related to community safety (including dam safety and safe use of pesticides), climate change and other transboundary or global risks and impacts, any material threat to the protection, conservation, maintenance and restoration of natural habitats and biodiversity, and ecosystem services and the use of living natural resources, such as fisheries and forests; or obligations that have arisen from the Environmental and Social Impact Assessment and/or Environmental and Social Management Plan. Social risk may include issues related to threats to human security through the escalation of personal, communal or inter-state conflict, crime or violence; risks that project impacts fall disproportionately on individuals and groups who, because of their particular circumstances, may be disadvantaged or vulnerable; any prejudice or discrimination toward individuals or groups in providing access to development resources and project benefits, particularly in the case of those who may be disadvantaged or vulnerable; negative economic and social impacts relating to the involuntary taking of land or restrictions on land use; risks or impacts associated with land.
Environmental and Social Risk Assessment	An instrument for identifying, analyzing, and evaluating likelihood of environmental and social risks, as well as establishing mitigation mechanism and mitigation framework during project activity.
Environmental Costs	Negative environmental and ecological consequences.
Environmental Impact Assessment (EIA)	In Indonesia, EIA is referred to as AMDAL, which stands for <i>Analisis Mengenai Dampak Lingkungan</i> . AMDAL is the Indonesian environmental assessment process and is the basic prerequisite environmental approval needed to obtain other permits, including Environmental Permit. AMDAL studies are focused on technical assessment of the bio-geophysical, socio-economic and public health components and the impacts of pre-construction, construction, and operations stages, with only limited descriptions

Terms	Meaning
	of environmental and social management programs to ensure the sustainability of the business plan and/or activity. An AMDAL study consists of ANDAL (<i>Analisis Dampak Lingkungan</i> or Environmental Impact Analysis), RKL (<i>Rencana Pengelolaan Lingkungan</i> or Environmental Management Plan), and RPL (<i>Rencana Pemantauan Lingkungan</i> or Environmental Monitoring Plan).
Environmental Law	Laws, statutes, regulations, and other subordinate instruments relating to the environment (such as environment protection policies and industrial waste management policies).
Equity	The portion of the share capital and other investment subordinated to senior debt provided by members of the special purpose vehicle (SPV).
Equity Investors	Investors who finance a portion of the project's capital expenditures (Capex), typically as share capital or subordinated debt. When referring to equity investors in this handbook, it is assumed that they are the sole investors or the investors that control the Public Private Partnership (PPP) company. Some equity providers may not want to have an active role in the PPP investment life cycle. This also includes "equity providers" and "shareholders".
Feasibility Study	A study conducted by a Business Entity which can be the first step of a PPP. The study looks at the mechanism of the Business Entity's initiative and aims to improve the Pre-Feasibility Study.
Financial Close	In a financing, the point at which the documentation has been executed and conditions precedent have been satisfied or waived. Drawdowns become permissible after this point.
Final Business Case (FBC)	FBC consists of improving data with the latest conditions and updating the feasibility and readiness of the PPP which was previously included in the Outline Business Case, including the completion of matters that need to be followed up.
Gender Analysis	A socioeconomic examination of gender relations that gives information about the various conditions of men and women, as well as the many consequences that projects may have on them.
Gender Equality	Gender equality is the absence of discrimination on the basis of a person's sex or gender in opportunities, the allocation of resources and benefits, or access to services.
Gender Mainstreaming	The process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality.
Gender-based Violence (GBV)	Gender-based violence refers to harmful acts directed at an individual based on their gender. It is rooted in gender inequality, the abuse of power and harmful norms. Gender-based violence is a serious violation of human rights and a life-threatening health and protection issue. This issue is not only devastating for survivors of violence and their families, but also entails significant social and economic costs.
Government Contracting Agency (GCA)	GCA is the minister/head of institution/head of region, or directors of state-owned enterprises/region-owned enterprises as providers or operators of Infrastructure based on statutory regulations.

Terms	Meaning
Green Bond Principles (GBP)	The Green Bond Principles are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issue of a Green Bond. The GBP are intended for broad use by the market: they provide issuers guidance on the key components involved in launching a credible Green Bond; they aid investors by ensuring availability of information necessary to evaluate the environmental impact of their Green Bond investments; and they assist underwriters by moving the market towards standard disclosures which will facilitate transactions.
Green Financing	The objective of Green Financing is to increase the level of financial flows (from banking, micro-credit, insurance and investment) from the public, private and not-for-profit parties to sustainable development priorities. A key part of this is to better manage environmental and social risks, take up opportunities that generate reasonable rates of return and environmental benefits and deliver greater accountability to support and accelerate investments of PPP projects.
Greenhouse gasses	Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific avelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds.
Grievance Redress Mechanism	A set of arrangements that enable local communities, employees, out growers, and other affected stakeholders to raise grievances with the investor and seek redress when they perceive a negative impact arising from the investor's activities.
Habitat	A terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the nonliving environment. Habitats vary in their sensitivity to impacts and in the various values society attributes to them.
Hazardous Materials Management	Procedures, practices and activities to address and comply with Environmental Laws and Environmental Approvals with respect to Hazardous Materials encountered, impacted, caused by or occurring in connection with the Project or the Work, as well as investigation and remediation of such Hazardous Materials.
Implementing Authority	A line ministry or a dedicated agency that ensures that all Project Parties meet their obligations under the partnership by monitoring outputs or service and performance standards. An implementing authority may also be responsible for contract management throughout the life of the contract.
Implementing Business Entity (IBE)	A company established by the auction winning business entity or directly appointed for the PPP project
Indigenous People	Referring to the Indonesian Government Regulations No. 22 of 2021, Indigenous People/ <i>Masyarakat Adat</i> is groups of people who have traditionally lived in certain geographic areas because of ties to ancestral origins, a strong relationship with natural resources and a value system that determines economic, political, social and legal institutions. The term "Indigenous Peoples", according to international understanding (WB, IFC, UN institutions), has the following characteristics 1. Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; 2. Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; 3. Customary cultural,

Terms	Meaning
	economic, social, or political institutions that are separate from those of the mainstream society or culture; or 4. A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.
Infrastructure and Equipment Safety	Is design, construct, operate, and decommission the structural elements by the business entity of the project in accordance with national legal requirements, the EHSGs and other GIIP, taking into consideration safety risks to third parties and affected communities.
Infrastructure Co-Guarantee	Co-guarantee is required if the guarantee exposure is too large to be covered alone by Indonesia Infrastructure Guarantee Fund (IIGF). This co-guarantee can be obtained from Ministry of Finance (MoF), Bilateral and/or Multilateral agencies.
Infrastructure Guarantee	Infrastructure Guarantee is the provision of guarantees for GCA's financial obligations to pay compensation to the IBE when infrastructure risk occurs which is the responsibility of the GCA in accordance with the agreed allocation in the PPP Agreement.
Invasive Alien Species	Plants, animals, pathogens and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health. In particular, they impact adversely upon biodiversity, including decline or elimination of native species - through competition, predation, or transmission of pathogens - and the disruption of local ecosystems and ecosystem functions.
Involuntary Resettlement	Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, including those that lead to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.
Land Acquisition	All methods of obtaining land for project purposes, which may include outright purchase, expropriation of property and acquisition of access rights, such as easements or rights of way. Land acquisition may also include: (a) acquisition of unoccupied or unutilized land whether or not the landholder relies upon such land for income or livelihood purposes; (b) repossession of public land that is used or occupied by individuals or households; and (c) project impacts that result in land being submerged or otherwise rendered unusable or inaccessible. "Land" includes anything growing on or permanently affixed to land, such as crops, buildings and other improvements, and appurtenant bodies of water.
Legal Framework	The legal system of a country which comprises the constitution, legislative enactment body, judicial decisions, treaties, and preceding law amendments.
Legally Protected Areas	A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.
Lenders	Institutions that provide finance to the project: mainly banks and institutional investors through project bonds.
Line Ministry	Government ministries or departments responsible for policy



Terms	Meaning
	development, planning and delivery of specific services. Common examples include the Ministry of Transportation and Ministry of Health.
Nationally Determined Contribution (NDC)	Climate action plan to cut emissions and adapt to climate impacts
Natural Resources	The naturally occurring assets that provide use benefits through the provision of raw materials and energy used in economic activity (or that may provide such benefits one day) and that are subject primarily to quantitative depletion through human use. They are subdivided into four categories: mineral and energy resources, soil resources, water resources and biological resources.
O&M (Operations and Maintenance) Contract	As a procurement option for the government, an arrangement in which a private operator (under contract) operates and maintains a publicly owned asset for a specified term. Ownership of the asset remains with the public entity. It also includes a “maintenance contract” and a “facilities management contract.”
Outline Business Case (OBC)	Outline Business Case is part of PPP Pre-Feasibility Study. OBC is created as an initial study to determine PPP targets and constraints, and assess technical options, economic and social benefits, and initial environmental and social risks.
Physical Displacement	Relocation or loss of residential land or loss of shelter.
PPP Contract	The contract or agreement between the Implementing Authority and the private partner in a PPP project. The term “contract” potentially includes other agreements that may link the private partner with other public parties rather than the procuring authority, for example, through off-take agreements with a third-party authority or body.
PPP Contractual Structure	The set of key commercial terms of the PPP contract, fundamentally those related to financial terms or “financial structure of the PPP contract” (how the private partner will be paid), and risk allocation terms or “risk structure of the PPP contract” (how risks are allocated to each party to the contract).
PPP Unit	A government organization that supports contracting authorities in implementing PPP projects. It is often part of or attached to one of the central agencies, such as the MoF.
Pre-Feasibility Study	A study conducted to assess the feasibility of a PPP by considering at least legal, technical, economic, financial, risk management, environmental and social aspects.
Procurement	The process by which the public party or the Implementing Authority selects a private partner to take on the responsibility of developing PPP projects and obtains infrastructure services on terms and price considered to be the best available if reached through a competitive process. The procurement of PPPs should adhere to the general procurement framework and/or legal and regulatory frameworks of PPP in the country.
Project	The activities for which Bank support through Investment Project Financing is sought by the Borrower and as defined in the project’s legal agreement between the Borrower and the Bank.
Project Affected People	All persons impacted by involuntary resettlement, including all members of a household and community (women, men, girls, boys, incl. several generations in the case of extended households); the owner and employees of a business; members of an ethnic



Terms	Meaning
	minority group; tenants; landowners and sharecroppers; informal settlers (i.e. lacking formal titles); holders of customary land-rights; informal business-operators and their employees/assistants.
Project Company	The company that acts as the contractual counterparty of the government in a PPP. Also referred to as Special Purpose Vehicle (SPV).
Project Development Facility	A facility provided by the MoF to help GCA in preparing a final study for feasibility studies, auction documents and to assist GCA in PPP project transactions to obtain funding from financing institutions (financial close).
Project Disclosure	A formal-sounding term for making information accessible to interested and affected parties.
Project Finance	A technique to negotiate and establish the long-term debt financing of a project, where the basis of the loan repayment is the cash flows generated solely by the underlying project.
Project Identification & PPP Screening	This stage includes conducting preliminary analysis to determine, on the basis of preliminary information, whether it is likely that a project will be successfully implemented and will provide value as a PPP. It also identifies the main direct and indirect stakeholders and risks involved in the project, which may impact it positively or negatively and which must be considered in the next stage: Project Preparation & Appraisal. The output of this stage is the Project Pre-Feasibility report which is usually referred to as pre-feasibility study.
Project Implementation	This stage is the final stage of all the project stages to ensure all technical, environmental, economic & financial, and legal aspects are implemented on time during each construction and operation stage, according to the Feasibility report and recommendations. This stage also signals the implementation of the management of ESG risks and impacts for the construction & operation stages.
Project Originator	Refers to a party who initiates the project and the project preparation. Usually, Project Originator for a solicited PPP project is the public party (i.e. Implementing Agency), while for an unsolicited PPP project it is the private party.
Project Parties	All parties contractually involved in the management of the PPP such as the Public Party (and/or Implementing Agency), Private Party (and/or Project Company), and Equity Investors / Lenders
Project Preparation & Appraisal	This stage includes conducting a series of detailed feasibility exercises that inform a decision to approve, cancel, or revisit the project before preparing for the project procurement stage. Project preparation and appraisal shall cover the technical, environmental, economic & financial, and legal aspects of the project to be further challenged in the next stage: Project Procurement. The output of this stage is the “Feasibility report” which is usually referred to as a feasibility study.
Protected Species	A species of animal or plant which it is forbidden by law to harm or destroy.
Public Asset	Fixed assets, for example assets purchased for long-term use, that are public works, subject or dedicated to public use or concomitant to the provision of a public service. Public assets are often referred to as public infrastructure.
Public Private Partnership	A long-term contract between a public party and a private party for

Terms	Meaning
	the development (or significant upgrade or renovation) and management of a public asset (including potentially management of a related public service), in which the private party bears significant risk and management responsibility through the life of the contract, provides a significant portion of the finance at its own risk, and remuneration is significantly linked to performance and/or the demand for or use of the asset or service so as to align the interests of both parties.
Resettlement Action Plan	A document in which the promoter of a project or other responsible competent authority describes the impacts of the involuntary resettlement, specifies the procedures that will be followed to identify, evaluate and compensate the impacts and defines the actions to be undertaken during all stages of the resettlement.
Resource efficiency	Improving efficiency in its consumption of energy, water, as well as other resources and material inputs, with a focus on areas that are considered core business activities.
Right of Way	The legal right, established by usage or grant, to pass along a specific route through grounds or property belonging to another, or a path or thoroughfare subject to such a right.
Risk Allocation	The allocation of the consequences of each risk to one of the parties in the contract or agreeing to deal with the risk through a specified mechanism which may involve sharing the risk. Risk allocation in PPPs is meant to lower the risk profile of the project and not heighten it by passing on risks that are best managed by the government.
Risk Assessment	An instrument for identifying, analyzing, and evaluating the likelihood of PPP project risks, as well as establishing the mitigation mechanism and mitigation framework arising from a PPP contract.
Social Inclusion	Social inclusion is the process of improving the terms on which individuals and groups take part in society—improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity.
Special Mission Vehicle (SMV)	Formed to carry out development tasks mandated to the Minister of Finance outside the main/routine fiscal management function.
Special Purpose Company	Companies with limited goals or focus to carry out special or temporary activities.
Stakeholder Consultation	Two-way process of dialogue between the project company and its stakeholders. (“Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets” by IFC)
Stakeholder Engagement Plan	A formal document which outlines the plan to communicate with stakeholders who hold interest or potential interest in a project.
Stakeholder Identification	Determining who the project stakeholders are, and their key groupings and sub-groupings.
Stakeholder Mapping	Visual, four-quadrant influence-interest matrix used to identify stakeholders and categorize them in terms of their influence and interest in the project.
Stakeholders	Refers to both Project Parties (MoF, GCA, IBE) as well as non-Project Parties such as Project Affected People (PAP), Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), and other affected parties.



Terms	Meaning
Sustainable Development Goals (“SDGs”)	Also known as the Global Goals, they were adopted by the United Nations’ Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.
Tender	The process by which bids are invited from interested parties to carry out a PPP project. A tender process uses competitive pressure among bidders to obtain the best price and terms. A set of tender documents is usually prepared to structure and draft the tender process and finalize the PPP contract.
Traditional or Customary Lands	Traditional or customary land refer to the form of land, water, and or waters along with the natural resources that exist on it with certain limits, owned, utilized and preserved from generation to generation of indigenous people and in a sustainable manner to meet the needs of people’s lives obtained through inheritance from their ancestors or claim for ownership in the form of <i>ulayat</i> land or customary forest.
Value for Money (in the PPP context) (“VfM”)	The benefits relative to the costs of procuring a project using a PPP compared to other procurement options. In a PPP context, VfM can be tested at two different points in the PPP project lifecycle: <ul style="list-style-type: none">· During appraisal and structuring, a VfM test can determine whether the PPP alternative is a viable procurement mechanism that is likely to provide best value to the public authority or better value than the traditional procurement mechanism;· During the evaluation of bids, a VfM test can determine whether bids offer Value for Money against the cost of conventional procurement.
Viability Gap Fund	Government support in the form of a partial contribution to construction costs provided in cash for a PPP project that already has economic feasibility but does not yet have financial feasibility.
Vulnerable Groups	Vulnerable populations are groups and communities at a higher risk for poor health as a result of the barriers they experience to accessing social, economic, political, and environmental resources, as well as limitations due to illness or disability.
Women’s Empowerment	Women’s empowerment is an effort to promote women’s sense of self-worth, their ability to determine their own choices, and their right to influence social change for themselves and others.

1. Introduction to Environmental, Social, and Good Governance and the Manual

This Manual is for Government Contracting Agencies (GCA) to:

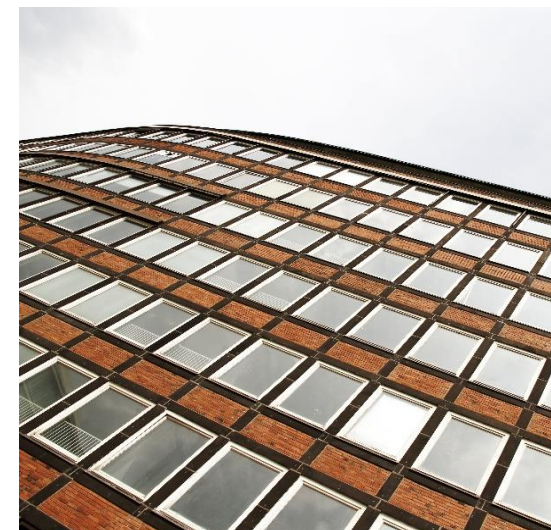
- increase access to Ministry of Finance's (MoF) Project Development Facility (PDF) support and fiscal support for Public Private Projects,
- actively mainstreaming Environmental & Social issues into the project development process can strengthen the project definition,
- proactively identify opportunities and risks that can improve Value-for-Money (VfM), and
- so also supports smooth decision-making process.

Why does ESG matter to the Ministry of Finance and government entities (Government Contracting Agencies, GCA) using Public Private Partnership (PPP) procurement modalities?

Why does Environmental, Social, and Good Governance matter to you?

Legally we must: GCA's are legally obliged to comply with existing regulations that require a proactive approach to the environmental, social, and governance assessment of PPP projects to secure financing. Also, the investor needs to comply with their lender's ESG standards, which may be different from national regulatory standards if international financing is sought. GCA needs to create an enabling environment to make it easier for the investor to meet the international ESG standards, or investment may be untenable;

We get better results when we do: ESG is nothing special. Global experience shows that countries gain a higher long-term value when the environment including climate is properly managed, workers and local population are treated fairly, and decisions are made and organization is managed in a transparent and participatory manner. It is just one of those positive externalities that generate long term values to those who practice it. The mainstreaming of ESG risk and opportunity management leads to more robust project definition that can focus both capital investments and operation in PPP projects to achieve more sustainable and resilient socio-economic benefits and thus greater Value-for-Money;



This chapter provides general introduction on PPP, ESG in PPP, and the Manual.



We improve our access to favorable financing when we do: International financing has undergone a revolution in strengthening the use of ESG criteria as a pre-requisite to financing and insuring infrastructure projects. Therefore, to secure better access to larger volumes of lower cost upfront financing from private sector commercial banks and investor funding and financing opportunities we need to proactively identify ESG risks and opportunities and demonstrate that we are managing these to achieve positive socio-economic outcomes;

We get better buy-in from stakeholders: With better stakeholder engagement and information disclosure, and elevated worker satisfactions including through reduced health and safety risks, increased public acceptance of PPP projects as well as higher worker performance and reduced lost time injuries can be anticipated.

Section 1.1 provides a **gentle introduction** to PPP. If you are familiar with the concept, you may choose to skip this section.

PPP provides governments with an effective route for providing a public asset or service, leveraging private finance and transferring significant and management responsibility risk to the private party, because their remuneration is linked to performance

1.1. About Public-Private Partnership

Public-private partnership (PPP) is a contract between a government entity (usually called a Government Contracting Agency, “GCA”) and a private sector entity (usually called an Implementing Business Entity, “IBE”) to provide a public asset or service jointly, with allocated risks and responsibilities. PPP could help overcome public budget constraints in providing reliable, long-term infrastructure services.

What is and what is not a PPP?

There is no single internationally accepted definition of a PPP. In accordance with the World Bank’s Reference Guide¹, a Public Private Partnership can be defined as:

“A long-term contract between a public party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance”

[World Bank \(2017\) – Public-Private Partnerships Reference Guide Version 3.0](#)

PPPs can be described according to the type of asset involved, what function the private party is responsible for, and how the private party is paid. World Bank’s Reference Guide provides a definition and examples of PPP contract types. Projects that fail to meet the test of complying with the above definition are not PPP projects. For example, a city government privatizing its water supply is not a PPP. Similarly, a city outsourcing medical laboratory testing through a short-term contract is not a PPP.

What is the public party rationale for using PPP procurement?

The rationale for government to use PPPs can include::

- overcoming short term **budget constraints** and public party borrowing constraints by leveraging private party financing;

¹ See Reference 12 to get the link to further reference



- enabling governments to provide infrastructure services by using **private party capacity**; and
- bringing **better VfM** through long-term procurement of infrastructure-based services that incorporate competitive pressures on whole life-cycle cost and performance management; greater focus on lifelong utilization; reliability; effectiveness; risk management; and innovation.

Outcomes for public party

PPP projects that are prepared and structured properly are more likely to generate environmental, social, governance and economic benefits to all Project Parties and stakeholders and thus VfM. PPP projects become easier to finance and more likely to attract private party and equity investor / lender interest.

Private sector parties generally are motivated to address ESG issues where there are regulatory or contractual compliance requirements and where their financing is influenced by ESG requirements. Many private sector players have deep competencies in managing ESG risks

What is the private party rationale for delivering infrastructure services through PPPs?

Private parties' rationale for delivering infrastructure services through PPPs can vary:

- **Equity investors** are normally companies seeking long-term stable returns on investments by leveraging their experience in the sector to provide services and manage risks;
- **Lenders** are normally banks seeking long-term stable lending opportunities; and
- **Contractors, suppliers & operators** are bringing experience and innovation to create infrastructure facilities efficiently and to operate & maintain these facilities efficiently. PPP projects provide opportunities for large scale construction & long-term operation contracts with robust contractual governance which provide firms with higher confidence in payment terms.

Outcomes for private party

PPP projects provide an opportunity to conduct business and make profits in areas where they can efficiently contribute to a country's infrastructure-based service delivery. A particularly powerful aspect of PPP procurement is the detailed due diligence typically undertaken by private lenders of the project's business case and contractual documents prior to committing finance. This due diligence process partially aligns the private party's interests with those of the public party in seeking successful project outcomes. The due diligence process will often reveal areas that can improve the project definition and provide more cost-efficient risk allocation for all parties.

This regulatory framework sets out a decision-making process that guides GCAs in securing the Project Development Facility support and fiscal support

Regulatory Framework for PPP in Infrastructure Provision

PPP in infrastructure provision is regulated under the Presidential Regulation No. 38/2015², supported by specific regulations on the implementing procedures.

Table 1. Regulatory Framework for PPP in Infrastructure Provision

Regulation	Concerning
Presidential Regulation No. 38 of 2015	PPP in Infrastructure Provision
Regulation of the Minister for National Development Planning (“Permen Bappenas”) No. 4 of 2015, amended by Permen Bappenas No. 2 of 2020	Procedures for Implementing PPP in Infrastructure Provision
LKPP Regulation No. 29 of 2018	Procedures for Implementing Business Entity Procurement in Infrastructure Provision through PPP Initiated by Ministers/Heads of Agencies/ Heads of Regions
Head of LKPP Regulation No. 19 of 2015	Procedures for Implementing Business Entity Procurement in Infrastructure Provision through PPP
Minister of Finance Regulation No. 260/PMK.08 of 2016	Procedures for Service Availability Financing in PPP for Infrastructure Provision
Minister of Home Affairs Regulation No. 96 of 2016	Service Availability Financing in PPP for Infrastructure Provision in Regions
Presidential Regulation No. 78 of 2010	Infrastructure Guarantee in PPP through Infrastructure Guarantee Business Entities

² See Reference 1 for further detail of national PPP laws and regulations

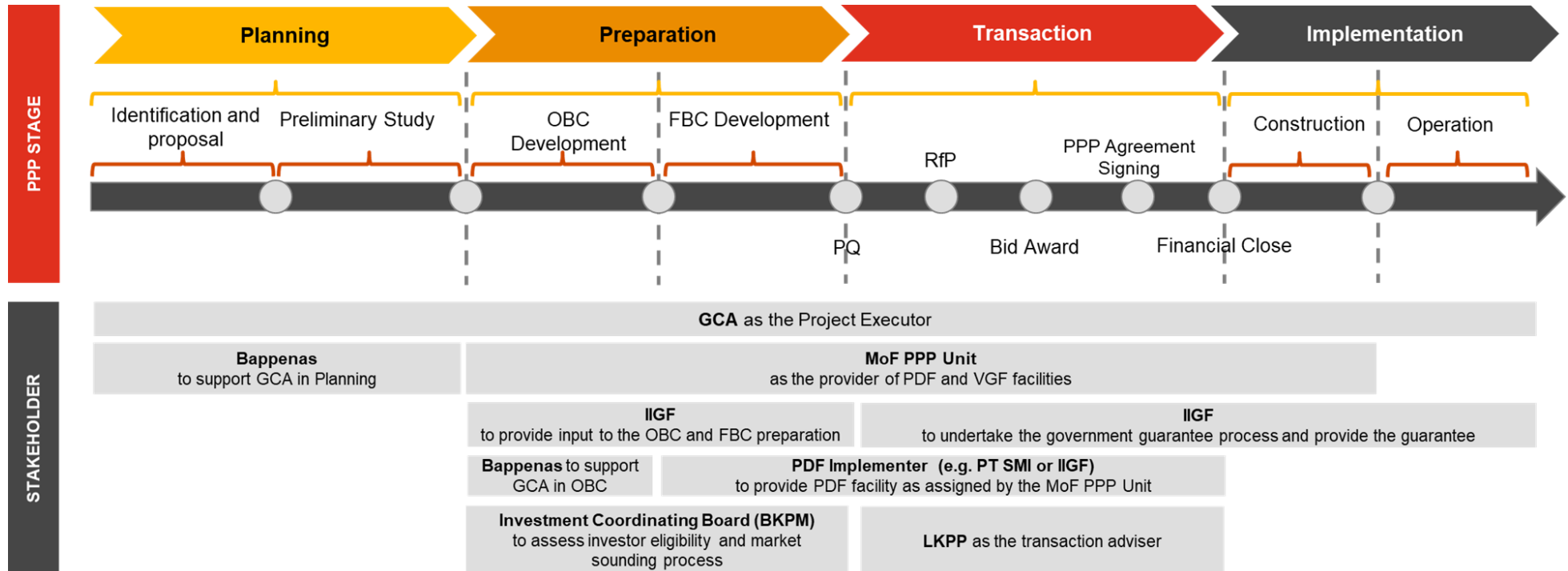


Regulation	Concerning
MoF Regulation No. 223/PMK.011/2012, as amended by MoF Regulation Number 170/PMK.08/2018 of 2018	Partial Feasibility Support for Construction Expenses for PPP in Infrastructure Provision
Financial Service Authority (“OJK”) Regulation No. 46/POJK.05 of 2020	Infrastructure Financing Companies
OJK Regulation No. 52 /POJK.04 of 2017	Infrastructure Investment Funds in the Form of Collective Investment Contracts
MoF Regulation No. 143/PMK.011/2013 of 2013, as amended by MoF Regulation No. 170/PMK.08/2015 of 2015	Guideline for the Granting of Viability Support on Part of Construction Costs in PPP Projects for Infrastructure Provision
MoF Regulation No. 180/PMK.08/2020 of 2020	Facility for Implementation of Preparation and Transaction for PPP for Infrastructure Provision

High-level Overview of PPP Workflow

The PPP workflow³ includes four stages to be delivered by the GCA, with support from Bappenas, Ministry of Finance, and other ministries/ agencies and SOEs.

Figure 1. High-level Overview of PPP Workflow

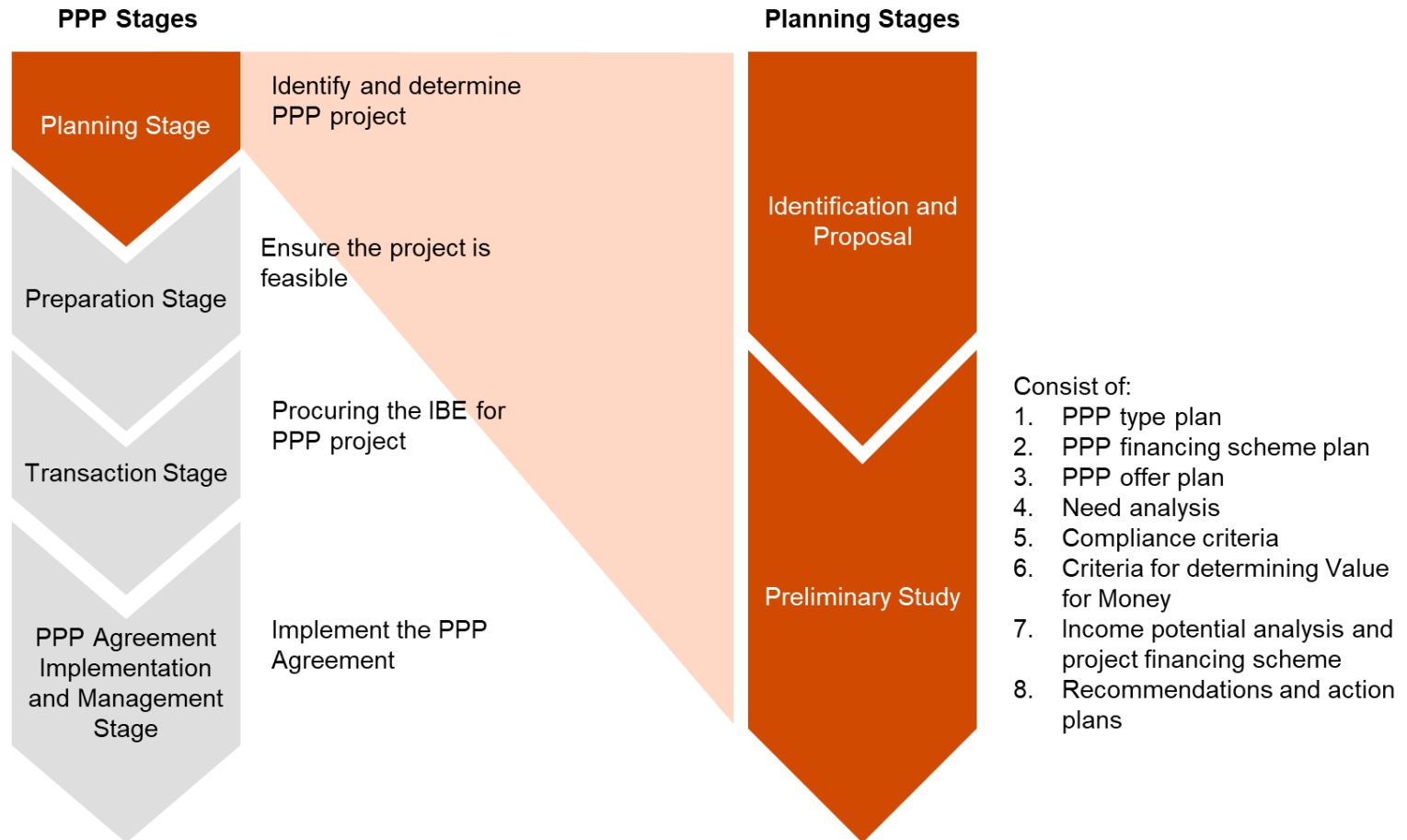


³ See Reference 8 and 9 for further explanation on PPP payment and proposal schemes

High-level Overview of Preliminary Study

The GCA is responsible for developing a Preliminary Study during PPP Planning stage as regulated in Bappenas Ministerial Regulation No. 2 years 2020. The contents of that study should include the following.

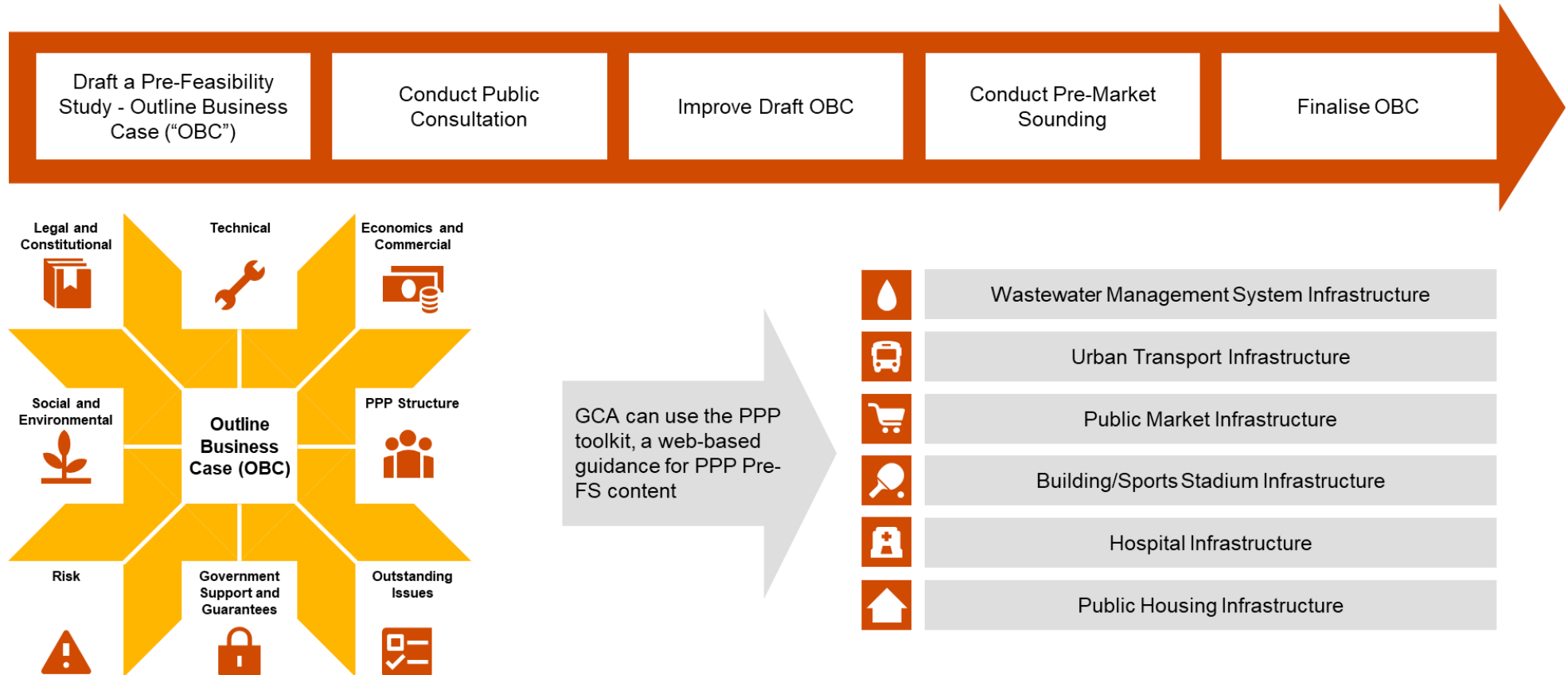
Figure 2. High-level Overview of Preliminary Study



High-level Overview of PPP Project OBC Development

The GCA is responsible for developing a Pre-Feasibility Study of the proposed PPP project based on a set of reviews (legal and institutional, technical, environmental, and social, etc.)

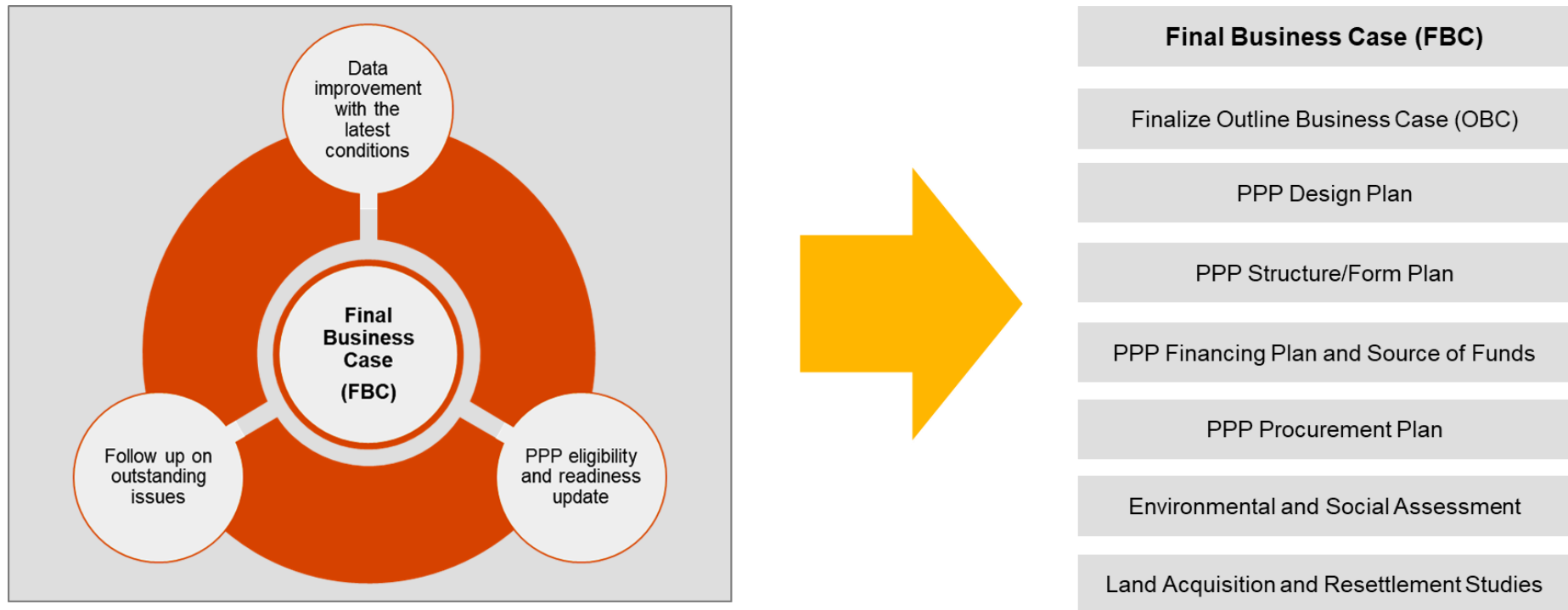
Figure 3. High-level Overview of PPP Project OBC Development



High-level Overview of PPP Project FBC Development

Following the OBC, a Feasibility Study or FBC should be developed by updating the PPP feasibility and readiness as previously included in the OBC, as well as to close outstanding issues.

Figure 4. High-level Overview of PPP Project FBC Development



High-level Overview of PPP Project Transaction Stage

PPP Project Transaction Stage consists of three activities which are regulated by Presidential Regulation No. 38 of 2015.

Figure 5. High-level Overview of PPP Project Transaction Stage



Source: Presidential Regulation No. 38 of 2015

Mainstreaming ESG to PPP Stages

There are many opportunities to mainstream ESG considerations throughout the PPP process as shown in the table below.

Table 2 Mainstreaming ESG to PPP Stages

	Stage 1. Project Planning	Stage 2. Project Preparation*	Stage 3. Transaction	Stage 4. Implementation
Activities	<ol style="list-style-type: none"> 1. Preparation of PPP fund plan and budget 2. Identification and preparation of proposed PPP plans 3. Planning stage budgeting 4. Public consultation 5. Decision-making to go/no-go PPP plans 6. Preparation of PPP plan list 7. PPP categorization 	<ol style="list-style-type: none"> 1. Development of a PPP Pre-FS study 2. Market Sounding 3. Application of Government Support 4. Application of Government Guarantee 5. Application of location determination 6. PPP location determination 7. Land acquisition (LARAP) 8. Indigenous People Plan (IPP) 9. Stakeholder Engagement Plan (SEP) 10. Application of an Environmental Permit 11. Environmental Impact Assessment (AMDAL) 	<ol style="list-style-type: none"> 1. Market Consultation 2. Procurement of PPP Implementing Business Entities (IBE) 3. PPP Agreement Signing 4. Financial Close 	<ol style="list-style-type: none"> 1. Construction 2. Operation and maintenance 3. ESG performance monitoring (including implementation of AMDAL, LARAP, IPP and SEP, and corrective actions) 4. Transfer of Assets
Outputs	<ul style="list-style-type: none"> • Preliminary Study • Project Priority List 	<ul style="list-style-type: none"> • Approved Government Support • Pre-Feasibility Study • Location determination by the GCA • AMDAL 	<ul style="list-style-type: none"> • PPP Agreement Document • Tender Documents • Principle Approval Document • Feasibility Support Principle Approval Document • Government Guarantee Approval • Guarantee Agreement Documents • Recourse Agreement Document 	<ul style="list-style-type: none"> • Monitoring reports
ESG Mainstreaming in the PPP Process	<ul style="list-style-type: none"> • The Preliminary Study should include assessment of material environmental, social, and governance risks, which in some cases might require further analysis: <ul style="list-style-type: none"> ◦ Cultural heritage sites ◦ Associated facilities ◦ Cumulative impact assessment ◦ Analysis of alternative ◦ Biodiversity impact management ◦ Climate risk adaptation and mitigation • Public consultation and stakeholder engagement of the PPP project (including with indigenous people and vulnerable groups) 	<ul style="list-style-type: none"> • The approval of government support provision should include an ESG datasheet outlining the project high-level ESG risks, to serve as a reference for all key stakeholders • The Pre-Feasibility Study should include a thorough socioeconomic benefits, mapped to the Sustainable Development Goals • The AMDAL document should include extensive risk categories, including topics such as greenhouse gas emissions and gender, as well as specific mitigation actions to be contractually required in project implementation, 	<ul style="list-style-type: none"> • The tender and agreement documents should include ESG safeguards and commitment to conduct ESG management throughout the project implementation (pre-construction, construction, operation). 	<ul style="list-style-type: none"> • The monitoring report should include the status of the project's ESG risk impact, a regularly updated ESG risk register, and status of ESG management activities in place • Proactive management of ESG risks and achievement of higher ESG performance

*some activities might run over to the transaction stage such as location determination, land acquisition, and environmental permit.

This Manual will provide guidance to different stakeholders on how to mainstream the considerations.

Government Support to GCA on PPP in Infrastructure Provision

The Government of Indonesia provides Government Support⁴ for PPP Infrastructure Projects to run effectively, efficiently, and to minimize risks.

Table 3. Government Support to GCA on PPP in Infrastructure Provision

	PDF	VGf	Guarantee	Co-guarantee
Description	Facility for GCA for the preparation of Pre-Feasibility Studies ("Pre-FS"), Feasibility Study/Final Business Case ("FBC") prior to transaction stage, and assistance during the transaction stage	Government contribution to part of the construction costs given to PPP projects in order to improve the project's financial viability	Government guarantee for GCAs' financial obligations based on risk allocation in PPP Agreement to increase projects' bankability	A guarantee carried out jointly by the Government and the Infrastructure Guarantee Agency for the same infrastructure risks to PPP projects
Support Giver/Owner	<ul style="list-style-type: none"> MoF as the PDF's owner SMI and IIGF as the PDF Executors 	MoF	IIGF (by cooperating with MDBs first prior to requesting co-guarantee to MoF)	IIGF, MoF, and Multilateral or Bilateral Agency
Scope	<ul style="list-style-type: none"> Preparation stage: <ul style="list-style-type: none"> Pre-FS Supporting document Transaction stage: <ul style="list-style-type: none"> Procurement of IBE Agreement signing Financial close 	VGf to cover up to 49% of the construction cost	Guarantee to cover infrastructure risks: <ul style="list-style-type: none"> Financial Politics Operational Construction design Interface Asset ownership Income Sponsor Location Network connectivity Force Majeure 	Only for projects with a guaranteed project value that exceeds its capital capacity
Project Stage Coverage	Preparation & Transaction stages	Transaction stage	Transaction stage	Transaction stage

⁴See Reference 11 for further detail of government support business process

1.2 About Environmental, Social, and Governance Aspects in Infrastructure Projects in Indonesia

Helping you to make your projects make a lasting impact on our society and environment

The risks and impacts of ESG issues, including gender, and labor issues are often not properly and effectively identified in infrastructure PPP projects. As a result, PPP projects are at much higher risk of being delayed, costing more, or even being canceled. And once into commercial operation, provide lower socio-economic impact when measured through VfM.

Identifying ESG issues in the early stage of the PPP process provides the project with more opportunities for value creation and helps to avoid and minimize risks and impacts for later stages of the project and also to find possible opportunities (waste to energy, energy efficiency, climate change resilience etc).

Table 4. Benefits of Implementing ESG Aspects in Infrastructure Projects in Indonesia

Experience has shown that the failure to properly and effectively identify ESG risks and impacts at an early stage can have material adverse impact the successful implementation of a PPP project.

Commercial and Economic Reasons

- Access to alternative financing and funding through clear communication to potential investors that the project is a sustainable and resilient business opportunity, meeting their respective ESG standards
- Minimized possibility of projects being delayed due to unforeseen risks, including compliance risks when the investor borrows from international lenders Reduced whole-life costs and reduced potential cost overruns as ESG risks are identified and mitigated early on and subsequent reduced chance of performance penalties and reputational risk management during construction and operation
- Allocation of a budget to address environmental, social, and governance issues
- More transparent process for land selection decision-making by choosing land that has the least potential negative ESG impacts
- Identification of alternative additional revenue opportunities and therefore improved cashflows
- Reduced risk of contingent liabilities (government undertakings relating to ESG risks are adequately identified and minimized), including “legacy” land acquisition issues where the GCA has acquired land in anticipation of the PPP project
- Access to green refinancing and lower insurance premiums



As with all large infrastructure procurement projects, PPP projects will require mandatory government approvals, including ESG-related approvals. Partnering with a private party through a PPP does not change the requirements for regulatory approvals such as permits and licenses.

Environmental, Social, and Governance Reasons

- Fully identified and evaluated environmental, social, and governance risks and impacts and a mitigation hierarchy to anticipate and avoid or minimize and offset residual impacts on the environment and local communities, including indirect, induced and cumulative impacts of the PPP project.
- Promotion of compliance with national employment and labor laws and international labor standards, and of safe and healthy working conditions and avoidance of the use of forced and child labor, to enhance worker satisfaction, reduce lost time injury and minimize reputational risks related to labor disputes and labor rights
- Avoidance or minimization of impacts on resource efficiency and promotion of more sustainable use of resources to help the PPP project contribute to global commitments to climate mitigation and resource efficiency as opportunities.
- Anticipation and avoidance of adverse impacts on the health & safety of local communities including from labor influx, and meaningful stakeholder engagement and function grievance redress mechanisms to help the PPP project achieve a “social license to operate
- Avoidance or minimization of land acquisition and involuntary resettlement so that a PPP project will not inadvertently impoverish anyone.
- Protection and conservation of biodiversity and promotion of the sustainable management of natural living resources
- Projects anticipate and avoid adverse impacts on indigenous peoples
- Protection of cultural heritage from adverse impacts of project activities including “intangible cultural heritage, to help the PPP project comply with national requirements on cultural heritage and achieve a “social license to operate”.
- Achievement of gender equality and socio-economic empowerment of affected women as well as other vulnerable groups
- Compliance with national laws and regulations regarding spatial planning (which includes moratorium areas) to avoid conflict and promote better planning
- Transparent procurement and fund management throughout the PPP process to allow the country to maximize VfM and gain a broad-based consent.
- An integrated management system to ensure that no impact is left to happen on the environment and the people before mitigation measures are in place, including through a timely allocation of adequate resources and supervision and rigorous supervision of construction and operation procedures

Proactively managing ESG issues brings value to projects because:

- it is legally required;
- it should be done; and
- we can achieve greater sustainable outcomes and resilience for all.



A. Proactively managing ESG issues because it is legally required

PPP projects must comply with the relevant ESG legal framework; national ESG related policies, laws and regulations, procedures and practices create a legal obligation for PPP projects.

National regulatory frameworks for PPP and ESG require ESG to be considered from the start of the project preparation, and the project parties must put in place ESG management frameworks based on the national requirements. The Governments of Indonesia (Gol) has adopted both Environmental and Social Impact Assessment (ESIA) and PPP Legislation with the PPP legislative framework requiring an ESG impact assessment to be undertaken as part of the pre-feasibility study for PPP infrastructure projects. Such early engagement helps to facilitate effective communication between various project parties to better define the projects' needs, avoid problems and strengthen benefits, and thus improve compliance with ESG assessment and management.

Table 5. Example of Gol's proactive approach to PPP & AMDAL Legislations (inexhaustive)

GCA might not be aware that some specific ESG topics are regulated in various legislation. In addition, the Gol has ratified various international standards such as ILO Conventions, meaning their principles and requirements need to be followed.

Environmental Legislations

- Law No. 32/2009 as amended by Law No. 11/2020 on Job Creation Law sets out policy requirements for:
 - Environmental inventory
 - Environmental Protection & Management Plans
 - EIA (AMDAL) Process
 - Information Disclosure (public information system)
 - Administrative sanctions for violations
 - Pollution Control
- Government Regulation No. 22/2021 which regulates:
 - Environmental approvals including EIA and Environmental Management and Monitoring Efforts (UKL-UPL) for business plans/activities that will have an impact on the environment
 - Management of water, air, sea, hazardous and non-hazardous waste
 - Environmental damage control and recovery guarantee fund
- Ministry of Environment Regulation No. 4/2021 on Plan of Activities and/or Business Activities requiring Environmental Impact Assessment, Environmental Management Efforts/ Environmental Monitoring Efforts, or Statement Letter of the Environment Management and Monitoring



Social Legislations

- Law No. 11/2020 regarding land procurement for development for the public interest
- Law No. 8/2016 on people with disabilities requires public services that are welcoming to people with disabilities
- Law No. 06/2014 on villages
- Law No. 11/2010 is the cultural heritage law
- Government Regulation No 18/2021 on management rights, land rights, apartment units and land registration
- Government Regulation No 19/2021 on implementation of land acquisition for public interest development
- Government Regulation No 23/2021 on management of forestry
- Government Regulation No 1/2020 on national register and preservation of cultural heritage
- Presidential Regulation No. 18/2020 on The National Medium-Term Development Plan 2020-2024 (RPJMN) enlists gender equality as one of the six aspects that should be mainstreamed into Indonesia's overall development strategy
- Presidential Regulation No 65/2018 on procedures to prepare main principles of regional cultural heritage
- Presidential Instruction No. 09/2000 requires all government institutions to carry out gender mainstreaming for the planning, preparation, implementation, monitoring and evaluation of national development policies and programs
- Presidential Regulation no 62/2018 regarding the management of social impacts due to land acquisition for national development.
- Ministry of Environment Regulation No 09/2021 social forestry management
- Ministry of Environment Regulation No 17/2020 on title forest and indigenous people's forest
- Ministry of Agrarian Affairs and Spatial Planning-National Land Agency Regulation No 18/2019 on procedure for customary land administration as part of a customary law community
- Ministry of Finance issued the Ministerial Decree of Finance No. 807/2018 that covers gender responsive budgeting processes in Indonesia
- Ministry of Home Affairs Regulation No 52/2014 on guidelines for recognition and protection of indigenous people

PPP Legislations

- Presidential Regulation No. 38/2015 Public-Private Partnership in Infrastructure Provision
- Minister of National Development Planning Regulation No. 2/2020 requires environmental and social impact assessment (and the economic and commercial studies) to be prepared as part of the pre-feasibility study activities for PPPs that require AMDAL and/or UKL UPL.
- Minister of Public Works and Public Housing Regulation No. 2/2021, which both concern PPP for Infrastructure Provision, require the preparation of environmental study documents in the pre-feasibility study at the PPP preparation stage.



Benefits of Gol's proactive approach to PPP and AMDAL Legislations

- ESG impacts could be identified early, i.e., in the PPP project preparation stage
- PPP implementing business entities have full knowledge of EIA-related commitments (mitigation/monitoring/reporting) and can put budget in place to avoid non-compliance
- A more secure funding process due to clear rules and sanctions
- Special facilities for women and people with disabilities (e.g., breastfeeding rooms, special toilets for women, guiding blocks for the disabled) in the design of infrastructure development

Through the due diligence process, lenders and equity investors will often identify unresolved ESG risks and perceive these to be high risk due to compliance, cost and project challenges or potential reputational damage. This can then limit financing options, delay decision-making and/or increase the cost of finance or require significant project appraisal re-work to resolve the issues.

In addition to existing government regulatory frameworks, Financial Institutions also provide ESG standards and policies which include requirements for assessment and management. Examples of these management frameworks are the World Bank's Environmental & Social Framework, the Equator Principles, IFC's Performance Standards, ADB's Safeguard Policy Statement⁵ etc. If PPP infrastructure projects do not comply with these management frameworks, there is a risk that funding may not be secured.

B. Proactively managing ESG issues because it should be done

National legal compliance may not be sufficient to protect the ESG value expected from PPPs. The sustainability challenges and governments' commitment to the UN SDGs is rapidly transforming the regulatory landscape for financial management toward **responsible, sustainable, and resilient investment**. Increasing numbers of financial institutions (both lenders and equity partners) recognize that the inadequate assessment and management of ESG risks and impacts may undermine their ability to finance infrastructure projects. As a result, it is becoming increasingly important that ESG compliance be in line with internationally recognized management requirements for sustainable financing. ESG compliance is becoming of equivalent importance to the economic and commercial feasibility of projects.

When international finance institutions provide loans, guarantees and transaction advisory services to help governments in preparing, procuring and financing PPP projects, the application of international standards and guidelines is an integral requirement of such services. Different international ESG assessment and management requirements and standards and policies are shown in the following table.

⁵ See Reference 3 for relevant international standards and Reference 12 for links to relevant international standards



SDG Indonesia One illustrates how UNSDGs are being mainstreamed into government infrastructure procurement to drive the achievement of greater sustainable benefits for all project parties and stakeholders.

Commonly referenced International requirements for sustainable financing in Indonesia

- World Bank's Environmental & Social Framework and Performance Standards
- International Finance Corporation's (IFC) Performance Standards on Environmental & Social Sustainability
- The Equator Principles
- Asian Development Bank's (ADB) Safeguard Policy Statement
- United Nations Development Programme's (UNDP) Social and Environmental Standards

C. And by proactively managing ESG issues, we can achieve greater sustainable outcomes and resilience for all

When governments propose infrastructure projects, they should aim to ensure that the people and the environment are protected from potential adverse impacts. They can do this through policies and guidance that help to identify, avoid and minimize harm to people and the environment.

Real sustainable outcomes can be achieved through proactively assessing and managing ESG risks and impacts throughout the PPP project lifecycle. ESG Manual cannot be a "one size fits all" approach and will need to be implemented on a project-by-project basis. but, by embracing the adoption of a management framework which can identify issues & risks, avoid and mitigate impacts, and monitor and report, greater sustainable outcomes on PPP projects can be achieved.

Robust monitoring of project benefits would also help the government monitor progress toward achieving its targets in Sustainable Development Goals (SDGs)⁶ and Nationally Determined Contribution (NDC) to reduce greenhouse gas emissions and adapt to climate impacts. The UN SDGs are a call for action by all countries to promote peace and prosperity while protecting the planet. Given the size of the infrastructure gap and the significant fiscal constraints that many governments face, PPPs have a role to play in the achievement of the UNSDGs. The UN SDGs can be used to help determine PPP project goals that address overall aims and needs and provide metrics for measuring performance in a country- and project-specific way.

⁶ See Tool 2 for socio-economic benefits of infrastructure project towards SDG and Reference 12 for links to further reference of SDG

Figure 6. UN SGDs in PPPs

Using the UN Sustainable Development Goals in PPPs

The SDGs are becoming **increasingly important** for financiers, as the SDGs are an articulation of the world's most pressing environmental, social and economic issues, and as such, can act as a definitive list of the material E&S perspectives that should be taken into account as part of an investor's fiduciary duty.

Appraising PPP projects for resilience against sustainability risks and incorporating relevant UNSDG alignments and metrics into PPP projects' commercial KPIs can **incentivize the parties** to the project to fulfil **long term sustainability goals** in a socio-economically & environmentally meaningful way whilst also improving commercial resilience.

The benefits from well-planned social & economic infrastructure PPP Projects align well with sustainability goals.

With strong governance and capacity, PPPs can strengthen the means of implementation and revitalize the partnership for sustainable development.

Despite the reasons above, there are challenges in mainstreaming ESG in the design of infrastructure projects in Indonesia, such as the lack of capacity and understanding within the GCA and IBE regarding ESG risks pertaining to the specific sector and projects under development, lack of commonly accepted ESG standards across different stakeholders, and lack of clear specific guidance on mitigating ESG risks in infrastructure projects in Indonesia. This Manual is expected to help alleviate the above issues.

1.3. About This Manual

A practical handbook to help you and your colleagues quickly navigate your ESG management obligations in preparing and implementing PPP projects using the MoF's Project Development Facility and other fiscal support.

A. What is the ESG Manual?

The ESG Manual is a living document that provides guidance on a set of suggested activities carried out under government support facilities to enhance the management of ESG risks and impacts of PPP infrastructure projects. It also serves as a repository of tools to be used in conducting those activities.

This Manual focuses specifically on the PPP infrastructure project preparation stage which includes:

1. Identifying environmental, social, and governance issues, including gender, and labor issues related to the infrastructure sector with a focus on six sectors namely water, waste management, public housing, gas distribution, hospitals, and urban transportation;
2. Incorporating Indonesian laws, ESG frameworks, and gender and labor commitments currently used by Special Mission Vehicles (SMV) responsible for providing government support, and international good practice (e.g., the World Bank Environmental and Social Framework and the IFC's Performance Standards) in the Manual;
3. Identifying the potential impacts and risks of the environmental, social, and governance aspects, and developing a risk mitigation framework
4. Providing guidance on developing the ESG Management Framework as well as guidance for preparation of required plans and documents such as Stakeholder Engagement Plan and Grievance Redress Mechanism.

Considering the current situation in Indonesia, the current version of the ESG Manual is addressing environmental and social issues more urgently than governance issues. The Governance part is mainly to ensure there are systems in places that coordinate and harmonise different processes including procurement and fund allocation processes. The current Manual includes discussion of environmental and social management systems and grievance redress mechanism. Detailed assessment of governance issues may eventually come in subsequent versions. The contents of the Manual will be continuously updated, in keeping with greater understanding of ESG issues and risks surrounding infrastructure development and increasing attention on ESG matters given by key stakeholders such as investors, line ministries, local communities, and non-governmental organizations (NGOs).

B. Who are the intended users?

This Manual is accessible to all project parties, including public parties, private parties, and other interested parties and end users.

It is particularly useful for GCA officials responsible for PPP projects, MoF and Bappenas officials and PDF Implementer staff supporting GCAs in preparing PPP projects, officials of relevant Ministries, IBE staff responsible for ESG matters, and the technical consultants assigned to deliver the government support.

This section explains the purpose of this document and who can benefit from using the Manual as a work reference.

Table 6. Targeted ESG Manual Users

Who	What for
Ministry of Finance	<ul style="list-style-type: none"> • Reviewing and providing inputs to applications for government support on infrastructure project preparation • Scoping such support in a way that is conscious of ESG issues and impacts of the projects <ul style="list-style-type: none"> • Monitoring how ESG issues are managed throughout the supported projects including transparency in procurement processes • Showing accountability regarding its contributions in mainstreaming ESG in national development • Being equipped to promote ESG mainstreaming in infrastructure projects that receive MoF's support
GCA	<ul style="list-style-type: none"> • Understanding what material ESG risks are pertinent to infrastructure projects in the relevant sector, quite early in project design • Understanding the full extent of socioeconomic benefits of its planned infrastructure projects, thus being better equipped to secure buy-in from project stakeholders • Understanding gaps in ESG capacity and articulating any need for support from MoF and PDF Implementers • Understanding its responsibilities with regards to managing ESG risks and reporting performance • Understanding what to expect from the private sector (IBE) with regard to ESG risk management and monitoring IBE's accountability, including support they need to meet their compliance obligations to their financiers • Being equipped to conduct comprehensive ESG risk and benefit assessment as well as preparing the mitigation during the preparation stage • Showing accountability regarding its contributions in mainstreaming ESG in national development • Preparing necessary documentations as needed such as (for solicited projects) AMDAL or ESIA, supplemental environmental and social studies to fill the gaps such as biodiversity management plan, land acquisition document etc.
PDF Implementers⁷	<ul style="list-style-type: none"> • Supporting MoF in reviewing and providing inputs to applications for government support for infrastructure project preparation, , including support that IBE need to meet their compliance obligations to their financiers • Alongside MoF and GCA, scoping such support in a way that is conscious of ESG issues and impacts of the projects • Support MoF and GCA in clearly assessing ESG risks associated with potential PPP projects

Different types of stakeholders will use this Manual differently. Visual aids will be provided throughout this document to draw readers' attention to sections that might be specifically relevant for them.

⁷ PDF Implementers for infrastructure include:

- IIGF : PDF Implementer and Guarantee Executor
- SMI : PDF Implementer and Financing Agency
- IIF : Financing Agency



Who	What for
	<ul style="list-style-type: none"> • Understanding the ESG scope of support to be delivered by technical consultants, in a way that is consistent across PDF Implementers and consultants • Showing accountability regarding its contributions in mainstreaming ESG in national development • IIGF will be able to assist in monitoring the implementation of ESG during project operations
Bappenas	<ul style="list-style-type: none"> • Supporting MoF in reviewing and providing inputs to applications for government support for infrastructure project preparation, including support that IBE need to meet their compliance obligations to their financiers • Alongside MoF and GCA, scoping such support in a way that is conscious of ESG issues and impacts of the projects • Understanding the ESG scope of support to be delivered by technical consultants, in a way that is consistent across PDF Implementers and consultants • Showing accountability regarding its contributions in mainstreaming ESG in national development
IBE	<ul style="list-style-type: none"> • Understanding what material ESG risks are pertinent to infrastructure project being tendered • Understanding its responsibilities with regards to managing ESG risks and reporting performance, for example the setup of ESG management systems • Inform GCA their ESG obligations to their financiers, real or expected, and seek support they need to meet their compliance obligations • Understanding the types and level of investment required to deliver its ESG-related responsibilities. • Showing accountability for its responsibilities • Better equipped when applying for loans, particularly from investors with a strong focus on ESG risks • Preparing necessary documentations as needed such as (for unsolicited projects) AMDAL or ESIA, supplemental environmental and social studies to fill the gaps such as biodiversity management plan, cumulative impact assessment, social assessment etc.
Technical Consultants	<ul style="list-style-type: none"> • Understanding the ESG scope of support to be delivered • Better equipped in delivering the support through various tools available in the Manual

C. Why do we need an ESG Manual?

The development of infrastructure projects has the potential to provide significant environmental and social benefits, with corresponding economic benefits. Setting project obligations and performance metrics on both the GCA and IBE can increase the likelihood of achieving these positive outcomes. On the other hand, large scale infrastructure projects can also present a significant risk, causing negative impacts to people and the environment. Whilst numerous ESG management frameworks and guidance documents already exist, to ensure full compliance, legal and contractual instruments need to be deployed to enforce discipline on mitigating against such risks. This ESG Manual provides clarity on the contractual obligations and performance metrics to support stakeholders in managing



ESG impacts and risks.

This Manual aims to optimize and enhance the quality of preparation stage of PPP projects in infrastructure, with a focus on six sectors (water, waste management, public housing, gas distribution, hospital, and urban transportation) by taking the environmental, social, and governance aspects into account. Thus, the infrastructure projects can run in a resilient, inclusive, and sustainable manner with reduced negative impact on the environment and on people, particularly women and vulnerable groups, as well as having the potential to attract additional foreign investment and trust from the private sector. PPP projects across different infrastructure sectors will have different ESG risk profile depending on the details of the exact project. This Manual should be used as a starting point for ESG assessment and management, and the templates and checklists may need to be adjusted for each specific project, not only depending on the sector. For example, linear projects (railway, road, transmission) will generally involve more complex land acquisition and the coordination of different local governments. Ring-fenced projects (hospital, housing) will have site-specific issues such as traffic impact on the local community.

1.4. How to use the ESG Manual

The ESG Manual has been structured to be an easy reference guide for use as you and your team are starting the planning of each stage of project development or approaching a decision-gate.

The ESG Manual comprises three main parts: **guidance on process, toolkit, and references**.

The guidance on process follows the PPP project lifecycle and the government support facility process. For each type of government support (PDF, VGF, Guarantee, and Availability Payment), you will find a step-by-step guide on how to apply this Manual within your roles and responsibilities. This section also highlights the decision-making points and required actions that need to consider ESG aspects along the project lifecycle, for example, (i) GCA need to prepare AMDAL and Land Acquisition documents, and (ii) IBE should prepare supplemental ESIA, conduct public consultation as part of ongoing stakeholder engagement. References are provided to specific tools that you can use in specific situations.

In the ESG toolkit section, you will find various tools for use in undertaking the required activities. These include checklists, ESG risk register, suggested contract inputs, and high-level report templates to apply in PPP projects.

Lastly, this Manual provides a **repository of references** for your future reference and self-learning, including a regulation repository and a summary of relevant international standards. This section also includes case studies which illustrate some ESG issues identified in four existing infrastructure PPP projects and provide proposed mitigation actions. The case examples are useful in showing how some of the tools provided in this Manual can be implemented in real-life infrastructure PPP projects.

This section explains how to use the ESG Manual for addressing ESG requirements in infrastructure projects



2. Overview of the Project Development Process

What You Will Find Inside This Chapter

- Specific actions that can be carried out by GCA, IBE, Consultant, and PDF Implementers to take in different steps of the government support facilities
- Reference to specific tools that can be used in conducting the above actions, available in Chapter 3.

Purpose of This Chapter

- This chapter aims to guide the persons in charge (PICs) of key project stakeholders on activities to conduct throughout the PPP project preparation and implementation stages, and to provide pointers to tools that they might find useful.
- To provide information on necessary ESG activities to be conducted and ESG documentations that need to be prepared at different steps.
- This chapter could also be used as a monitoring tool, to verify that the PIC conducts the required activities at an appropriate time.
- Furthermore, key project stakeholders should obtain more clarity in which stakeholders could support them, or they need to collaborate with.



This section maps the activities to be delivered by project stakeholders throughout the PDF support lifecycle.

2.1 Who Should Do What, When? Project Development Facility

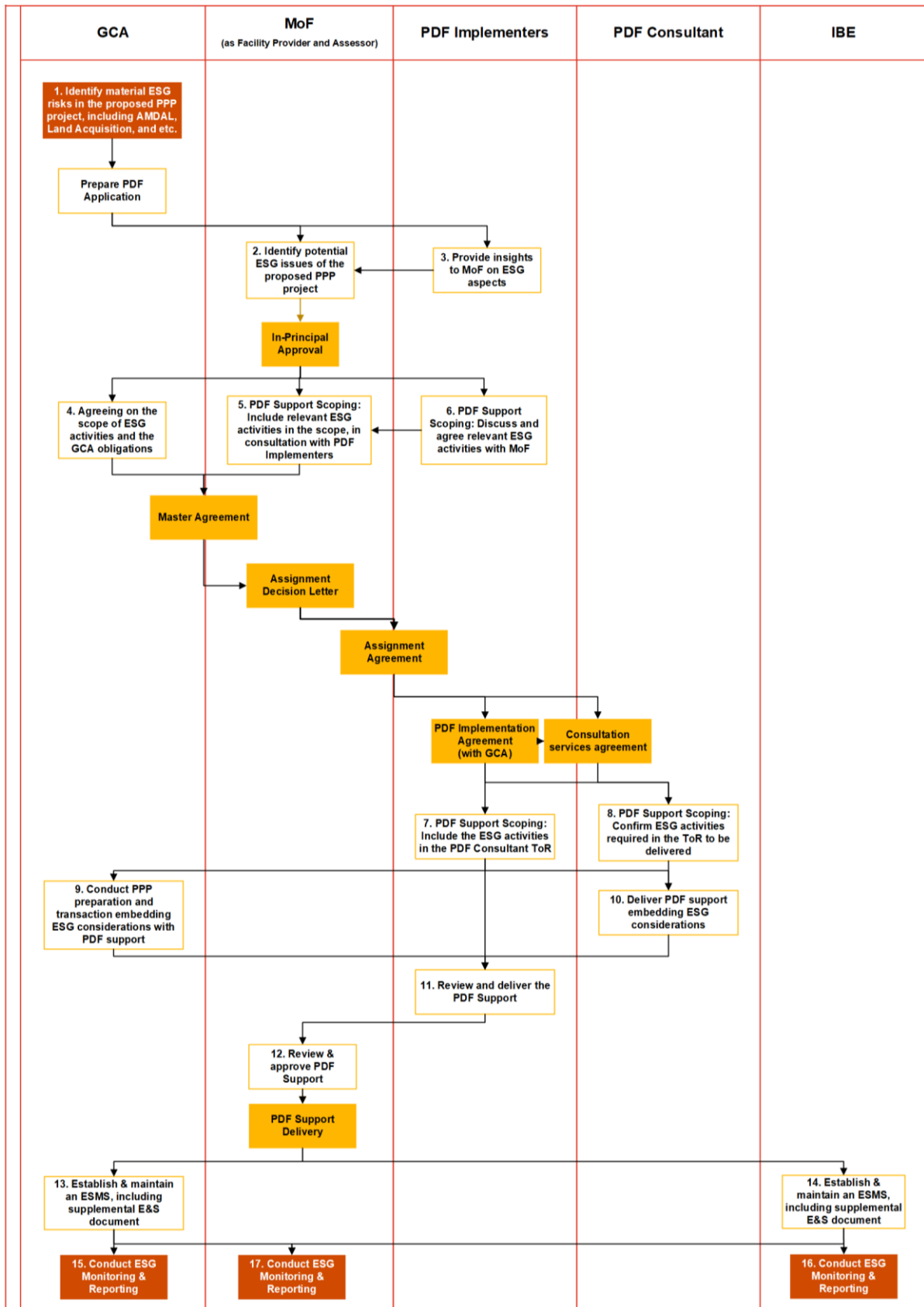
Use the guide to quickly find which stage of development you are at and follow the corresponding guidance to determine who needs to do what and when.

A. Activities surrounding ESG aspects to be conducted during the PDF process

PDF is a facility provided by the MoF to help GCA in preparing a final study for feasibility studies, bidding documents and to assist GCA in PPP project transactions to obtain funding from financing institutions (financial close). In this section, there are flow diagrams outlining the ESG activities to be conducted during the PDF Process during Project Preparation and Transaction Stages. In each activity, it has been identified which stakeholders are responsible, accountable, who need to be consulted, and need to be informed (RACI), with the following explanation:

- **Responsible** : the one who is responsible for doing the activity
- **Accountable** : the one who is accountable to ensure the activity happens and has the decision authority
- **Consulted** : the one who should be consulted prior to decision or action
- **Informed** : the one who needs to be informed of the decision or action after it is made

Figure 7. Who Should Do What, When? Project Development Facility



* As relevant to ESG, the diagram doesn't reflect the whole PDF business process.

Following is the explanation for each proposed activity:

Table 7. Activities surrounding ESG Aspects to be Conducted during the PDF

GCA	1. Identify material ESG risks in the proposed PPP project, including AMDAL, Land Acquisition, and etc.	
	Objectives	To identify risks, gaps, and ESG mitigation that can be carried out early by the GCA
	Responsible Parties	<ul style="list-style-type: none"> • GCA (Responsible) • MoF (Consulted) • PDF Implementers (Consulted) • Bappenas (Informed)
	Description	<p>GCA to assess and provide the following to MoF:</p> <ul style="list-style-type: none"> • Draft ESG Datasheet explaining: <ul style="list-style-type: none"> ○ Project objectives, scope, boundary, area of influence, and associated facilities ○ Intended (socio-economic) benefits of the project, including mapping to SDGs ○ Material ESG risks that might require specific attention and substantially affect project design • Specific support needed by GCA on project preparation and transaction <p>MoF and PDF Implementers could also support GCA in this activity, sharing their expertise and past experience in supporting GCAs in part projects.</p>
	Key Documents Required	<ul style="list-style-type: none"> • Preliminary Study • Draft PDF Application, including a draft ESG Datasheet • Relevant reference materials compiled by GCA in preparation for the PPP projects, such as the regional spatial plan document, hydrological maps, Land Acquisition and Resettlement Plan (LARAP) if the land for PPP investment has been obtained by GCA, and past environmental or social studies in/around project locations such as AMDAL, ESIA, UKL-UPL, supplemental ESG studies (e.g. biodiversity management plan).
	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 5: Checklist of Location Selection • Tool 9: Project ESG Categorization • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 6: ESG Datasheet • Tool 3: Checklist of PDF Support • Tool 4: Red Flags Identification of the Project • Tool 11: Checklist of Project Documents • Tool 12: Checklist of Activities during FBC Preparation
	Key Documents	<ul style="list-style-type: none"> • Updated draft ESG Datasheet containing key ESG information for use by MoF in the PDF Request



1. Identify material ESG risks in the proposed PPP project, including AMDAL, Land Acquisition, and etc.	
Generated	Evaluation process <ul style="list-style-type: none"> Necessary ESG activities and documents in the next steps as defined in Tool 11.
Review/ Approval	GCA
Timing	During the preparation of requesting PDF

MoF

MoF will not assess a "stop or go" whether GCA wants to apply an ESG or not in the PDF process. During the high-level assessment of ESG, MoF can identify what ESG components needed improvement by looking at the documents submitted by GCA.

2. Identify potential ESG issues of the proposed PPP project	
Objectives	To identify gaps, potential risks, and mitigation action on ESG aspects and develop the scope of work for the PDF support
Responsible Parties	<ul style="list-style-type: none"> MoF (Responsible) GCA (Consulted) PDF Implementers (Consulted) Bappenas (Informed)
Description	<p>MoF to discuss with GCA and assess the following:</p> <ul style="list-style-type: none"> Draft ESG Datasheet provided by the GCA, containing: <ul style="list-style-type: none"> Project objectives, scope, boundary, area of influence, and associated facilities Intended (socio-economic) benefits of the project, including mapping to SDGs Material ESG risks that might require specific attention from the GCA (these points also need to be included in AMDAL) Actions to be taken by GCA in project design that could start even prior to PDF support (e.g., stakeholder mapping and gender-sensitive public consultations) Specific support needed by GCA on project preparation and transaction, including any support that the potential IBE may need to meet the ESG compliance requirements from their Lenders
Key Documents Required	<ul style="list-style-type: none"> Preliminary Study Draft PDF Application, including a draft ESG Datasheet Relevant reference materials compiled by GCA in preparation for the PPP projects (e.g., regional spatial plan document, Land Acquisition and Resettlement Plan (LARAP) if the land for PPP investment has been obtained by GCA, and past ESG studies in/around project locations)
Available Tools in the Manual	<ul style="list-style-type: none"> Tool 1: ESG Risk Register Tool 10: Gender Considerations Tool 5: Checklist of Location Selection Tool 9: Project ESG Categorization Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG Tool 6: ESG Datasheet Tool 3: Checklist of PDF Support



2. Identify potential ESG issues of the proposed PPP project	
	<ul style="list-style-type: none"> • Tool 4: Red Flags Identification of the Project • Tool 11: Checklist of Project Documents • Tool 12: Checklist of Activities during FBC Preparation
Key Documents Generated	<ul style="list-style-type: none"> • Technical inputs to GCA to finalize the draft PDF application • Finalized ESG Datasheet containing key ESG information for use by MoF in the PDF Request Evaluation process • Notes for MoF and GCA for negotiating the scope of the PDF support
Review/ Approval	Head of Sub-directorate of Government Support
Timing	During PDF Request Evaluation and preparation of the Facility Approval

PDF Implementers

3. Provide insights to MoF on ESG aspects	
Objectives	To help GCA to identify and provide insights regarding ESG risks that can be mitigated earlier
Responsible Parties	<ul style="list-style-type: none"> • PDF Implementers (Responsible) • GCA (Responsible) • MoF (Responsible) • Bappenas (Informed)
Description	<p>PDF Implementers to assess and provide inputs to GCA and MoF regarding the following:</p> <ul style="list-style-type: none"> • Project objectives, scope, boundary, and area of influence • Intended (socio-economic) benefits of the project, including mapping to SDGs • Material ESG risks that might require specific attention from the GCA and substantially affect project design, including any support that the potential IBE may need to meet the ESG compliance requirements from their Lenders. • Actions to be taken by GCA in project design that could start even prior to PDF support, (e.g., stakeholder mapping and gender-sensitive public consultations) • Specific support needed by GCA on project preparation and transaction
Key Documents Required	<ul style="list-style-type: none"> • Preliminary Study • Draft PDF Application, including a draft ESG Datasheet • Relevant reference materials compiled by GCA in preparation for the PPP projects (e.g., regional spatial plan document, Land Acquisition and Resettlement Plan (LARAP) if the land for PPP investment has been obtained by GCA, and past ESG studies in/around project locations)
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 5: Checklist of Location Selection • Tool 9: Project ESG Categorization

3. Provide insights to MoF on ESG aspects	
	<ul style="list-style-type: none"> • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 6: ESG Datasheet • Tool 3: Checklist of PDF Support • Tool 4: Red Flags Identification of the Project • Tool 11: Checklist of Project Documents • Tool 12: Checklist of Activities during FBC Preparation
Key Documents Generated	<ul style="list-style-type: none"> • Technical inputs on the scope of the PDF support
Review/ Approval	PDF Implementer's Project Director
Timing	During PDF Request Evaluation and preparation of the In-Principle Approval

GCA

4. Agreeing on the scope of ESG activities and the GCA obligations	
Objectives	To meet an agreement regarding ESG activities and obligations that suits GCA's capacity gaps
Responsible Parties	<ul style="list-style-type: none"> • GCA (Responsible) • MoF (Consulted) • PDF Implementers (Consulted) • IBE/potential investors (Informed)
Description	GCA to negotiate with MoF regarding the ESG scope and obligations to be included in the PDF Master Agreement, which will also be reflected in the Assignment Agreement between MoF and a PDF Implementer
Key Documents Required	<ul style="list-style-type: none"> • PDF Application • Notes taken by GCA from previous discussions with MoF and PDF Implementer on potential ESG issues of the project
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 7: Checklist the ESG Scope of PDF Support • Tool 14: Checklist of Plans to Develop Prior to Construction • Tool 15: Outlines of ESG Planning Documents • Tool 19: Proposed Inputs to Contractual Documents • Tool 20: Environmental and Social Commitment Plan Template • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA
Key Documents	An enhanced version of the following document with specific scope of work on ESG:



4. Agreeing on the scope of ESG activities and the GCA obligations	
Generated	<ul style="list-style-type: none"> Master Agreement (between MoF and GCA to carry out PDF support)
Review/ Approval	GCA
Timing	During the development of the Master Agreement

MoF

5. PDF Support Scoping: Include relevant ESG activities in the scope, in consultation with PDF Implementers	
Objectives	To incorporate more detailed ESG-related activities in the proposed PDF support that suit GCA's capacity gaps
Responsible Parties	<ul style="list-style-type: none"> MoF (Responsible) GCA (Responsible) PDF Implementers (Consulted)
Description	MoF to assess specific ESG activities to be included in the PDF Master Agreement between MoF and GCA. This should be reflected in the Assignment Agreement between MoF and a PDF Implementer, including support the IBE need to meet their compliance obligations to their financiers. MoF will also assess ESG activities proposed by GCA. MoF to regularly hold training session on the ESG for the PDF Implementers and GCA. MoF can delegate a coordinator to oversee the PDF projects, including the ESG that will be done by the PDF Implementers and GCA.
Key Documents Required	<ul style="list-style-type: none"> PDF Application Notes from previous discussions with GCA and PDF Implementers on potential ESG issues of the project
Available Tools in the Manual	<ul style="list-style-type: none"> Tool 1: ESG Risk Register Tool 10: Gender Considerations Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG Tool 7: Checklist the ESG Scope of PDF Support Tool 14: Checklist of Plans to Develop Prior to Construction Tool 15: Outlines of ESG Planning Documents Tool 19: Proposed Inputs to Contractual Documents Tool 20: Environmental and Social Commitment Plan Template Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA
Key Documents Generated	<p>A better tender result, where the winner (IBE) is capable of and committed to complying with the ESG requirements (including those of their own lenders) and an enhanced version of the following documents with specific scope of work on ESG:</p> <ul style="list-style-type: none"> Master Agreement (between MoF and GCA to carry out PDF support) Assignment Agreement (between MoF and the SMV)
Review/ Approval	Director of Government Support and Infrastructure Financing Management



Timing	During the development of the Master Agreement and Assignment Agreement
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PDF Implementers

6. PDF Support Scoping: Discuss and agree relevant ESG activities with MoF	
Objectives	To incorporate more detailed ESG-related activities in the proposed PDF support that suit GCA's capacity gaps
Responsible Parties	<ul style="list-style-type: none"> • PDF Implementers (Responsible) • GCA (Responsible) • MoF (Responsible)
Description	PDF Implementers to provide inputs to GCA and MoF on specific ESG activities to be included in the Assignment Agreement between MoF and a PDF Implementer ⁸
Key Documents Required	<ul style="list-style-type: none"> • Master Agreement • Assignment Decision Letter • Notes from previous discussions with GCA and MoF on potential ESG issues of the project
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 7: Checklist the ESG Scope of PDF Support • Tool 14: Checklist of Plans to Develop Prior to Construction • Tool 15: Outlines of ESG Planning Documents • Tool 19: Proposed Inputs to Contractual Documents • Tool 20: Environmental and Social Commitment Plan Template • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA
Key Documents Generated	<p>An enhanced version of the Assignment Agreement with specific scope of work on ESG as per the applied tools above, including those that will help the IBE achieve compliance with their own lenders.</p> <p>The Environmental and Social Commitment Plan template -signed by the GCA or IBE (if any committed ESG activities or documentation are required later beyond the PDF supports)</p>
Review/ Approval	PDF Implementer's Project Director recorded in writing to approve the Assignment Agreement with key summaries of the ESG activities/documentations needed to be prepared further in the ESCP.
Timing	During the development of the Assignment Agreement

⁸ This includes support the IBE need to meet their compliance obligations to their financiers such as data with regard to the land that has been acquired for PPP investment by GCA, if relevant, livelihood restoration, consent of Indigenous Peoples, pollution prevention and control, GHG emission, cumulative impact, emergency preparedness, geotechnical, hydrological, climate, critical habitat and biodiversity impact, etc..



PDF Implementers

7. PDF Support Scoping: Include the ESG activities in the PDF Consultant ToR	
Objectives	To incorporate more detailed ESG-related activities that should be conducted by the PDF Consultant
Responsible Parties	<ul style="list-style-type: none"> • PDF Implementers (Responsible) • GCA (Responsible) • MoF (Responsible) • PDF Consultant (Informed)
Description	PDF Implementer to develop a ToR for PDF Consultant to deliver the PDF Support including the ESG activities, , including the support the IBE need in meeting their compliance obligations to their financiers such as access to AMDAL, LARAP (where GCA has secured land in anticipation of the PPP project) and other relevant ESG assessment reports, as well as any additional data that are required by the IBE's lenders but which have not been collected (e.g. livelihood restoration, impact on critical habitat, GHG emission, pollution prevention and control, health and safety of workers and local people, labor and community disputes, consent of Indigenous Peoples, cumulative impact, emergency preparedness, geotechnical, hydrological, climate, critical habitat and biodiversity impact, etc.).
Key Documents Required	<ul style="list-style-type: none"> • Master Agreement • Assignment Decision Letter • Notes from previous discussions with GCA and MoF on potential ESG issues of the project
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 7: Checklist the ESG Scope of PDF Support • Tool 14: Checklist of Plans to Develop Prior to Construction • Tool 15: Outlines of ESG Planning Documents • Tool 19: Proposed Inputs to Contractual Documents • Tool 20: Environmental and Social Commitment Plan Template • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA
Key Documents Generated	An enhanced version of ToR and Contracts for the PDF Consultant with specific scope of work on ESG.
Review/ Approval	PDF Implementer's Project Director
Timing	During the development of PDF Consultant Agreement



PDF Consultant

8. PDF Support Scoping: Confirm ESG activities required in the ToR to be delivered	
Objectives	To incorporate more detailed ESG-related activities in the PDF support that suits GCA's capacity gaps
Responsible Parties	<ul style="list-style-type: none"> • Consultant (Responsible) • PDF Implementer (Responsible) • GCA (Informed) • MoF (Informed)
Description	PDF Consultant to assess the proposed ESG activities in the draft Consultant contract and confirm capability to deliver the outputs by submitting a proposal, including the support the IBE need in meeting their compliance obligations to their financiers such as access to AMDAL, LARAP (where GCA has secured land in anticipation of the PPP project) and other relevant ESG assessment reports, as well as any additional data that are required by the IBE's lenders but which have not been collected (e.g. livelihood restoration, impact on critical habitat, GHG emission, pollution prevention and control, health and safety of workers and local people, labor and community disputes, consent of Indigenous Peoples, cumulative impact, emergency preparedness, geotechnical, hydrological, climate, critical habitat and biodiversity impact, etc.)
Key Documents Required	<ul style="list-style-type: none"> • Draft Consultant Contract
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 7: Checklist the ESG Scope of PDF Support • Tool 14: Checklist of Plans to Develop Prior to Construction • Tool 15: Outlines of ESG Planning Documents • Tool 19: Proposed Inputs to Contractual Documents • Tool 20: Environmental and Social Commitment Plan Template • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA
Key Documents Generated	An enhanced version of the ToR and Contracts for the Technical Consultant with specific scope of work on ESG including those that will help the IBE achieve compliance with their own lenders.
Review/ Approval	Director of Government Support and Infrastructure Financing Management
Timing	During the development of PDF Consultant Agreement

GCA

9. Conduct PPP preparation and transaction embedding ESG considerations with PDF support

Objectives	To enable project preparation and transaction to embed ESG considerations, including in the Pre-Feasibility Study and tender documents
Responsible Parties	<ul style="list-style-type: none"> • GCA (Accountable) • MoF (Informed) • SMV (Responsible) • Technical Consultant (Responsible)
Description	GCA to be supported by the technical consultant in mainstreaming ESG aspect into project preparation and transaction documents, for example in more comprehensive assessment of ESG risks and issues, more specific mitigation action planned, and more explicit allocations of responsibility in managing ESG risks in the draft PPP agreement, , including actions that the GCA should take to support the IBE in meeting their compliance obligations to their financiers (e.g. legacy land acquisition, livelihood restoration, impact on critical habitat, GHG emission, pollution prevention and control, health and safety of workers and local people, labor and community disputes, consent of Indigenous Peoples, cumulative impact, emergency preparedness, geotechnical, hydrological, climate, critical habitat and biodiversity impact, etc.).
Key Documents Required	<ul style="list-style-type: none"> • Master Agreement • Assignment Agreement • Technical Consultant Contract • Other relevant ESG studies & documents carried out by GCA
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA • Tool 18: Outline of ESG Report at Financial Close by GCA
Key Documents Generated	<ul style="list-style-type: none"> • An enhanced PDF Output Result (in the form of a Pre-Feasibility Study and/or transaction assistance) that embeds ESG aspect • A better tender outcome, whereby the winner is capable of and committed to fulfilling ESG requirements • Accountable commitment by GCA and IBE to manage ESG issues and impact, as outlined explicitly in the PPP Agreement, including with regard to the IBE's compliance obligations to their financiers.
Review/ Approval	Director of Government Support and Infrastructure Financing Management
Timing	From the signing of the Master Agreement until financial close, where the PDF support ends.



PDF Consultant

10. Deliver PDF support embedding ESG considerations

Objectives	To enable project preparation and transaction to embed ESG considerations, including in the Pre-Feasibility Study and tender documents
Responsible Parties	<ul style="list-style-type: none"> • PDF Consultant (Responsible) • GCA (Accountable) • MoF (Informed) • PDF Implementer (Informed)
Description	<p>PDF Consultant with PDF Implementer to support GCA in mainstreaming ESG aspect into project preparation and transaction documents, including:</p> <ul style="list-style-type: none"> • More comprehensive assessment of ESG risks and issues to incorporate in the AMDAL, • Identify more specific mitigation actions, including actions the IBE need to take to meet the compliance obligations to their financiers (e.g. legacy land acquisition, livelihood restoration, impact on critical habitat, GHG emission, pollution prevention and control, health and safety of workers and local people, labor and community disputes, consent of Indigenous Peoples, cumulative impact, emergency preparedness, geotechnical, hydrological, climate, critical habitat and biodiversity impact, etc.) • Integrate the ESG criteria and the evaluation of the bid document to the procurement document • More straightforward duties that should be carried out in managing ESG risks in the draft PPP Agreement
Key Documents Required	<ul style="list-style-type: none"> • Technical Consultant Contract
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA
Key Documents Generated	<ul style="list-style-type: none"> • An enhanced PDF Output Result (in the form of a Pre-Feasibility Study and/or transaction assistance) that embeds ESG aspect • A better tender outcome, whereby the winner is capable of and committed to fulfilling ESG requirements • Accountable commitment by GCA and IBE to manage ESG issues and impact, including support the IBE needs to meet their compliance obligations to their financiers, as outlined explicitly in the PPP Agreement
Review/ Approval	PDF Implementer's Project Director
Timing	From the signing of the Consultant Contract until financial close, when the PDF support ends.



PDF Implementers

11. Review and Deliver the PDF Support

Objectives	To enable project preparation and transaction to embed ESG considerations, including in the Pre-Feasibility Study and tender documents
Responsible Parties	<ul style="list-style-type: none"> • PDF Implementer (Accountable) • GCA (Responsible) • MoF (Informed) • PDF Consultant (Responsible)
Description	PDF Implementer to help deliver and oversee PDF Consultant in supporting GCA in mainstreaming ESG aspect into project preparation and transaction documents, for example in more comprehensive assessment of ESG risks and issues, more specific mitigation action planned, and more explicit allocations of responsibility in managing ESG risks in the draft PPP agreement. This includes quality assurance of the PDF outputs.
Key Documents Required	<ul style="list-style-type: none"> • Master Agreement • Assignment Agreement • Technical Consultant Contract • Other relevant ESG studies & documents carried out by GCA
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 8: Checklist to Review the PDF Outputs
Key Documents Generated	<ul style="list-style-type: none"> • An enhanced PDF Output Result (in the form of a Pre-Feasibility Study and/or transaction assistance) that embeds ESG aspect • A better tender outcome, whereby the winner is capable of and committed to fulfilling ESG requirements • Accountable commitment by GCA and IBE to manage ESG issues and impact, as outlined explicitly in the PPP Agreement
Review/ Approval	Director of Government Support and Infrastructure Financing Management of MoF
Timing	From the signing of the Consultant Contract until financial close, where the PDF support ends.



MoF

12. Review and Approve the PDF Support Outputs

Objectives	To enable project preparation and transaction to embed ESG considerations, including in the Pre-Feasibility Study and tender documents
Responsible Parties	<ul style="list-style-type: none">• MoF (Accountable)• GCA (Responsible)• PDF Implementer (Responsible)• PDF Consultant (Responsible)
Description	MoF to review PDF Support Outputs delivered by PDF Consultant under a contract with the PDF Implementer, which includes assessment of how ESG aspect has been embedded into project preparation and transaction documents, for example in more comprehensive assessment of ESG risks and issues, more specific mitigation action planned, and more explicit allocations of responsibility in managing ESG risks in the draft PPP agreement
Key Documents Required	<ul style="list-style-type: none">• Master Agreement• Assignment Agreement• Technical Consultant Contract• Other relevant ESG studies & documents carried out by GCA
Available Tools in the Manual	<ul style="list-style-type: none">• Tool 1: ESG Risk Register• Tool 10: Gender Considerations• Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG• Tool 8: Checklist to Review the PDF Outputs• Tool 17: Outline of Annual ESG Monitoring Report by the MoF PPP Unit
Key Documents Generated	<ul style="list-style-type: none">• An enhanced PDF Output Result (in the form of a Pre-Feasibility Study and/or transaction assistance) that embeds ESG aspect• A better tender outcome, whereby the winner is capable of and committed to fulfilling ESG requirements• Accountable commitment by GCA and IBE to manage ESG issues and impact, as outlined explicitly in the PPP Agreement
Review/ Approval	Director of Government Support and Infrastructure Financing Management
Timing	From the signing of the Assignment Agreement until financial close, when the PDF support ends.



13 and 14. Establish and maintain an ESMS, including Supplemental ESG document																	
GCA and IBE	<table border="1"> <tr> <td>Objectives</td> <td>To implement monitor, report and evaluate ESG management within the project</td> </tr> <tr> <td>Responsible Party</td> <td> <ul style="list-style-type: none"> • GCA (Responsible) • IBE (Responsible) • MoF (Informed) </td> </tr> <tr> <td>Description</td> <td>GCA and IBE to set up and implement an ESG management plan</td> </tr> <tr> <td>Key Documents Required</td> <td> <ul style="list-style-type: none"> • AMDAL as the reference in managing, reporting, and evaluating ESG performance • Supplementary LARAP if legacy land acquisition needs to be addressed to meet the lender's ESG requirements • Supplemental ESIA, Biodiversity Management Plan etc., that have not been covered in AMDAL/UKL-UPL to meet the GIIP or the lender's ESG requirements. • Stakeholder Engagement Plan that maps out key stakeholders and presents strategies to engage with them on an on-going basis, including grievance redress mechanisms • Gender Action Plan (as relevant) • Cumulative impact assessment (as relevant) • Emergency Preparedness Plan (as relevant) • Monitoring and evaluation framework to systematically collect and report compliance with relevant ESG requirements incl. those required by IBE's own lenders </td> </tr> <tr> <td>Available Tools in the Manual</td> <td> <ul style="list-style-type: none"> • Tool 13: ESG Corrective Action Plan • Tool 18: Outline of ESG Report at Financial Close by GCA </td> </tr> <tr> <td>Key Documents Generated</td> <td> <ul style="list-style-type: none"> • See below on reporting </td> </tr> <tr> <td>Review/ Approval</td> <td>Director of Government Support and Infrastructure Financing Management</td> </tr> <tr> <td>Timing</td> <td>During project implementation</td> </tr> </table>	Objectives	To implement monitor, report and evaluate ESG management within the project	Responsible Party	<ul style="list-style-type: none"> • GCA (Responsible) • IBE (Responsible) • MoF (Informed) 	Description	GCA and IBE to set up and implement an ESG management plan	Key Documents Required	<ul style="list-style-type: none"> • AMDAL as the reference in managing, reporting, and evaluating ESG performance • Supplementary LARAP if legacy land acquisition needs to be addressed to meet the lender's ESG requirements • Supplemental ESIA, Biodiversity Management Plan etc., that have not been covered in AMDAL/UKL-UPL to meet the GIIP or the lender's ESG requirements. • Stakeholder Engagement Plan that maps out key stakeholders and presents strategies to engage with them on an on-going basis, including grievance redress mechanisms • Gender Action Plan (as relevant) • Cumulative impact assessment (as relevant) • Emergency Preparedness Plan (as relevant) • Monitoring and evaluation framework to systematically collect and report compliance with relevant ESG requirements incl. those required by IBE's own lenders 	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 13: ESG Corrective Action Plan • Tool 18: Outline of ESG Report at Financial Close by GCA 	Key Documents Generated	<ul style="list-style-type: none"> • See below on reporting 	Review/ Approval	Director of Government Support and Infrastructure Financing Management	Timing	During project implementation
Objectives	To implement monitor, report and evaluate ESG management within the project																
Responsible Party	<ul style="list-style-type: none"> • GCA (Responsible) • IBE (Responsible) • MoF (Informed) 																
Description	GCA and IBE to set up and implement an ESG management plan																
Key Documents Required	<ul style="list-style-type: none"> • AMDAL as the reference in managing, reporting, and evaluating ESG performance • Supplementary LARAP if legacy land acquisition needs to be addressed to meet the lender's ESG requirements • Supplemental ESIA, Biodiversity Management Plan etc., that have not been covered in AMDAL/UKL-UPL to meet the GIIP or the lender's ESG requirements. • Stakeholder Engagement Plan that maps out key stakeholders and presents strategies to engage with them on an on-going basis, including grievance redress mechanisms • Gender Action Plan (as relevant) • Cumulative impact assessment (as relevant) • Emergency Preparedness Plan (as relevant) • Monitoring and evaluation framework to systematically collect and report compliance with relevant ESG requirements incl. those required by IBE's own lenders 																
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 13: ESG Corrective Action Plan • Tool 18: Outline of ESG Report at Financial Close by GCA 																
Key Documents Generated	<ul style="list-style-type: none"> • See below on reporting 																
Review/ Approval	Director of Government Support and Infrastructure Financing Management																
Timing	During project implementation																

15 and 16. Conduct ESG Monitoring & Reporting							
GCA and IBE	<table border="1"> <tr> <td>Objectives</td> <td>To monitor, report and evaluate the ESG planning and implementation within the project</td> </tr> <tr> <td>Responsible Party</td> <td> <ul style="list-style-type: none"> • GCA (Responsible) • IBE (Responsible) • MoF (Responsible) </td> </tr> <tr> <td>Description</td> <td> In financial close: <ul style="list-style-type: none"> • GCA to provide an ESG impact report to the MoF regarding how ESG has been incorporated in project preparation and how ESG will continue to be managed during project implementation, including how the lender's ESG obligations have been met to minimize compliance and </td> </tr> </table>	Objectives	To monitor, report and evaluate the ESG planning and implementation within the project	Responsible Party	<ul style="list-style-type: none"> • GCA (Responsible) • IBE (Responsible) • MoF (Responsible) 	Description	In financial close: <ul style="list-style-type: none"> • GCA to provide an ESG impact report to the MoF regarding how ESG has been incorporated in project preparation and how ESG will continue to be managed during project implementation, including how the lender's ESG obligations have been met to minimize compliance and
Objectives	To monitor, report and evaluate the ESG planning and implementation within the project						
Responsible Party	<ul style="list-style-type: none"> • GCA (Responsible) • IBE (Responsible) • MoF (Responsible) 						
Description	In financial close: <ul style="list-style-type: none"> • GCA to provide an ESG impact report to the MoF regarding how ESG has been incorporated in project preparation and how ESG will continue to be managed during project implementation, including how the lender's ESG obligations have been met to minimize compliance and 						



15 and 16. Conduct ESG Monitoring & Reporting	
	<p>reputational risks</p> <p>During project implementation:</p> <ul style="list-style-type: none"> • IBE to provide regular reports (similar to GCA report) to the GCA on how ESG aspects are managed in pre-construction, construction, and operation stages, including compliance with their lenders, labor and health and safety issues, and a brief report on stakeholder engagement and incidence of community or labor disputes if relevant
Key Documents Required	<ul style="list-style-type: none"> • AMDAL as the reference in managing, reporting, and evaluating ESG performance • Master Agreement as the basis of GCA reporting to MoF • PPP Agreement as the basis of IBE reporting to GCA
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 11: ESG Corrective Action Plan • Tool 18: Outline of ESG Report at Financial Close by GCA • Tool 20: Environmental and Social Commitment Plan
Key Documents Generated	<ul style="list-style-type: none"> • GCA's ESG report at financial close • IBE's regular ESG report during project implementation
Review/ Approval	<ul style="list-style-type: none"> • Director of Government Support and Infrastructure Financing Management (for the GCA report)
Timing	In financial close and during project implementation

MoF

17. Conduct ESG Monitoring & Reporting	
Objectives	To monitor, report and evaluate the ESG planning and implementation within the project
Responsible Party	<ul style="list-style-type: none"> • MoF (Responsible)
Description	<p>In financial close:</p> <p>MoF to provide regular (annual) internal report to the Minister on supported projects, regarding the projects' material issues and how the issues are mitigated through PDF support</p> <p>During project implementation:</p> <p>MoF to provide regular (annual) internal report to the Minister on supported projects, on how ESG aspects are managed in pre-construction, construction, and operation stages</p> <p>Upon the completion of PDF Assistance:</p> <p>MoF to maintain communication with the GCA to propose for a post PDF assistance monitoring and communication activities, as part of the ESG monitoring and reporting framework</p>
Key Documents Required	<ul style="list-style-type: none"> • AMDAL as the reference in managing, reporting, and evaluating ESG performance • Master Agreement as the basis of GCA reporting to MoF • PPP Agreement as the basis of IBE reporting to GCA
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 17: Outline of Annual ESG Monitoring Report by the MoF PPP Unit
Key Documents	<ul style="list-style-type: none"> • Annual ESG Monitoring Report by the MoF PPP Unit

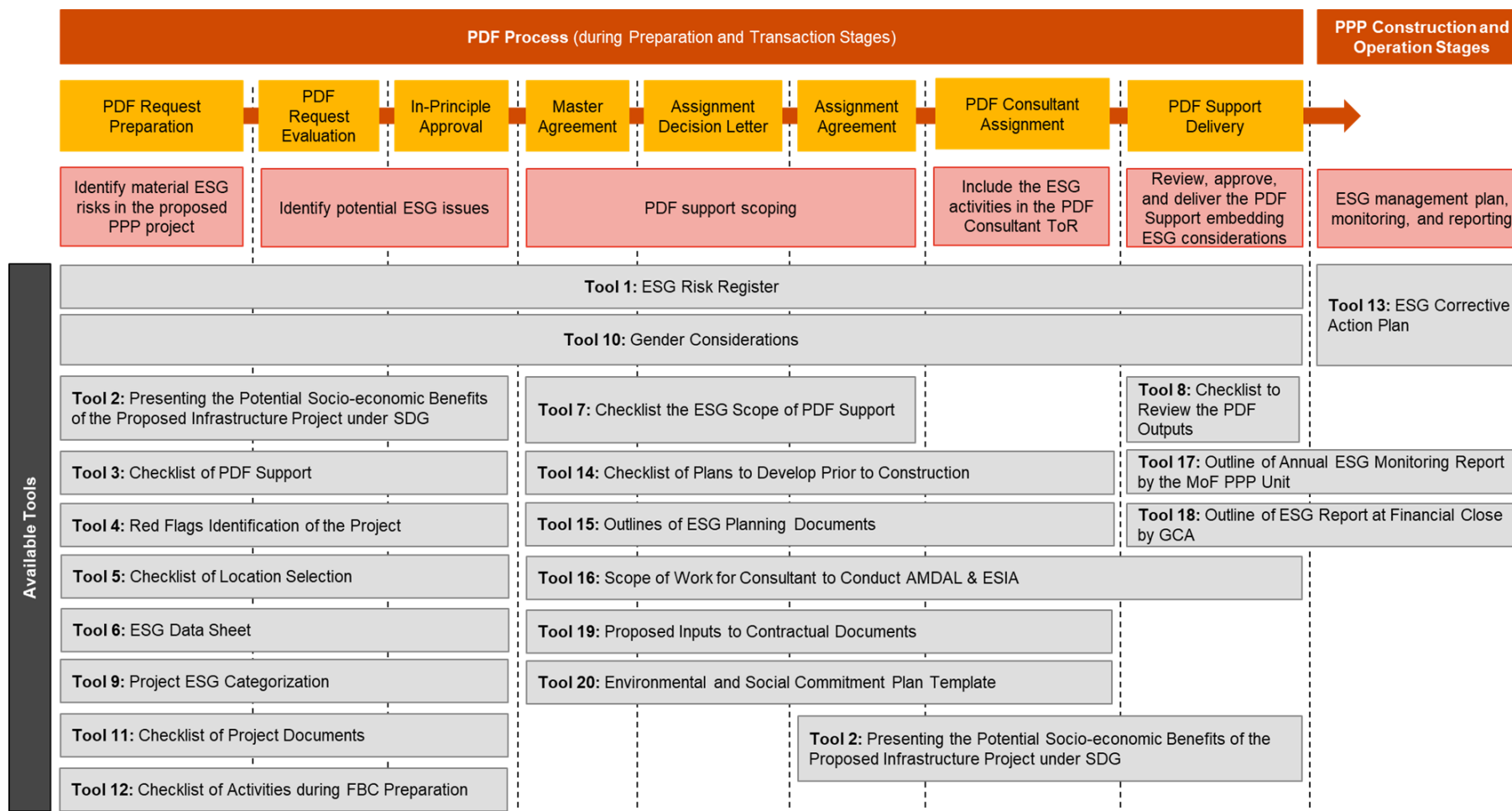
**17. Conduct ESG Monitoring & Reporting**

Generated	
Review/ Approval	<ul style="list-style-type: none">• Director of Government Support and Infrastructure Financing Management• Minister of Finance
Timing	In financial close and during project implementation

B. Available tools to deliver the above activities

This section provides flow diagrams outlining the tools available to be used to complete the ESG activities conducted during the PDF Process during Project Preparation and Transaction Stages.

Figure 8. Tools to be used to complete the ESG activities





This section maps the activities to be delivered by project stakeholders throughout the VGF support lifecycle.

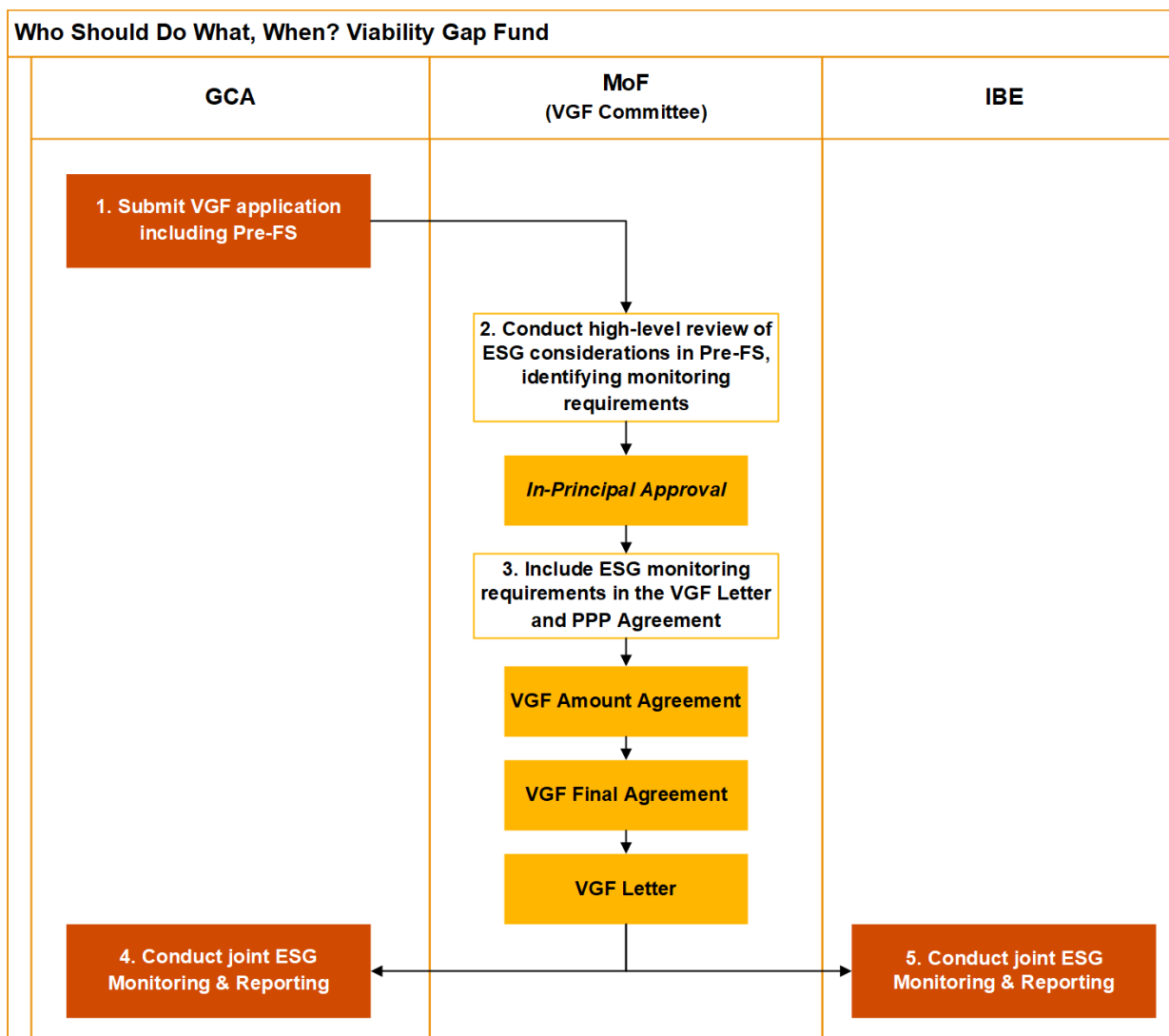
2.2 Who Should Do What, When? Viability Gap Funding

Use the guide to quickly find which stage of development you are at and follow the corresponding guidance to determine who needs to do what and when.

A. Activities surrounding ESG aspects to be conducted during the VGF process

Viability Gap Funding (VGF) is government support in the form of a partial contribution to construction costs provided in cash for a PPP project that already has economic feasibility but does not yet have financial feasibility. This government support is given by MoF and can cover up to 49% of the construction cost. In this section, there are flow diagrams outlining the ESG activities to be conducted during the VGF Process during Project Transaction Stage.

Figure 9. Who Should Do What, When? Viability Gap Fund



Following is the explanation for each proposed activity:

Table 8. Activities surrounding ESG Aspects to be Conducted during the VGF Process

GCA	1. Submit VGF application including Pre-FS	
	Objectives	To obtain VGF from MoF as well as to show that the proposed project has considered ESG
	Responsible Parties	<ul style="list-style-type: none"> • GCA (Responsible)
	Description	GCA to submit VGF application including Pre-FS document in order to get higher chance of obtaining VGF from MoF
	Key Documents Required	<ul style="list-style-type: none"> • VGF Application • Pre-FS document • Additional information from GCA as required by MoF
	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations
	Key Documents Generated	An enhanced version of VGF application submitted by GCA by putting ESG consideration into it
	Review/ Approval	Minister of Finance
	Timing	VGF Application Submission
MoF	2. Conduct high-level review of ESG considerations in Pre-FS, identifying monitoring requirements	
	Objectives	To provide MoF with more understanding of the ESG risks of the proposed project and the financial implications for project feasibility
	Responsible Parties	<ul style="list-style-type: none"> • MoF (Responsible)
	Description	MoF to conduct high-level review of ESG considerations of the proposed project and their financial implications for project feasibility, as well as the social costs and benefits of the project by identifying monitoring requirements
	Key Documents Required	<ul style="list-style-type: none"> • Pre-FS document • Additional information from GCA as required by MoF
	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 14: Checklist of Plans to Develop Prior to Construction • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA • Tool 19: Proposed Inputs to Contractual Documents • Tool 20: Environmental and Social Commitment Plan Template
	Key Documents Generated	<ul style="list-style-type: none"> • Notes consist of monitoring requirements to address the potential ESG risks



Review/ Approval	Minister of Finance
Timing	Before and during the issuance of Facility Approval

MoF
3. Include ESG monitoring requirements in the VGF Letter and PPP Agreement

Objective	To provide a basis to enforce ESG requirements during project construction
Responsible Parties	<ul style="list-style-type: none"> MoF (Accountable) GCA (Responsible) IBE (Informed)
Description	<ul style="list-style-type: none"> MoF to include ESG monitoring requirements in the VGF Letter MoF to require that the PPP Agreement includes ESG monitoring requirements
Key Documents Required	<ul style="list-style-type: none"> Pre-FS document Enhanced Principle Agreement
Available Tools in the Manual	<ul style="list-style-type: none"> Tool 1: ESG Risk Register Tool 10: Gender Considerations Tool 19: Proposed Inputs to Contractual Documents
Key Documents Generated	<ul style="list-style-type: none"> An enhanced VGF Letter that requires GCA to report on ESG performance (including emerging ESG risks and compliance risks) when applying for VGF disbursement(s)
Review/ Approval	Minister of Finance
Timing	Prior to issuance of the VGF Letter

GCA and IBE
4 and 5. Conduct joint ESG Monitoring & Reporting

Objective	To monitor the ESG performance of IBE and GCA during pre-construction and construction stages
Responsible Parties	<ul style="list-style-type: none"> MoF (Informed) GCA (Accountable) IBE (Responsible)
Description	<ul style="list-style-type: none"> GCA and IBE to provide a brief report to the MoF regarding how ESG has been managed during pre-construction, construction, and operation (incl. emerging ESG risks and compliance risks), as an attachment to the VGF disbursement application
Key Documents Required	<ul style="list-style-type: none"> AMDAL as the reference for managing, reporting, and evaluating ESG performance VGF Letter as the basis for reporting GCA to the MoF
Available Tools in the Manual	<ul style="list-style-type: none"> Tool 18: Outline of ESG Report at Financial Close by GCA
Key Documents Generated	<ul style="list-style-type: none"> GCA's ESG report
Review/	<ul style="list-style-type: none"> Director of Government Support and Infrastructure Financing Management

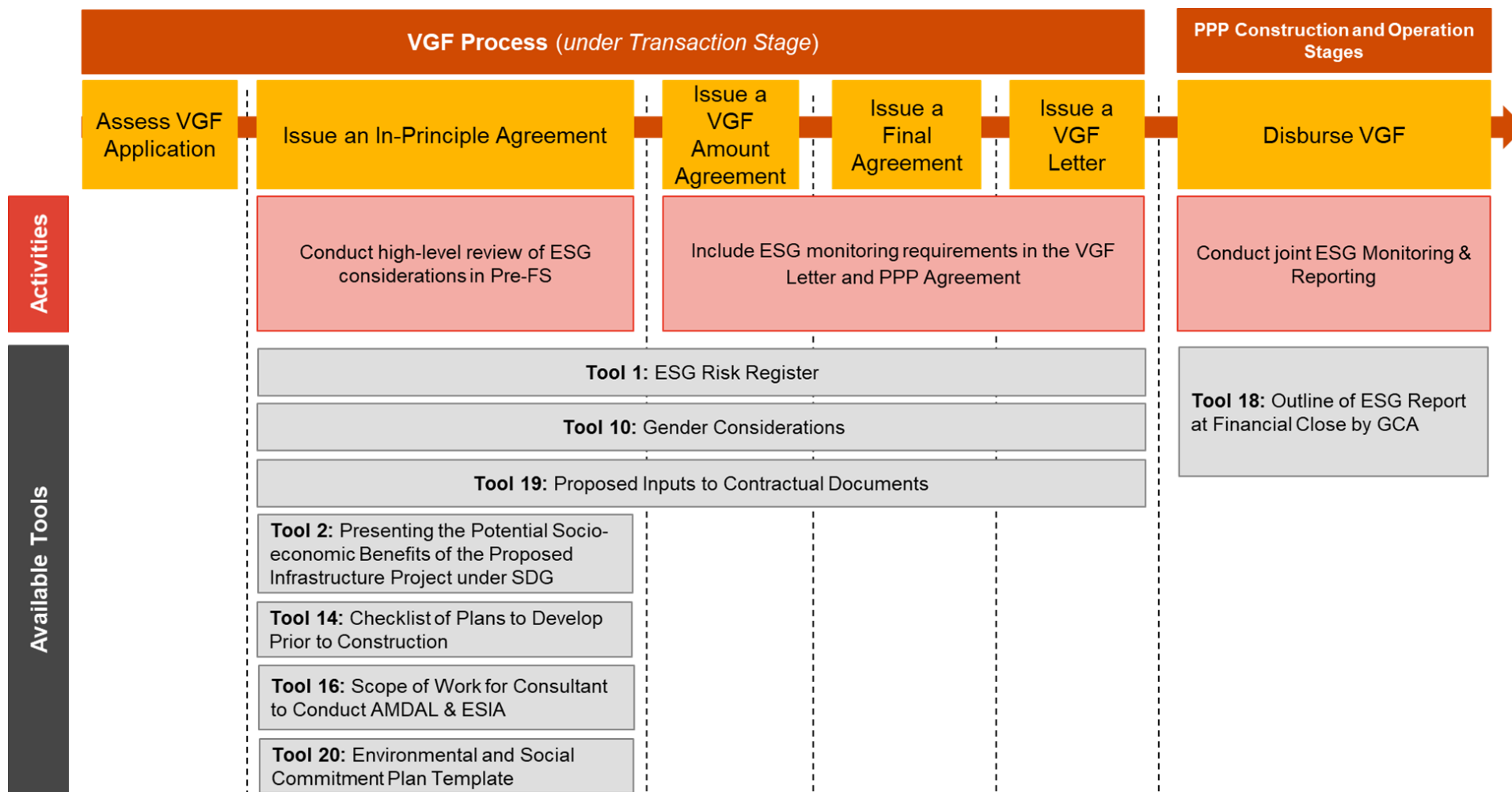
**4 and 5. Conduct joint ESG Monitoring & Reporting**

Approval	
Timing	During pre-construction and construction, up to the application for VGF disbursement(s)

B. Available tools to deliver the above activities

This section provides flow diagrams outlining the tools available to be used to complete the ESG activities conducted during the VGF Process during Project Transaction Stage.

Figure 10. Tools to be used in VGF Process





This section maps the activities to be delivered by project stakeholders throughout the Guarantee support lifecycle.

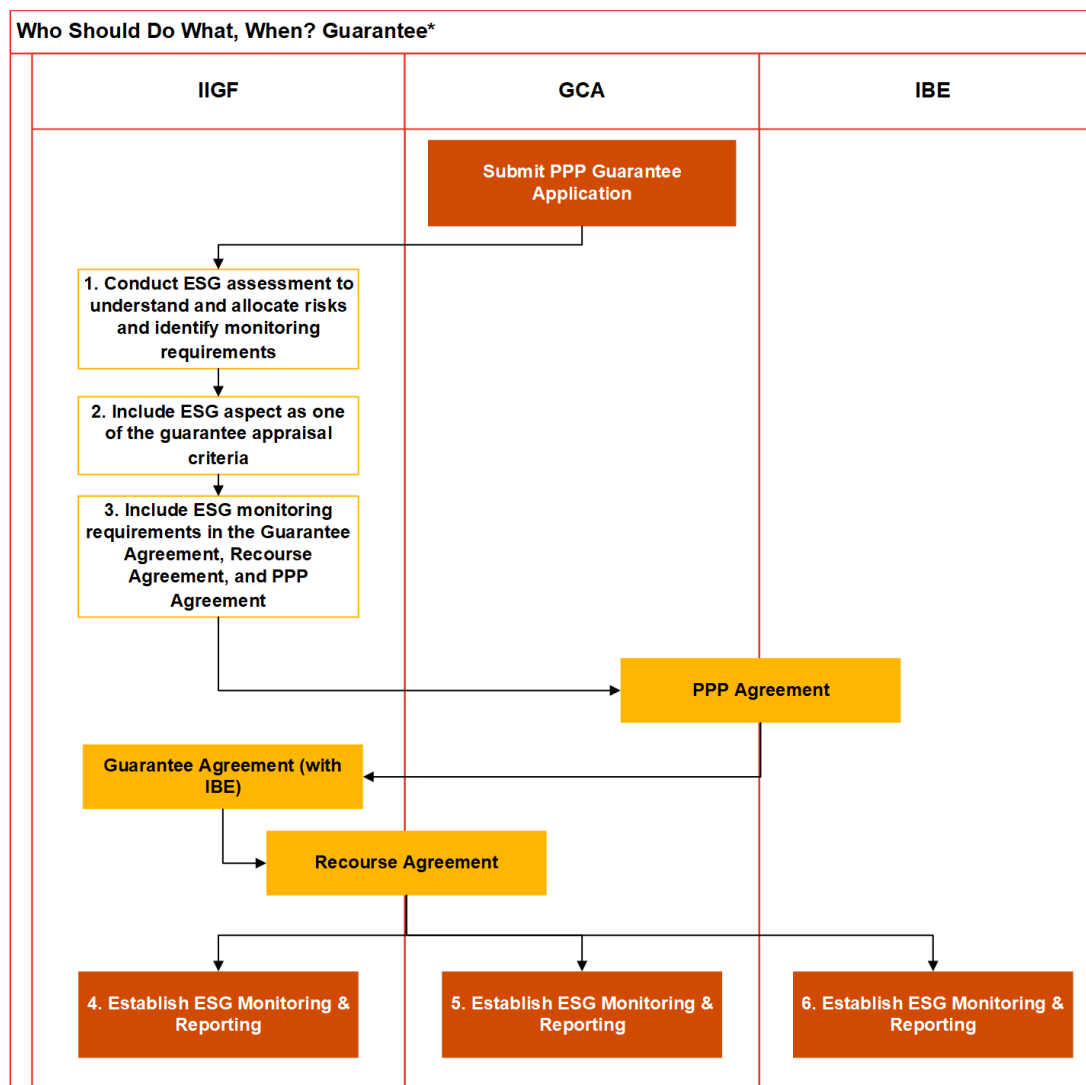
2.3 Who Should Do What, When? Infrastructure Guarantee

Use the guide to quickly find which stage of development you are at and follow the corresponding guidance to determine who needs to do what and when.

A. Activities surrounding ESG aspects to be conducted during the Infrastructure Guarantee process

Infrastructure Guarantee is the provision of guarantees for GCA's financial obligations to pay compensation to the IBE when infrastructure risk occurs which is the responsibility of the GCA in accordance with the agreed allocation in the PPP Agreement. In this section, there are flow diagrams outlining the ESG activities to be conducted under the Infrastructure Guarantee Process during Project Scanning, Screening, Appraisal, Structuring and Signing Stages.

Figure 11. Who Should Do What, When? Guarantee Process



Following is the explanation for each proposed activity:

Table 9. Activities surrounding ESG Aspects to be Conducted during the *Guarantee Process*

IIGF	1. Conduct ESG assessment to understand and allocate risks and identify monitoring requirements	
	Objectives	To better inform IIGF in selecting projects based on their potential benefits (socio-economic benefits, SDG targets, NDC targets), ESG risks and monitoring requirements
	Responsible Parties	<ul style="list-style-type: none"> IIGF (Responsible) GCA (Responsible) MoF (Informed)
	Description	GCA and IIGF to discuss the following: <ul style="list-style-type: none"> Project objectives, scope, boundary, associated facilities, and area of influence Intended (socio-economic) benefits of the project, including mapping to SDGs Material ESG risks that might require substantial investment to mitigate including legacy land acquisition, consent of Indigenous Peoples community or labor disputes, health and safety issues incl. past incidents (if relevant), impacts on GHG emission, pollution prevention and control, cumulative impact, emergency preparedness, biodiversity, climate, critical habitat, potential allegation on labor issues (incl. child/ forced labor), gender, etc.
	Key Documents Required	Preliminary Study or OBC Documents from GCA with ESG assessment in it. AMDAL, UKL UPL or land acquisition document from GCA or IBE
	Available Tools in the Manual	<ul style="list-style-type: none"> Tool 1: ESG Risk Register Tool 10: Gender Considerations Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG Tool 14: Checklist of Plans to Develop Prior to Construction Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA Tool 19: Proposed Inputs to Contractual Documents Tool 20: Environmental and Social Commitment Plan Template
	Key Documents Generated	<ul style="list-style-type: none"> Scanning Report Confirmation to Proceed Letter to GCAAny supplemental environmental and social assessment required in addition to but not limited to the existing AMDAL, UKL -UPL or land acquisition document
	Review/ Approval	IIGF's Head of BD & GAC Division
Timing	During Project Scanning and Screening Stages	

IIGF
2. Include ESG aspect as one of the guarantee appraisal criteria

Objective	To determine that the project is environmentally and socially feasible as minimally required under the regulations
Responsible Party	<ul style="list-style-type: none"> • IIGF (Accountable) • GCA (Responsible) • IBE (Informed)
Description	IIGF will be able to: <ul style="list-style-type: none"> • Analyze the ESG risk allocation of the project to ensure that VfM is achieved • Ensure that the ESG risks allocated to the GCA are properly mitigated and/or monitored
Key Documents Required	<ul style="list-style-type: none"> • Any supplemental environmental and social assessment required in addition to but not limited to the existing AMDAL, UKL -UPL or land acquisition document
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations
Key Documents Generated	<ul style="list-style-type: none"> • Interim Evaluation Memo • Indicative guarantee pricing • A comprehensive ESG analysis on Pre-Feasibility Study prepared by GCA including significant compliance risks to the IBE in meeting the ESG obligations of their lenders.
Review/ Approval	IIGF's BOD
Timing	During Project Appraisal



3. Include ESG monitoring requirements in the Guarantee Agreement, Recourse Agreement, and PPP Agreement	
IIGF	<p>Objective</p> <p>To provide a basis to enforce ESG requirements during project construction</p>
	<p>Responsible Party</p> <ul style="list-style-type: none"> • IIGF (Accountable) • GCA (Responsible) • IBE (Informed)
	<p>Description</p> <ul style="list-style-type: none"> • IIGF to require that the PPP Agreement includes ESMS requirements <i>(to be confirmed with IIGF on potential interventions regarding Guarantee Agreement and Recourse Agreement)</i>
	<p>Key Documents Required</p> <ul style="list-style-type: none"> • FBC as well as other documents such as draft PPP Agreement, Project's financial model, and ENS form • Draft Guarantee Agreement and Recourse Agreement • Any supplemental environmental and social assessment required in addition to but not limited to the existing AMDAL, UKL -UPL or land acquisition document
	<p>Available Tools in the Manual</p> <ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 19: Proposed Inputs to Contractual Documents
	<p>Key Documents Generated</p> <ul style="list-style-type: none"> • Guarantee Agreement with a monitoring and reporting framework including compliance risks for the IBE to meet their lender's ESG requirements • Recourse Agreement
	<p>Review/ Approval</p> <p>Guarantee signers/approvers:</p> <ul style="list-style-type: none"> • IIGF's BOD • IIGF's CEO • Private Investor's authorized representative (for Final GA) • GCA's authorized representative (for Final RA)
	<p>Timing</p> <p>During Project Structuring until Signing Stages</p>



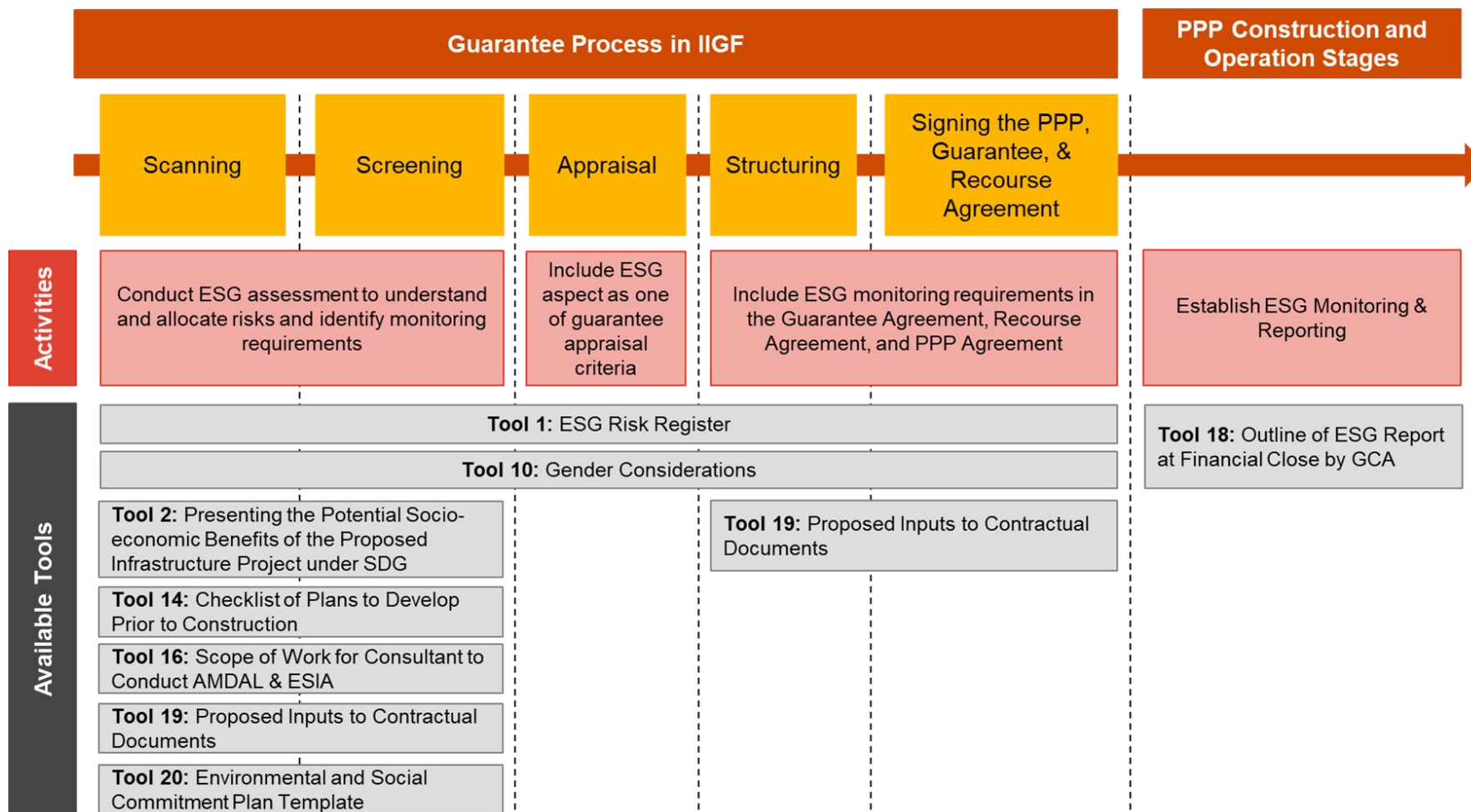
IIGF, GCA, and IBE

4, 5, and 6. Establish ESG Monitoring & Reporting	
Objective	To review the performance of the ESG implementation regularly.
Responsible Parties	<ul style="list-style-type: none">• IIGF (Informed)• GCA (Responsible)• IBE (Responsible)
Description	GCA and IBE to provide regular updates to IIGF regarding how ESG has been managed during project implementation, as part of the regular monitoring process under the Guarantee provision
Key Documents Required	<ul style="list-style-type: none">• AMDAL as the reference in managing, reporting, and evaluating ESG performance• PPP Agreement as the basis of GCA reporting to IIGF• Any supplemental environmental and social assessment required in addition to but not limited to the existing AMDAL, UKL -UPL or land acquisition document
Available Tools in the Manual	Tool 18: Outline of ESG Report at Financial Close by GCA
Key Documents Generated	GCA's ESG report to IIGF in the context of guarantee monitoring (could be in the form of an appendix to regular status reports)
Review/ Approval	IIGF
Timing	Throughout project implementation

B. Available tools to deliver the above activities

This section provides flow diagrams outlining the available tools to be used to complete the ESG activities conducted during the Guarantee Process during Project Scanning, Screening, Appraisal, Structuring and Signing Stages.

Figure 12. ESG Tools in Guarantee Process





This section maps the activities to be delivered by project stakeholders throughout the Co-Guarantee support lifecycle.

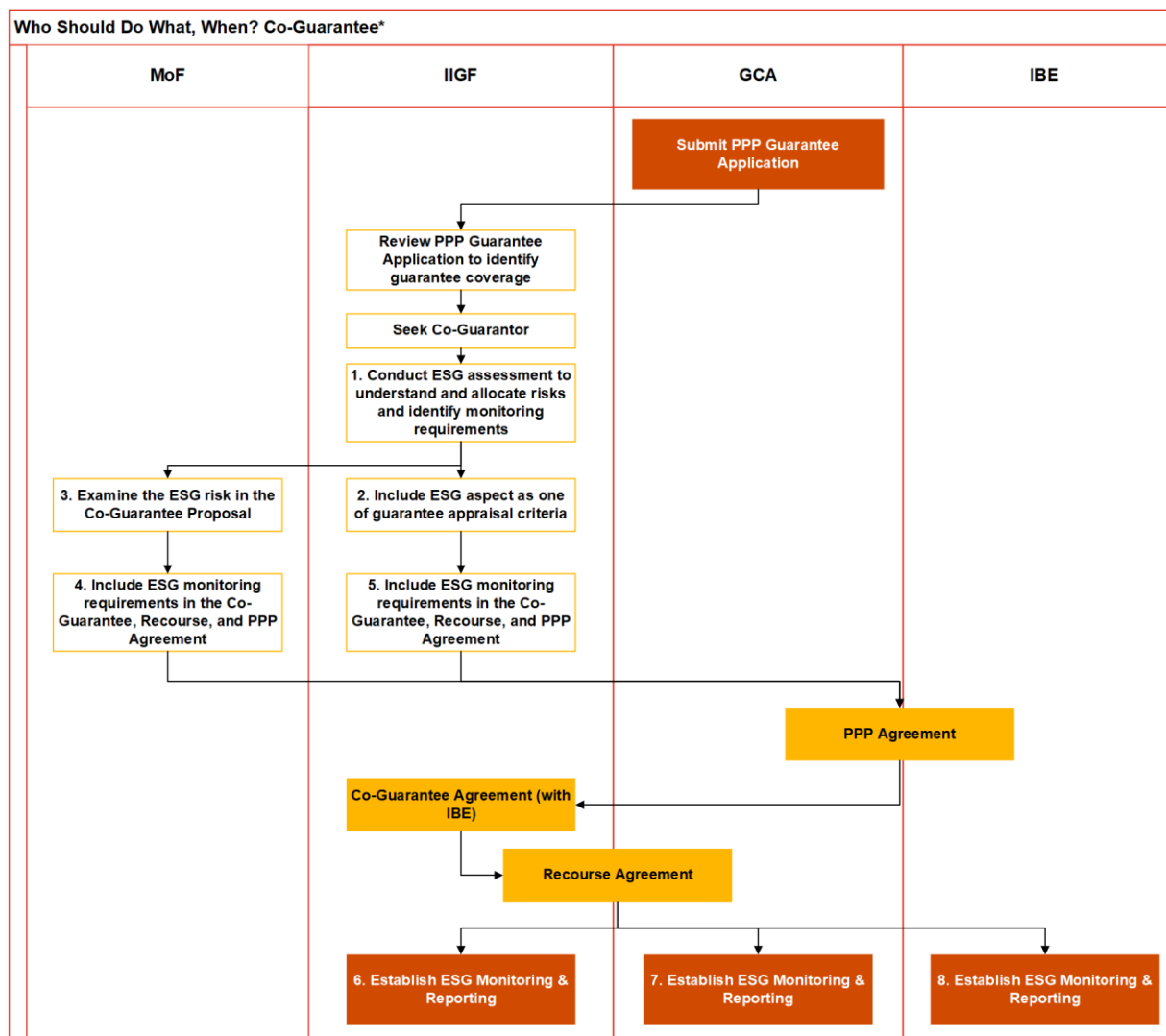
2.4 Who Should Do What, When? Infrastructure Co-guarantee

Use the guide to quickly find which stage of development you are at and follow the corresponding guidance to determine who needs to do what and when.

A. Activities surrounding ESG aspects to be conducted during the Infrastructure Co-Guarantee process

Co-guarantee is required if the guarantee exposure is too large to be covered by IIGF alone. This co-guarantee can be obtained from MoF, Bilateral and/or Multilateral agencies. In this section, there are flow diagrams outlining the ESG activities to be conducted under the Infrastructure Co-Guarantee Process during Project Scanning, Screening, Appraisal, Structuring and Signing Stages.

Figure 13. Who Should Do What, When? Co-Guarantee Process



Following is the explanation for each proposed activity:

Table 10. Activities surrounding ESG Aspects to be Conducted during the Co-Guarantee Process

IIGF	1. Conduct ESG assessment to understand and allocate risks and identify monitoring requirements	
	Objectives	To better inform IIGF in selecting projects based on their potential benefits (socio-economic benefits, SDG targets, NDC targets), ESG risks (including compliance risks for the IBE) and monitoring requirements
	Responsible Parties	<ul style="list-style-type: none"> • IIGF (Responsible) • GCA (Responsible) • MoF (Informed)
	Description	GCA and IIGF to discuss the following: <ul style="list-style-type: none"> • Project objectives, scope, boundary, and area of influence • Intended (socio-economic) benefits of the project, including mapping to SDGs • Material ESG risks that might require substantial investment to mitigate including legacy land acquisition, consent of Indigenous Peoples community or labor disputes, health and safety issues incl. past incidents (if relevant), impacts on GHG emission, pollution prevention and control, cumulative impact, emergency preparedness, biodiversity, climate, critical habitat, potential allegation on labor issues (incl. child/ forced labor), gender, etc.
	Key Documents Required	Preliminary Study or OBC Documents from GCA
	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 14: Checklist of Plans to Develop Prior to Construction • Tool 16: Scope of Work for Consultant to Conduct AMDAL & ESIA • Tool 19: Proposed Inputs to Contractual Documents • Tool 20: Environmental and Social Commitment Plan Template
	Key Documents Generated	<ul style="list-style-type: none"> • Scanning Report • Confirmation to Proceed Letter to GCA
	Review/ Approval	IIGF's Head of BD & GAC Division
	Timing	During Project Scanning and Screening Stages


IIGF
2. Include ESG aspect as one of the co-guarantee appraisal criteria

Objective	To determine that the project is environmentally and socially feasible as minimally required under the regulations
Responsible Party	<ul style="list-style-type: none"> • IIGF (Accountable) • GCA (Responsible) • IBE (Informed)
Description	IIGF will be able to: <ul style="list-style-type: none"> • Analyze the ESG risk allocation of the project to ensure that VfM is achieved including with regard to the IBE's ESG obligations to their lenders • Ensure that the ESG risks allocated to the GCA are properly mitigated and/or monitored
Key Documents Required	-
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations
Key Documents Generated	<ul style="list-style-type: none"> • Interim Evaluation Memo • Indicative guarantee pricing • A comprehensive ESG analysis on Pre-Feasibility Study prepared by GCA including significant compliance risks to the IBE in meeting the ESG obligations of their lenders
Review/ Approval	IIGF's BOD
Timing	During Project Appraisal

MoF & IIGF
3. Examine ESG risk in the Co-Guarantee Proposal

Objective	To ensure that the ESG risks have been identified and allocated to the most capable of managing them between guarantor and co-guarantors before being approved
Responsible Party	<ul style="list-style-type: none"> • MoF (Accountable) • IIGF (Accountable) • GCA (Responsible) • IBE (Informed)
Description	MoF to evaluate and give recommendation on ESG risks allocation (including but not limited to legacy land acquisition, consent of Indigenous Peoples community or labor disputes, health and safety issues incl. past incidents (if relevant), impacts on GHG emission, pollution prevention and control, cumulative impact, emergency preparedness, biodiversity, climate, critical habitat, potential allegation on labor issues (incl. child/ forced labor), gender, and IBE's significant ESG obligations to their lenders) and issue In-Principle Approval to the guarantor and co-guarantors if the evaluation reaches a positive conclusion
Key Documents Required	Co-Guarantee Proposal
Available Tools in the	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register



3. Examine ESG risk in the Co-Guarantee Proposal	
Manual	<ul style="list-style-type: none"> • Tool 9: Gender Considerations • Tool 19: Proposed Inputs to Contractual Documents
Key Documents Generated	In-Principle Approval with a brief note of material ESG risks and a monitoring and reporting framework including compliance risks for the IBE to meet their lender's ESG requirements
Review/ Approval	Minister of Finance
Timing	During Project Appraisal

MoF & IIGF

4 and 5. Include ESG monitoring requirements in the Guarantee Agreement, Recourse Agreement, and PPP Agreement	
Objective	To provide a basis to enforce ESG requirements during project construction
Responsible Party	<ul style="list-style-type: none"> • MoF (Accountable) • IIGF (Accountable) • GCA (Responsible) • IBE (Informed)
Description	MoF to require that the PPP Agreement includes ESMS requirements <i>(to be confirmed with IIGF on potential interventions regarding Guarantee Agreement and Recourse Agreement)</i>
Key Documents Required	<ul style="list-style-type: none"> • Pre-Feasibility Study (FBC) as well as other documents such as draft PPP Agreement, and Project's financial model • In-Principle Approval letter • Interim Evaluation Memo • Draft Guarantee Agreement and Recourse Agreement
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 9: Gender Considerations • Tool 19: Proposed Inputs to Contractual Documents
Key Documents Generated	<ul style="list-style-type: none"> • Co-Guarantee Agreement with ESG monitoring and reporting framework including compliance risks for the IBE to meet their lender's ESG requirements • Recourse Agreement • PPP Agreement including a ESG monitoring and reporting framework <p>Coordination in preparing these contracts is required to ensure the monitoring and reporting framework is not redundant and overlapped. The PPP Agreement should serve as the baseline on the monitoring and reporting framework.</p>
Review/ Approval	<ul style="list-style-type: none"> • Minister of Finance
Timing	During Signing Stages

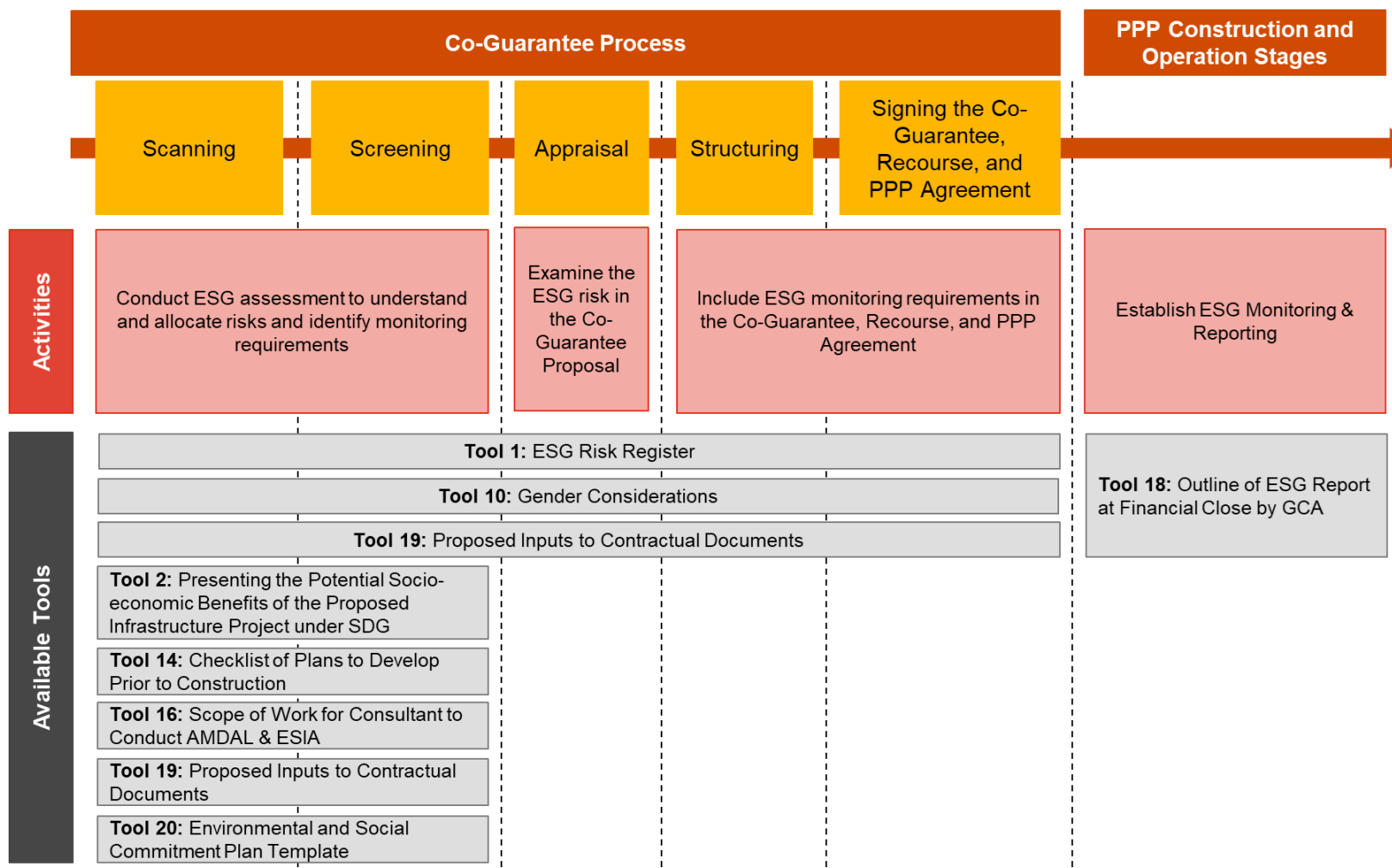
IIGF, GCA, and IBE
6, 7, and 8. Establish ESG Monitoring & Reporting

Objective	To review the performance of the ESG implementation regularly.
Responsible Party	<ul style="list-style-type: none"> • MoF (Informed) • IIGF (Informed) • GCA (Responsible) • IBE (Responsible)
Description	GCA and IBE to provide regular updates to IIGF on ESG compliance against the ESG monitoring and reporting framework during project implementation, as part of the regular monitoring process under the Guarantee provision
Key Documents Required	<ul style="list-style-type: none"> • AMDAL as the reference in managing, reporting, and evaluating ESG performance • PPP Agreement as the basis of GCA reporting to IIGF
Available Tools in the Manual	Tool 18: Outline of ESG Report at Financial Close by GCA
Key Documents Generated	GCA's ESG report to IIGF in the context of guarantee monitoring (could be in the form of an appendix to regular status reports)
Review/ Approval	IIGF
Timing	Throughout project implementation

B. Available tools to deliver the above activities

This section provides flow diagrams outlining the available tools to be used to complete the ESG activities conducted during the Guarantee Process during Project Scanning, Screening, Appraisal, Structuring and Signing Stages.

Figure 14. ESG Tools in Co-Guarantee Process





This section maps the activities to be delivered by project stakeholders throughout the AP support lifecycle.

2.5 Who Should Do What, When? Availability Payment

Use the guide to quickly find which stage of development you are at and follow the corresponding guidance to determine who needs to do what and when.

A. Activities surrounding ESG aspects to be conducted during the AP process

Availability payment is a form of return of investment scheme for PPP projects. Below are two flow diagrams outlining the ESG activities to be conducted during the AP Process. The first flow diagram outlines the process where the GCA is a central government ministry/agency, while the second diagram outlines the process where the GCA is a subnational government (SNG), which must involve the Ministry of Home Affairs (MOHA).

Figure 15 Who Should Do What, When? Availability Payment (Central Government acting as GCA)

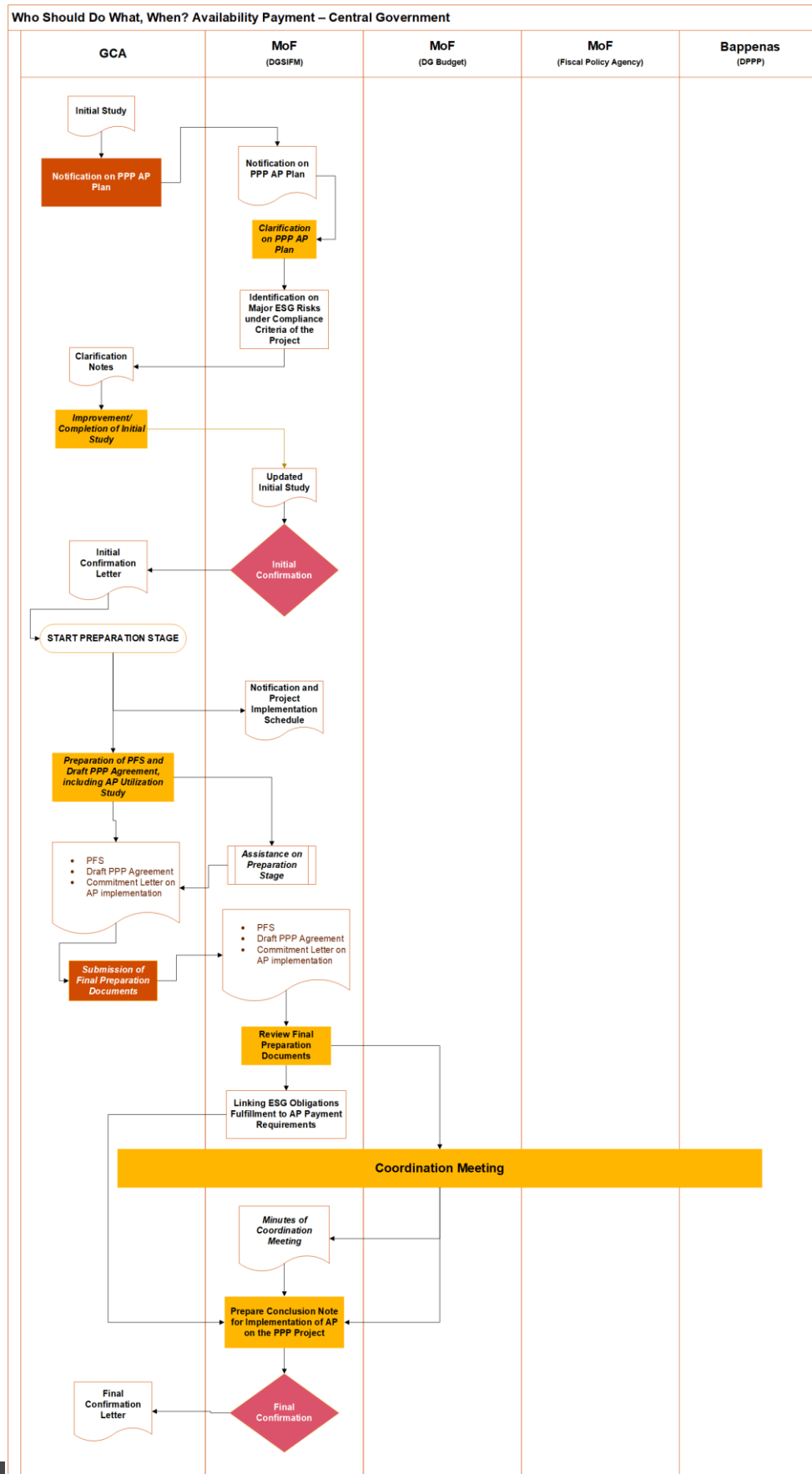
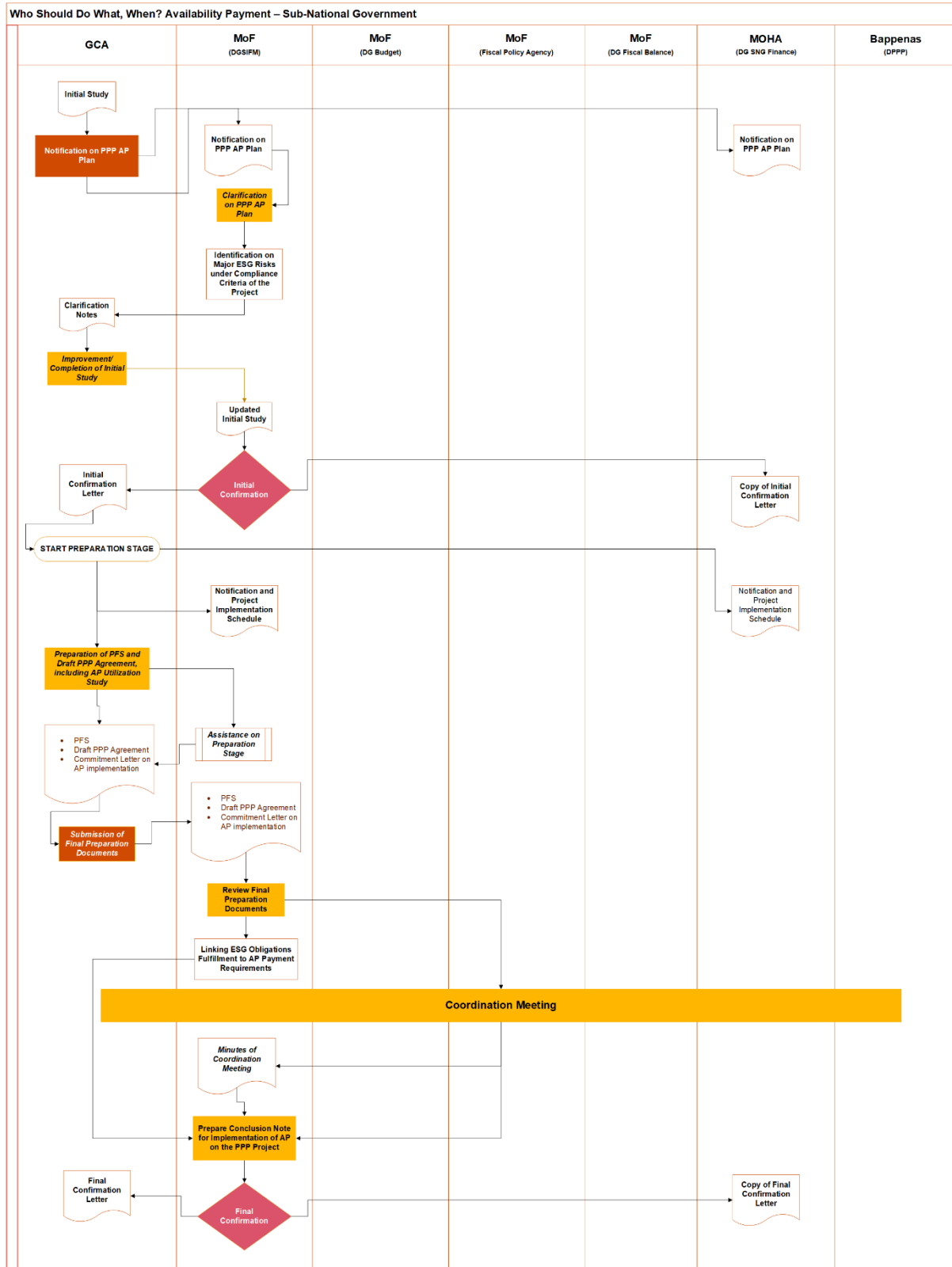


Figure 16 Who Should Do What, When? Availability Payment (Sub-National Government acting as GCA)



Following is the explanation for each proposed activity (applicable for both diagrams above):

GCA	1. Identify Major ESG Risks of the PPP Project	
	Responsible Parties	<ul style="list-style-type: none"> • GCA (Responsible) • MoF (Consulted)
	Description	GCA to assess and provide the following to MoF: <ul style="list-style-type: none"> • Material ESG risks that might require specific attention and substantially affect project design • General description on the type and form of services
	Key Documents Required	Preliminary Study
	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 6: ESG Datasheet
	Key Documents Generated	<ul style="list-style-type: none"> • Early identification of ESG major risks of the project • Preliminary Study
	Review/ Approval	MoF
	Timing	PPP Planning Stage
MoF	2. Identify Major ESG Risks of the PPP Project	
	Responsible Parties	<ul style="list-style-type: none"> • MoF (Responsible) • GCA (Consulted) • MOHA, if the GCA is SNG (Informed)
	Description	MoF to discuss with GCA and assess the following: <ul style="list-style-type: none"> • Material ESG risks that might require specific attention and substantially affect project design Alignment of principles, objectives, and criteria for application of AP in the project
	Key Documents Required	Preliminary Study
	Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 6: ESG Datasheet • Tool 4: Red Flags Identification of the Project
	Key Documents Generated	<ul style="list-style-type: none"> • Clarification notes to the GCA to prepare/improve the preliminary study • Initial Confirmation Letter
	Review/ Approval	DGSIFM
	Timing	PPP Planning Stage

GCA

3. Include ESG Major Risks Identification for Project Consideration

Responsible Parties	<ul style="list-style-type: none"> GCA (Responsible) MoF (Consulted)
Description	GCA to ensure all identified ESG major risks of the project are properly identified and documented under the Preliminary Study.
Key Documents Required	Preliminary Study
Available Tools in the Manual	<ul style="list-style-type: none"> Tool 1: ESG Risk Register Tool 10: Gender Considerations Tool 6: ESG Datasheet
Key Documents Generated	Preliminary Study
Review/ Approval	DGSIFM
Timing	PPP Planning Stage

MoF

4. Linking AP Payment to ESG Obligations Fulfillment

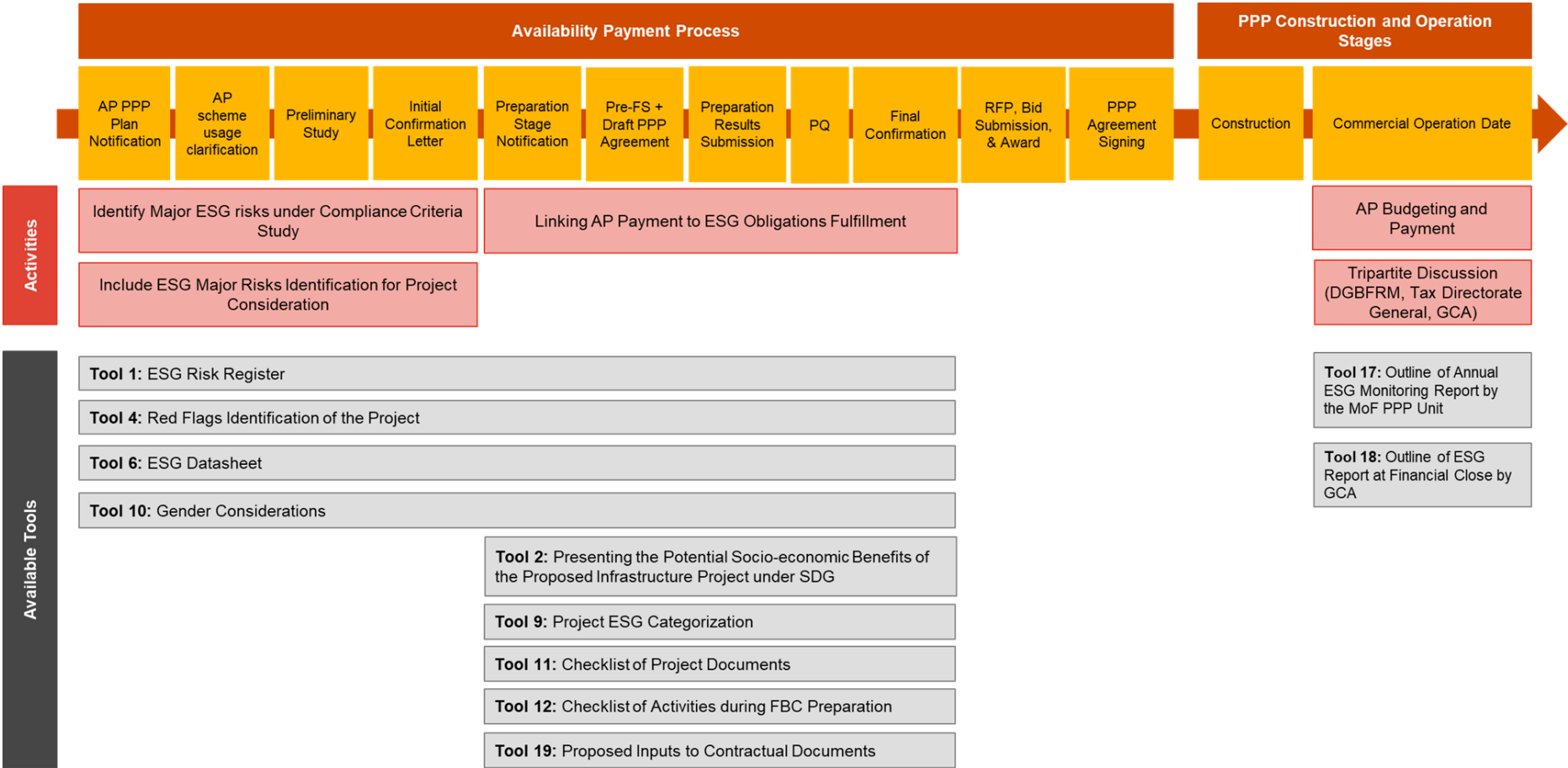
Responsible Parties	<ul style="list-style-type: none"> GCA (Responsible) MoF (Responsible) DG Budget MoF (Consulted) DG Fiscal Balance MoF (Consulted) Fiscal Policy Agency MoF (Consulted) DG SNG Finance MOHA, if the GCA is SNG (Consulted) Bappenas (Consulted)
Description	<p>The GCA to prepare the Pre-feasibility Study and Draft PPP Agreement setting out:</p> <ul style="list-style-type: none"> Analysis on the AP application in the projects, including clear and detailed description of the type and form of the services Clear output specification and performance indicator, inserting fulfillment of ESG obligations as performance indicator for payment AP Formula Monitoring System of the performance indicators Draft Commitment Letter for AP implementation providing, inserting GCA commitment to implement identified ESG obligations during the life of the project
Key Documents Required	<ul style="list-style-type: none"> Preliminary Study Pre-feasibility Study

4. Linking AP Payment to ESG Obligations Fulfillment	
	<ul style="list-style-type: none"> • Draft PPP Agreement • Commitment Letter for AP Implementation, as annex to PPP Agreement • Relevant reference materials compiled by GCA in preparation for the PPP projects (e.g., regional spatial plan document, Land Acquisition and Resettlement Plan (LARAP) if the land for PPP investment has been obtained by GCA, and past ESG studies in/around project locations)
Available Tools in the Manual	<ul style="list-style-type: none"> • Tool 1: ESG Risk Register • Tool 10: Gender Considerations • Tool 9: Project ESG Categorization • Tool 2: Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG • Tool 6: ESG Datasheet • Tool 4: Red Flags Identification of the Project • Tool 11: Checklist of Project Documents • Tool 12: Checklist of Activities during FBC Preparation • Tool 19: Proposed Inputs to Contractual Document
Key Documents Generated	Final Confirmation Letter
Review/ Approval	DGSIFM
Timing	PPP Preparation Stage

B. Available tools to deliver the above activities

This section provides flow diagrams outlining the available tools to be used to complete the ESG activities conducted during the AP Process.

Figure 17 ESG Tools in AP Process



3. ESG Toolkit

What You Will Find Inside This Chapter

This chapter contains a wide range of information and tools that could be used by the PICs of key stakeholders in delivering their responsibilities related to ESG consideration.

- Tool 1. ESG Risk Register
- Tool 2. Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under ESG
- Tool 3. Checklist of PDF Support
- Tool 4. Red Flags Identification of the Project
- Tool 5. Checklist of Location Selection
- Tool 6. ESG Data Sheet
- Tool 7. Checklist the ESG scope of PDF Support
- Tool 8. Checklist to Review the PDF Outputs
- Tool 9. Project ESG Categorisation
- Tool 10. Gender Considerations
- Tool 11. Checklist of Project Documents
- Tool 12. Checklist of Activities during FBC Preparation
- Tool 13. ESG Corrective Action Plan
- Tool 14. Checklist of Plans to Develop Prior to Construction
- Tool 15. Outline of ESG Planning Documents
- Tool 16. Scope of Work for Consultant to Conduct EIA & ESIA
- Tool 17. Outline of Annual ESG Report by the MoF PPP Unit
- Tool 18. Outline of ESG Report at Financial Close by GCA
- Tool 19. Proposed Inputs to Contractual Documents
- Tool 20. Environmental and Social Commitment Plan

Purpose of This Section

This section contains a wide range of information and tools that could be used by the PICs of key stakeholders in delivering their responsibilities related to ESG consideration.

This section aims to serve as a centralized repository that could provide a standardized approach to ESG, thus minimizing confusion and managing expectations of various stakeholders involved in infrastructure PPP projects.

Tool 1. ESG Risk Register

How to use this tool:

- GCA can use this tool:
 - during the development of the preliminary study and OBC: to focus its attention on material ESG issues and to assess whether fundamental changes are needed in project design (e.g., site locations, routes)
 - as a reference in the development of the ToR for the AMDAL consultant, as well as the review of the delivered AMDAL document
 - prior to PDF application: to understand the extent and scale of ESG risks pertaining to the infrastructure projects being proposed
 - during PDF agreement preparation: as a reference in negotiating the scope of the PDF support
 - during the implementation stage, to monitor ESG performance during pre-construction, construction, and operation of the infrastructure
- MoF can use this tool:
 - during PDF application review: to identify key gaps in ESG risk assessment that should be addressed under the PDF
 - during the preparation and transaction stages: as a reference in monitoring and reviewing the PDF support outputs
 - during the VGF application review: in its roles as the VGF committee, in reviewing Pre-FS and other documents from the ESG perspective to understand the project risks and how they will be managed during construction and operation
 - likewise during the Co-Guarantee application review, in reviewing project documents from the ESG perspective to understand the project risk profile
- PDF Implementers can use this tool:
 - during PDF agreement preparation: as a reference in negotiating the scope of the PDF support, complementing its own Environmental and Social Management Framework (ESMF) such as the ones belong to IIF or PT SMI.
 - as a guidance in developing the ToR of the PDF Consultant, as well as the review of the PDF outputs delivered
- PDF Consultants can use this tool:
 - during the preparation stage: as an input in developing the Pre-FS document
 - during the transaction stage: as an input in developing the tender documents and assessing bids, including assessing whether bidders are capable and committed to managing identified ESG risks
- IIGF (as guarantee provider) can use this tool:
 - during guarantee application review, as an additional reference in assessing project risks complementing its ESMF (belongs to IIGF) and risk allocation document

It should be noted that this ESG risk register is not aimed to replace the IIGF's risk allocation document, which serves as the main reference in assessing, evaluating, and allocating risks for infrastructure guarantee of PPP projects.

The risk register template presented in this tool includes ESG risks and impacts common across all sectors, as well as sector-specific risks. We will also consider gender and social inclusion as a cross-cutting issue that needs to be connected with each of the two factors (environmental and social), sectors and PPP project lifecycle (including gender and social inclusion matters within an institutional setting).

Projects within the different sectors will have different risk profiles depending on the type of project, and whether it is generally a ring-fenced project or a linear project. The table below provides examples of projects within the different sectors:

Table 11. Project Examples by Sector

Sector	Ring-Fenced Project Examples	Linear Project Examples
Water Supply	<ul style="list-style-type: none"> • Water supply plant (intake point) • Water treatment plant 	<ul style="list-style-type: none"> • Water distribution pipelines
Urban Transport	<ul style="list-style-type: none"> • Stations, stops, depots associated 	<ul style="list-style-type: none"> • Railway (including Mass Rapid



Sector	Ring-Fenced Project Examples	Linear Project Examples
	with urban transport solutions	Transit (MRT), Light Rail Transit (LRT) <ul style="list-style-type: none"> • Bus Rapid Transit (BRT) • Road projects
Housing	<ul style="list-style-type: none"> • Landed or condominium housing projects • Affordable housing projects • Municipal housing projects 	Not applicable
Waste Management	<ul style="list-style-type: none"> • Municipal waste • Industrial waste (hazardous and non-hazardous) • Landfill site • Recycling plant 	<ul style="list-style-type: none"> • Waste collection service
Gas Distribution	<ul style="list-style-type: none"> • Gas depots 	<ul style="list-style-type: none"> • Gas distribution pipelines
Health	<ul style="list-style-type: none"> • Hospitals • Clinics 	Not applicable

For ring-fenced projects, the risk profile will be more site-specific and impacts will be related to the projects' immediate Area of Influence. Examples of environmental impacts likely to present a higher likelihood of occurrence and severity of risk in ring-fenced projects would be impact on surface/ground water, impact on biodiversity, flooding, and in the case of urban areas, impact on community health & safety such as noise impact, air quality degradation, light pollution, impact on traffic in the immediate area, and impact on community health & safety in terms of Sexual Exploitation, Abuse, and Harassment (SEAH)/Gender Equality, Disability and Social Inclusion (GEDSI) concerns with influx of migrant workers. Ring-fenced projects may also provide the opportunity for beneficial impacts such as economic opportunities in job creation for the local community, provision of social infrastructure (such as hospital and public housing) and associated indirect economic activity in the area.

For linear projects, the risk profile may vary along the project area depending on things such as land acquisition through different authority areas, identification of protected assets (e.g. biodiversity or cultural heritage), and the possibility of more difficult management of occupational health & safety risks especially during the construction period. Whilst linear projects can provide positive impacts such as increased transportation connectivity and opportunity for utility supply, some may also have potential negative impacts such as impact on livelihood if the project cuts access for local communities (cutting access for residents to jobs and services).

Some infrastructure projects will include both ring-fenced and linear elements, and therefore ESG risks and impacts will be cross-cutting. In all cases, early identification of risks & impacts will allow the PIC to avoid/minimize impacts and to propose potential mitigations and monitoring plans. Early Stakeholder Engagement (including Information Disclosure and Grievance Redress Mechanism) will help to inform project affected people and minimize negative impacts on the community.

The risk register below includes ESG risks and impacts common across all sectors, while subsequent tools 1.A – 1.F outline ESG risks in six sectors. We will also consider gender and social inclusion as a cross-cutting issue that needs to be connected with each of the two factors (environmental and social), sectors and PPP project lifecycle (including gender and social inclusion matters within an institutional setting).

It is noteworthy that, for both the “ring-fenced project” and “linear project”, ESG risks may go beyond the direct area of impact, both temporarily and spatially. For example, ESG risks of a municipal waste plant can include short and long-term pollution and contamination impacts including through contaminated runoff and improper waste collection points and transportation in areas much broader in space than the areas immediately adjacent to the plant. Tariff setting for waste collection, as well as working conditions of both workers directly hired by the plant as well as those involved in waste collection ecosystem (e.g. waste pickers), also pose ESG risks. The issue of waste pickers is particularly pertinent from gender perspectives as many waste pickers are female, who may face risks of Gender Based Violence. The IBE may be required to assess and mitigate such broad ESG risks according to the international ESG standards such as the IFC PS and World Bank ESF, if so required by their own lenders, including through a Cumulative Impact Assessment (CIA)

Table 12. ESG Risk Register

Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
Environment					
Greenhouse gas (GHG) emissions	The energy use during the construction stage causes direct greenhouse gas emissions, while the manufacture of building material causes indirect greenhouse gas (GHG) emissions.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. Also, FBC's Cost Benefit Analysis (CBA) should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.	Goal 13: (point 13.1, 13.2, and 13.b) climate change-related planning and management actions are needed to combat climate change and its impact from energy use during construction process. Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process.
	The energy use for the operation of infrastructure facilities causes direct GHG emissions. However, the total GHG emissions due to the developed infrastructure might change (increase or decrease) in different ways and must be assessed on a case-by-case basis.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.	Goal 13: (point 13.1, 13.2, and 13.b) climate change-related planning and management actions on recurring basis are needed to combat climate change and its impact from energy use during operation process. Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process.
	GHG emissions as derivative impact from air quality impact. GHG emissions are associated with off-road and on-road equipment as well as workers' vehicle trips.	Construction	FBC preparation, ESIA preparation, Standard Operating Procedure (SOP) and Monitoring Plan preparation	FBC should include GHG assessment. ESIA with ESMP SOP for Air Quality Management & Monitoring Plan. SOP for GHG Mitigation & Monitoring Plan.	Goal 13: (point 13.1, 13.2, and 13.b) climate change-related planning and management actions are needed to combat climate change and its impact from energy use during construction process. Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process.
	GHG emissions as derivative impact from air quality impact. GHG emissions during operation are associated with on-road equipment	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring	FBC should include GHG assessment ESIA with ESMP SOP for Air Quality Management &	Goal 13: (point 13.1, 13.2, and 13.b) climate change-related planning and management actions are needed to combat climate change and its impact



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	as well as residents' vehicle trips.		Plan preparation	Monitoring Plan SOP for GHG Mitigation & Monitoring Plan	from energy use during operation process. Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process.
Energy use	Construction of the project uses large amount of energy to operate the heavy equipment.	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.	Goal 7: (point 7.3) ensure the energy efficiency through construction process Goal 13: (point 13.2) carbon footprint measures and reduction on the use of heavy equipment during construction.
	Operation of some types of infrastructure will use substantial energy, while others might result in net energy use reduction.	Operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.	Goal 7: (point 7.3) ensure the energy efficiency through operation process Goal 13: (point 13.2) carbon footprint measures and reduction on the energy use during operation.
Water use	The water used during the construction stage is sourced from groundwater and surface water, which can result in a decrease in the groundwater level and surface water quantity. This could interfere with the use of groundwater and surface water in the surrounding area and/or cause land subsidence and local flooding.	Construction	AMDAL Preparation, FBC Preparation	AMDAL (include water availability study). Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.	Goal 6 and 12: (point 6.4, 6.5, 6.6, and 12.2) decent management plans which promote water use efficiency including groundwater and surface water are required during the construction process.
	Some types of infrastructure will use a substantial amount of water, while others might result in net water use reduction.	Operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.	Goal 6 and 12: (point 6.4, 6.5, 6.6, and 12.2) decent management plans which promote water use efficiency including groundwater and surface water are required during the operation process.
Waste and wastewater generation	The construction process generates specific waste such as construction waste (e.g. soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried	Construction	AMDAL Preparation, FBC Preparation, SOP and Monitoring Plan Preparation, Technical Approval Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. Peraturan Teknis (Pertek)/Technical Approval SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the



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	in the ground, or burned. Wastewater from bathing and washing from toilets in construction areas, if not treated properly, can contaminate soil and water bodies.				number of illnesses from hazardous chemicals and air contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice.
	Operation of different types of infrastructure will produce different types and amounts of waste, including wastewater, non-hazardous solid waste, and hazardous waste. It can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. Wastewater can contaminate soil and water bodies if not treated properly. Hazardous solid waste generation during the operation has the potential to cause land contamination includes used lamps, used oils, fuel and oil filters and caustic cleaning materials from vehicle maintenance, used ink/cartridges, and contaminated containers (paints, solvents, etc.).	Operation	AMDAL Preparation, FBC Preparation, ESIA preparation, Habitat Screening preparation, SOP and Monitoring Plan Preparation, Technical Approval Preparation	AMDAL with RKL-RPL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. Peretujuan Teknis (Pertek)/Technical Approval ESIA with ESMP Habitat Screening Biodiversity Management Plan (if required) Biodiversity Offset Strategy (if required) SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during operation process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice.
	Vegetation waste during land preparation potentially arises from cuttings of trees, shrubs, and grass from land cover clearing	Construction	AMDAL Preparation, FBC Preparation, ESIA preparation, Habitat Screening preparation	AMDAL with RKL-RPL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. ESIA with ESMP Habitat Screening Biodiversity Management Plan (if required) Biodiversity Offset Strategy (if required)	Goal 12: (point 12.2) Natural resources efficiency must be ensured during the construction process that use vegetation Goal 15: (point 15.1 15.2, 15.3) conservation strategy to promote sustainable management of vegetation and combat desertification are required Goal 2: (point 2.4) ensure sustainable vegetation strategy to prevent land and soil quality reduction
	Hazardous solid waste generation during the construction stage that has the potential to cause land contamination includes the use of	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring	FBC should include the initial assessment of waste generation and the mitigation plan through the project.	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and soil contamination during



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	solid or powdered chemicals, metal scraps, and plastic from waste storage facilities.		Plan preparation, Technical Approval Preparation	Persetujuan Teknis (Pertek)/Technical Approval/AMDAL with RKL-RPL ESIA with ESMP SOP for Hazardous Waste Management & Monitoring Plan	the construction process.
Sanitation	Poor sanitation facilities can contaminate ground water, causing pooled stagnant water and unpleasant odors, and attracting sources of disease.	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.	Goal 6: (all points) adequate and equitable sanitation and hygiene must be ensured during the construction process. Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air, water, and soil contamination during the construction process.
	Sanitation facilities in infrastructure facilities need to be clean and well maintained (e.g., desludging septic tank regularly) to prevent groundwater contamination.	Operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.	Goal 6: (all points) adequate and equitable sanitation and hygiene must be ensured during the operation process. Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air, water, and soil contamination during the operation process.
Ground contamination & damage	Ground contamination can occur due to waste materials (such as metal, plastic, wood, and bricks) and waste from workers that are not disposed of properly.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the waste and wastewater management to GCA.	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process.



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					Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice.
	Landslides can occur when facilities are built on steep slopes.	Construction & operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include landslide mitigation for facilities built on a steep slopes	Goal 13: (point 13.1) resilience and adaptive capacity to natural disasters need to be conducted during construction and operation process.
	Ground contamination could occur from the operation of some types of infrastructure.	Operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and ground contamination during the operation process.
Surface water quantity	Land clearing activities will remove vegetation on the ground surface, which can increase the run-off discharged into the recipient water body and add flood as potential impact.	Pre-construction & construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of run off quantification or flood study and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan	Goal 6: (point 6.4, 6.5) water-use management control and sustainability strategy must be ensured during the construction process. Goal 12: (point 12.2) Natural resources efficiency must be ensured during the construction process that use vegetation Goal 15: (point 15.1 15.2, 15.3) conservation strategy to promote sustainable management of vegetation and combat desertification are required
Surface water quality	Land acquisition and construction activities can cause sedimentation due to runoff (especially during the rainy season), which can bring soil particles to the surface of the water around the project site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the surface water quality management to GCA.	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the construction process.



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					Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Surface water contamination could occur from the operation of some types of infrastructure.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the surface water quality management to GCA.	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during operation process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Land clearing activities will expose soil and increase the potential for erosion during rainfall periods. This run-off will bring sedimentation materials flowing into the recipient water body.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public



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	<p>All construction stages will potentially generate domestic wastewater from the workers domestic activity (workers camp & on project site). This includes wastewater from the canteen and temporary office. These activities will impact the surface water if the effluents discharged to the waterbody.</p>	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation, Technical Approval Preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Wastewater Management & Monitoring Plan Persetujuan Teknis (Pertek)/Technical Approval	<p>procurement practice</p> <p>Goal 2: (point 2.4) ensure sustainable vegetation strategy to prevent land and soil quality reduction</p> <p>Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process</p> <p>Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the construction process.</p> <p>Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice</p>
	<p>Operational activities will generate domestic wastewater from each sanitary facility. The wastewater from domestic WWTP will potentially contain domestic pollutant if not treated well.</p>	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation, Technical Approval Preparation	FBC should include the initial assessment on surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan Persetujuan Teknis (Pertek)/Technical Approval	<p>Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during operation process</p> <p>Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the operation process.</p> <p>Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public</p>



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	Surface water quality degradation during operation will potentially emerge due to pipeline maintenance activities. Pigging activities may generate wastewater which can impact the nearest surface water if not well managed.	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation, Technical Approval Preparation	FBC should include the initial assessment on surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan Peretujuan Teknis (Pertek)/Technical Approval	procurement practice Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
Groundwater quality	Groundwater can be polluted due to the site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Groundwater contamination could occur from the operation of some	Operation	AMDAL Preparation, FBC Preparation,	AMDAL Also, FBC should include the	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and



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	types of infrastructure.		PPP Agreement	groundwater quality management and monitoring plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.	wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during operation process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	All construction stages will potentially generate domestic wastewater from the workers domestic activity (workers' camp & on project site). This includes wastewater from the canteen and temporary office. These activities will impact the groundwater if the effluent is stored in the retention well.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation, Technical Approval Preparation	FBC should include the initial assessment of groundwater quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan SOP for Wastewater Management & Monitoring Plan Persetujuan Teknis (Pertek)/Technical Approval	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during construction process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	The operational activities of hazardous waste management facilities will potentially contaminate the soil and groundwater if not treated well. The contamination can be sourced from on-site activities such	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation, Technical Approval	FBC should include the initial assessment of groundwater quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the



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	as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfill.		Preparation	SOP for Groundwater Management & Monitoring Plan Persetujuan Teknis (Pertek)/Technical Approval	environment during operation process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Groundwater pollution during operation stage can be sourced from onsite domestic wastewater treatment facility. This possibility could occur due to contamination from leaks or a non-standard waste treatment system.	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation, Technical Approval Preparation	FBC should include the initial assessment off groundwater quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan SOP for Wastewater Management & Monitoring Plan Persetujuan Teknis (Pertek)/Technical Approval	Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during operation process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and water, and soil contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
Groundwater quantity	The water used during the construction stage, including for concrete production, is typically sourced from groundwater. This can result in a decrease in the groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localized hazards such as land subsidence.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quantity or pumping test and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan	Goal 6: (point 6.4, 6.5) water-use management control and sustainability strategy must be ensured during the construction process. Goal 12: (point 12.2, 12.4, 12.5, 12.6, and 12.7) Natural resources efficiency must be ensured during the construction process that use vegetation, ensure the waste lifecycle process management to reduce waste



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
					generation especially in a public procurement practice
	The clean water used during operation can be sourced from groundwater. This can result in a decrease in the groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localized hazards such as land subsidence.	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quantity or pumping test and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan	Goal 6: (point 6.4, 6.5) water-use management control and sustainability strategy must be ensured during the operation process. Goal 12: (point 12.2, 12.4, 12.5, 12.6, and 12.7) Natural resources efficiency must be ensured during the construction process that use vegetation, ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
Air quality	Land acquisition, mobilization of heavy equipment and materials, as well as construction activities will generate dust and gas emissions, resulting in a decrease in air quality at and around the project site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the air quality management to GCA.	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Air pollution could occur from the operation of some types of infrastructure.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the air quality management to GCA.	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Land preparation prior to construction activities will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and	Pre-construction & construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process.



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	Volatile Organic Compounds (VOC) during land preparation activities.			SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan	Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Mobilization of heavy equipment and materials will generate dust from exposed soil surface, unpaved roads and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment on air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Main facilities development will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs during civil works & building construction activities.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment on air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the construction process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
	Air pollution can be material due to gas from the combustion of fuel from generators and activity from urban transport surrounding the project.	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process. Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
Noise	The use of heavy equipment during the construction stage will result in increased noise levels around the project site.	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.	Goal 16: (point 16.1 and 16.2) noise management strategy to promote just and peaceful societies is needed.
	Operation of some types of	Operation	AMDAL Preparation,	AMDAL	Goal 16: (point 16.1 and 16.2) noise



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	infrastructure facilities will produce noise that might disturb the surrounding communities.		FBC Preparation	Also, FBC should include the noise level and vibration management and monitoring plan through the project.	management strategy to promote just and peaceful societies is needed.
	Land preparation prior to construction activities will generate noise from the machinery and equipment used during land clearing and land compaction.	Pre-construction & construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan	Goal 16: (point 16.1 and 16.2) noise management strategy to promote just and peaceful societies is needed.
	Mobilization of heavy equipment and materials will generate noise disturbance along the access road, particularly in the area closed to the sensitive receptors.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan	Goal 16: (point 16.1 and 16.2) noise management strategy to promote just and peaceful societies is needed.
	Main facilities development will generate noise during civil works & building construction activities.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan	Goal 16: (point 16.1 and 16.2) noise management strategy to promote just and peaceful societies is needed.
	Noise disturbance can be generated due to generator operations and activity from urban transport.	Operation	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan	Goal 16: (point 16.1 and 16.2) noise management strategy to promote just and peaceful societies is needed.
Vibration	Vibrations can occur due to the installation of foundations which can cause cracks in the soil, roads, and walls of residents' houses	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.	Goal 16: (point 16.1 and 16.2) vibration management strategy to promote just and peaceful societies is needed.
	Main facilities construction activities will generate vibration from drilling/bore/piling activities during civil works (foundation) activities.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment off noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan	Goal 16: (point 16.1 and 16.2) vibration management strategy to promote just and peaceful societies is needed.
	Sources of vibration can be sourced	Operation	FBC preparation,	FBC should include the initial	Goal 16: (point 16.1 and 16.2) vibration



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	from waste receipt, unloading, and processing, including truck traffic, loading equipment (e.g., cranes, wheeled loaders), stationary compactors, balers, grinders, and other treatment and conveyance systems.		AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan	management strategy to promote just and peaceful societies is needed.
Flood	Risk of flooding during the construction and operation stages caused by changes to the existing rainwater drainage system.	Construction & operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on site/land condition, and potential remedy for mitigating flood risk through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the land condition to GCA.	Goal 2: (point 2.4) ensure sustainable construction and operation strategy to prevent changes in the existing drainage system that could cause flooding Goal 15: (point 15.3) conservation strategy to promote sustainable management of vegetation and combat desertification are required to prevent flooding
Biodiversity	Displacement of local native flora and fauna can occur due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within Protected Area, Natural Habitat or Critical Habitat to accommodate the project footprint and any other associated facilities.	Pre-construction & construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the biodiversity management to GCA.	Goal 15: (all points) biodiversity management strategy to halt biodiversity loss and combat environmental degradation as well as protect natural habitat area during construction process.
	Aquatic life can be disrupted due to construction waste contamination and operation activity.	Construction & operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the biodiversity management to GCA.	Goal 14: (all points) aquatic life conservation and pollution prevention are required to ensure sustainability use of aquatic life during the construction and operation process Goal 15: (all points) aquatic life management strategy to halt biodiversity loss and combat environmental degradation as well as protect natural habitat area during construction and operation process.
	Operation of some types of infrastructure facilities may increase the biodiversity impact from the pre-construction and construction stages.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the	Goal 15: (all points) biodiversity management strategy to halt biodiversity loss and combat environmental degradation as well as protect natural habitat area during



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
				project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the biodiversity management to GCA.	construction process.
Traffic	Increase of traffic on some road segments during construction will potentially emerge due to mobilization of equipment and material.	Construction	FBC preparation, AMDAL preparation, ANDALALIN preparation ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ANDALALIN (Analisis Dampak Lalu Lintas)/Traffic Impact Assessment ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan	Goal 11: (point 11.2 and 11.a) traffic management strategy during construction process including the supply chain management is required to reduce construction mobilization impact Goal 3: (point 3.6) reduction in traffic accidents strategy
	Traffic activity due to urban transport and mobilization will potentially increase.	Operation	FBC preparation, AMDAL preparation, ANDALALIN preparation ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ANDALALIN (Analisis Dampak Lalu Lintas)/Traffic Impact Assessment ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan	Goal 11: (point 11.2 and 11.a) traffic management strategy during construction process including the supply chain management are required to reduce construction mobilization impact
	Traffic disturbance due to waste transportation activity will potentially increase.	Operation	FBC preparation, AMDAL preparation, ANDALALIN preparation ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ANDALALIN (Analisis Dampak Lalu Lintas)/Traffic Impact Assessment ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan	Goal 11: (point 11.2 and 11.a) traffic management strategy during construction process including the supply chain management are required to reduce construction mobilization impact Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process.
Social					
Labor and working conditions	Lack of competent workers so that the existing workers become overworked. This can lead to worker resignations and project delays.	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.	Goal 8: (point 8.5) ensure productivity and well-being of all workers during construction process
	Fatigue and OHS risks to workers to meet expedited construction schedule	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor	Goal 8: (point 8.5 and 8.8) ensure productivity and well-being of all workers during construction process



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	A number of job opportunities are not fulfilled by the local labor market.	Construction & operation	AMDAL Preparation, FBC Preparation	through the project. AMDAL Also, FBC should include the recruitment plan for local labor through the project.	Goal 8: (point 8.5) ensure productivity and well-being of all workers during construction process
	Pressures on construction schedule can cause forced labor in working time and increase safety risks.	Construction & operation	AMDAL Preparation, FBC Preparation	AMDAL & FBC: include the recruitment plan for local labor through the project including forced and child labor prevention protocol.	Goal 8: (point 8.5) ensure productivity and well-being of all workers during construction process
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.	Goal 8: (point 8.5 and 8.8) ensure productivity and well-being of all workers during construction process
	No provision of terms and conditions of employment, thus the workers do not have a clear understanding of their terms and conditions of employment (wage, working hours, off-days, benefits, etc.).	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations	Goal 8: (point 8.8) secure working environments is required during construction and operation process including labor rights
	Risk of violation of labor rights by contractors/subcons/suppliers (including hiring child labor, using force labor, etc.).	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.	Goal 8: (point 8.8) secure working environments is required during construction and operation process including labor rights
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers, can cause community concern.	Construction & operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.	Goal 8: (point 8.8) secure working environments is required during construction and operation process including labor rights
	Risk of violation of labor rights by contractors/sub cons/suppliers (including hiring child labor, using forced labor, etc.).	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.	Goal 8: (point 8.8) secure working environments is required during construction and operation process including labor rights
Occupational health and	Construction work and operations	Construction	PPP Agreement	In PPP Agreement: Obligations to	Goal 8: (point 8.8) safe and secure



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
safety (OHS)	involving heavy equipment, working at heights, and dealing with electricity can pose several safety risks to workers.	& operation		be put on the IBE to put in place Hazard Identification and Risk Management Control (HIRAC) protocol, and monitor and report OHS performance to GCA.	working environments need to be ensured for all workers during construction and operation processes
	Open access to the project site will increase the risk of crime.	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan (including worker training plan) based on Hazard Identification and Risk Management Control (HIRAC) protocol for the project activities. AMDAL with RKL-RPL ESIA & ESMP	Goal 8: (point 8.8) safe and secure working environments need to be ensured for all workers during construction and operation processes
	The possibility that workers will be exposed to hazardous waste can pose several safety risks to workers.	Operation	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan (including worker training plan) based on Hazard Identification and Risk Management Control (HIRAC) protocol for the project activities. AMDAL with RKL-RPL ESIA & ESMP	Goal 8: (point 8.8) safe and secure working environments need to be ensured for all workers during construction processes Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous materials and its impact to the environment during operation process Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals contamination during the operation process.
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air, and noise pollution during construction activities and project operations.	Construction & operation	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include community health and safety management plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report OHS to GCA. SOP for Vehicle and Traffic Management & Monitoring Plan	Goal 3: (point 3.6) reduction in traffic accidents strategy during construction and operation processes Goal 8: (point 8.8) safe and secure working environments need to be ensured for all workers during construction processes Goal 6: (point 6.3 and 6.6) increase recycling, safe reuse of waste and wastewater, and resource management are needed to reduce pollution and minimize release of hazardous



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
					<p>materials and its impact to the environment during operation process</p> <p>Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals contamination during the operation process.</p> <p>Goal 16: (point 16.1 and 16.2) noise management strategy to promote just and peaceful societies is needed.</p>
	Increased household waste and affected community sanitation due to the operation.	Construction	AMDAL Preparation	AMDAL Also, FBC should include community health and safety management plan through the project.	<p>Goal 6: (all points) adequate and equitable sanitation and hygiene must be ensured during the construction process.</p> <p>Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals contamination during the construction process.</p> <p>Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice</p>
	The increasing number of immigrants (job seekers, those seeking opportunities) will impact community exposure to disease.	Construction	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement	Goal 3: (point 3.3, 3.5, and 3.d) prevention of community disease must be ensured to reduce deaths and illness from external community.
	Decrease in the quality of public health due to waste pollution, include health and soil contamination risks (potentially causing loss in livelihoods) to local communities due to improper transportation of waste, contaminated runoff, etc.	Operation	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL (which also includes impact analysis to community health due to soil contamination) ESIA & ESMP including GRM and stakeholder engagement SOP of emergency preparedness Emergency Preparedness Plan	<p>Goal 6: (all points) adequate and equitable sanitation and hygiene must be ensured during the construction process.</p> <p>Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals contamination during the construction process.</p>



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
					Goal 12: (point 12.4, 12.5, 12.6, and 12.7) ensure the waste lifecycle process management to reduce waste generation especially in a public procurement practice
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult negotiation with the landowners can shift the project's timeline or delay the project while looking for alternative land.	Pre-construction	AMDAL Preparation, FBC Preparation	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction process especially for land acquisition process
	Involuntary resettlement (when affected persons do not have the right to refuse land acquisition or restrictions on land use that result in displacement).	Pre-construction	FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment on land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction process especially for land acquisition process
	Request for increased compensation fees from affected communities.	Pre-construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment on land acquisition and resettlement through the project. LARP	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction process especially for land acquisition process
	Fatigue and OHS risks to workers to meet expedited construction schedule	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment on land acquisition and resettlement through the project. LARP	Goal 3: (point 3.9) reduction of emission impacts is needed to reduce the number of illnesses from hazardous chemicals and air contamination during the operation process.
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment on land acquisition and resettlement through the project. LARP	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction process especially for land acquisition process Goal 10: (point 10.6) representation of each element of community must be taken into account during operation process
	Customary land/Communal land affected by land acquisition.	Construction	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment on land acquisition and resettlement through the project.	Goal 11: (point 11.4) cultural and natural heritage must be protected during construction and operation process



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
				LARP	
	Physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets, or access to assets, leading to loss of income sources or other means of livelihood).	Construction	FBC Preparation, AMDAL Preparation, ESIA Preparation, GRM preparation, Stakeholder engagement planning, LARAP Preparation	FBC should include the initial assessment on land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction process especially for land acquisition process
	Insufficient compensation for economic displacement of the non-titled land users/squatters/illegal occupants.	Construction	FBC Preparation, AMDAL Preparation, ESIA Preparation, GRM preparation, Stakeholder engagement planning, LARAP Preparation	FBC should include the initial assessment on land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan	Goal 10: (point 10.6) representation of each element of community must be taken into account during construction process
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction	FBC Preparation, AMDAL Preparation, ESIA Preparation, GRM preparation, Stakeholder engagement planning, LARAP Preparation	FBC should include the initial assessment on land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan	Goal 10: (point 10.6) representation of each element of community must be taken into account during construction process
	Economic displacement not only for landowners but also land users.	Construction	FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment on land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction process especially for land acquisition process Goal 10: (point 10.6) representation of each element of community must be taken into account during construction process
	The land status does not allow for waste management sites (where the land considered protected forest,	Construction	FBC preparation, AMDAL preparation, ESIA preparation,	FBC should include the initial assessment on land acquisition and resettlement through the	Goal 11: (point 11.3) human settlement land ownership must be taken into account during pre-construction



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	production forest, etc.).		GRM planning, Stakeholder engagement planning, LARAP preparation	project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan	process especially for land acquisition process
Access to ecosystem services	Loss of community access to important places and natural resources.	Pre-construction & construction	AMDAL Preparation	AMDAL	Goal 6: (all points) assurance of access to natural resources need to be ensured, as regulated by national policy as well. Goal 7: (all points) access to sustainable energy is required for communities.
Sexual Exploitation, Abuse, and Harassment (SEAH)	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence, or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & construction	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to include gender responsive clauses in the Cooperation Agreement, then monitor and report to GCA.	Goal 16: (point 16.1 and 16.2) end all forms of violence, exploitation, abuse, etc.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & construction	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.	Goal 5: (al points) end all of discrimination against all women in all circumstances are mandatory Goal 16: (point 16.1 and 16.2) end all forms of violence, exploitation, abuse, etc.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & operation	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to monitor and report SEAH to GCA.	Goal 16: (point 16.1 and 16.2) end all forms of violence, exploitation, abuse, etc.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access, and control over economic resources	Construction & operation	FBC Preparation	Public Consultation Report should include gender inclusion.	Goal 16: (point 16.1 and 16.2) end all forms of violence, exploitation, abuse, etc.



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	(for example, the opening of womens opportunities to earn income can trigger violence in the personal/household realm).				
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM (science, technology, engineering, and math) positions.	Pre-construction	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.	Goal 5: (all points) end all of discrimination against all genders in all circumstances are mandatory
	Lack of women's participation in community consultations and meetings that can prevent women from receiving the program's benefits, fair compensation, and information.	Pre-construction	FBC Preparation, PPP Agreement Preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: Obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.	Goal 5: (all points) end all of discrimination against all genders in all circumstances are mandatory
	The absence of women's personal protective equipment can endanger female workers.	Construction & operation	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.	Goal 5: (all points) end all of discrimination against all genders in all circumstances are mandatory
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.	Goal 5: (all points) end all of discrimination against all genders in all circumstances are mandatory
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate housing facilities, and others.	Construction & operation	PPP Agreement Preparation	In PPP Agreement: Obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.	Goal 5: (al points) end all of discrimination against all genders in all circumstances are mandatory
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	FBC Preparation, GRM Planning	Disability	Goal 11: (point 11.7) procure an inclusive facility for persons with disabilities needs to be ensured.
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction	FBC Preparation, GRM Planning	FBC should include the disability considerations through the project. GRM.	Goal 11: (point 11.7) procure an inclusive facility for persons with disabilities needs to be ensured.
	The absence of disability-friendly facilities can endanger persons with disabilities working on the infrastructure project.	Construction & operation	FBC Preparation, GRM Planning	FBC should include the disability considerations through the project. GRM.	Goal 11: (point 11.7) procure an inclusive facilities for persons with disabilities is need to be ensured.
Human Rights	Gap between employees and non-employee workers.	Construction & operation	AMDAL Preparation, FBC Preparation, GRM Planning	AMDAL Also, FBC should include the recruitment plan for local labor	Goal 16: (point 16.6 and 16.7) ensure an inclusive access for all workers, including provide transparency system



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
				through the project. GRM.	
	Forced purchase of land (e.g. through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction & operation	ESIA preparation, GRM preparation, Stakeholder engagement planning, HRIA preparation	ESIA & ESMP GRM Stakeholder engagement plan Develop Human Rights Impact Assessment (HRIA)	Goal 16: (point 16.6 and 16.7) ensure an inclusive access for all workers, including provide transparency system
	Modern Slavery (Forced Labor/Human Trafficking) violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime, refusal of Collective Bargaining and Freedom of Association, and poor compliance with Job Security/Right to Work, non-discrimination, OHS and labor conditions (wage, OHS, working hours, etc.).	Construction	ESIA preparation GRM preparation HRIA preparation	ESIA & ESMP Worker GRM Develop Human Right Impact Assessment (HRIA)	Goal 4: (point 4.4, 4.5) inclusivity among workers need to be ensured during construction process
	Disruption of road access and community safety for communities around project construction.	Construction	AMDAL Preparation, FBC Preparation, GRM Planning	AMDAL & FBC: include the recruitment plan for local labor through the project. GRM.	Goal 4: (point 4.4, 4.5) inclusivity among workers need to be ensured during construction process Goal 16: (point 16.6 and 16.7) ensure an inclusive access for all workers, including provide transparency system
Cultural Heritage	Change in community access may raise community concerns.	Construction & operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation, GRM Planning	AMDAL Also, FBC should include the assessment on existing cultural heritage and the mitigation plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the cultural heritage to GCA. GRM.	Goal 11: (point 11.4) cultural and natural heritage must be protected during construction and operation process
	Disruption (damage or displacement) of tangible and intangible cultural heritage will impact loss of community cultural identity.	Construction & operation	AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, CH assessment planning	FBC should include the initial assessment on existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment	Goal 11: (point 11.4) cultural and natural heritage must be protected during construction and operation process



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	Increase in community concern due to disruption of access to tangible and intangible cultural heritage.	Construction & operation	AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, CH assessment planning	Change finds procedures (if required) FBC should include the initial assessment on existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)	Goal 11: (point 11.4) cultural and natural heritage must be protected during construction and operation process
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation	AMDAL Preparation, GRM Planning	AMDAL Also, FBC should include the assessment on indigenous people through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the indigenous people to GCA.	Goal 11: (point 11.4) cultural and natural heritage must be protected during construction and operation process Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process
	The project has impacts on indigenous people, and the FPIC (Free, Prior Informed Consent) process results in rejection.	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Indigenous Peoples (IPs) screening preparation	FBC should include the initial assessment on indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening Indigenous Peoples Development Plan (required if IPs present) Free Prior and Informed Consent Strategy (required if IPs present)	Goal 11: (point 11.4) cultural and natural heritage must be protected during construction and operation process Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process
	Lack of consultation about the design or implementation of projects that affect indigenous people's lives.	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment on indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening Indigenous Peoples Development Plan (required if IPs present) Free Prior and Informed Consent Strategy (required if IPs present)	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	Difficulty engaging with the relevant IPs to ensure their ownership and participation in project design, implementation, monitoring and evaluation and consult with them as to the cultural appropriateness of proposed services or facilities, and to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from or participate in the project.	Construction & operation	FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment on indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening Indigenous Peoples Development Plan (required if IPs present) Free Prior and Informed Consent Strategy (required if IPs present)	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process
Community Concern	Lack of communication and coordination with local community can lead to rejection of related projects.	Construction & operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation, GRM Planning	AMDAL, FBC, and Public Consultation Report should include the assessment of social issues arising from the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report community concerns to GCA. GRM.	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process Goal 10: (point 10.6) representation of each element of community must be taken into account during construction and operation process
	loss of livelihoods for those whose land may not be affected and who thus will not receive compensation, but whose income may be lost (due to contaminated runoff causing soil and river pollution)		Construction & operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation, GRM Planning	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process
	The emergence of social jealousy due to services from related sectors. For Example, the development of a new urban transportation system include. MRT and BRT can reduce employment and income for existing transport providers such as <i>Angkot</i>	Operation	AMDAL Preparation, FBC Preparation, GRM Planning	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arisen through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report community concerns to GCA. GRM.	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process Goal 10: (point 10.6) representation of each element of community must be taken into account during operation process
	Negative concern/public protests from the community may cause disruption to project activities.	Pre-construction & construction	AMDAL Preparation, FBC Preparation, GRM Planning	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arisen through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report community concerns to GCA. GRM.	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process
	Lack of stakeholder identification and mapping, which leads to unknown	Construction & operation	FBC preparation, AMDAL preparation,	FBC should include the assessment on social issues	Goal 16: (point 16.7) indigenous people participatory is required to be taken into



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
	level of influence and interest of stakeholders and improper engagement strategy.		ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report	account during construction and operation process
Cumulative Impact	Cumulative impacts could occur if there are multiple projects and/or activities in the same geographic area, This include the Cumulative Impact of Air emission, noise, surface water quality, natural and critical habitat, influx of worker.	Construction & Operation	RCIA Preparation, AMDAL preparation, ESIA preparation, Stakeholder Engagement Planning	RCIA (Rapid Cumulative Impact Assessment and Management) with the analysis is based on a desk review of readily available information and previous environmental and social assessments AMDAL with RKL RPL ESIA Stakeholder Engagement Plan	Goal 16: (point 16.7) indigenous people participatory is required to be taken into account during construction and operation process
Governance					
Business model resilience	SG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may perceive that the project/institution has a less sustainable and less resilient business.	Construction & operation	FBC Preparation, PPP Agreement Preparation	FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.	Goal 17: strengthening the sustainability policies for businesses is mandatory to increase additional financial resources during construction and operation processes
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and disclosed to relevant parties.	Pre-construction - operation	FBC Preparation, PPP Agreement Preparation	FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.	Goal 17: strengthening the sustainability policies for businesses is mandatory to increase additional financial resources during construction and operation processes
Monitoring and reporting of ESG indicators	The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's strategies and policies.	Construction & operation	FBC Preparation, PPP Agreement Preparation	FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.	Goal 17: strengthening the institutional management for businesses is mandatory to increase additional financial resources during construction and operation processes
Value for Money	The value for money assessment	Pre-	PPP Agreement	FBC should include an	Goal 17: strengthening the institutional



Aspect - Issues	Potential Risk Impacts	Stage	Relevant Activities in PPP Preparation Stage	Actions Needed in PPP Preparation Stage	Linkage to SDG #
assessment	must be carried out carefully so that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.	construction - operation	Preparation	assessment on Value for Money (VfM) of the project.	management for businesses is mandatory to increase additional financial resources during construction and operation processes
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior.	Pre-construction - operation	FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual agreements.	Goal 17: strengthening the institutional management for businesses is mandatory to increase additional financial resources during construction and operation processes
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project.	Pre-construction - operation	FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent.	Goal 17: strengthening the institutional management for businesses is mandatory to increase additional financial resources during construction and operation processes

Tool 1.A ESG Risk Register for Water Supply Infrastructure Project

Water supply infrastructure includes facilities to draw, store, treat, and deliver clean water to customers. Such facilities could vary widely in scale, covering dams, water treatment plants, water basins, pumping stations, and pipes. In some cases, the infrastructure serves multiple purposes, e.g., a dam that provides clean water for direct consumption may also provide irrigation, power generation, flood control. Water supply networks are also often developed together with sewage networks (piping and treatment) as part of sanitation services. The risk assessment table below covers the most common water supply PPP infrastructure projects in Indonesia, covering water treatment plants as well as water supply network from such a plant to the end customers, both usually located in urban settings.

Table 13. ESG Risk Register for Water Supply Infrastructure Project

Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Environmental					
GHG emissions	The energy use during the construction of water treatment plants and water supply networks causes direct GHG emissions, while the manufacture of building material causes indirect GHG emissions.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. Also, FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
	The energy use for the operation of water treatment plants causes direct GHG emissions.	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
Energy use	Construction of water treatment plant and water supply networks uses a large amount of energy to operate the heavy equipment.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.
	Operations of water treatment plants may use substantial energy.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.
Water use	The water use during the construction stage is mostly sourced from groundwater and surface water, which can result in a decrease in the groundwater level and surface water quantity. This could interfere with the use of	Construction		AMDAL Preparation, FBC Preparation	AMDAL (include water availability study) Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	groundwater and surface water in the surrounding area and/or cause land subsidence and local flooding.				
	Water supply facilities use a substantial amount of water.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.
Raw material use	Construction projects use a large amount of raw materials, such as sand, gravel, concrete, and steel. Furthermore, residual material from raw materials could potentially be wasted without being reused or recycled.	Construction		AMDAL Preparation	AMDAL Resources sustainability plan
	Raw material use in the operation of water supply is negligible.	Operation		AMDAL Preparation	AMDAL
Waste and wastewater generation	The construction process generates specific waste such as construction waste (e.g., soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. Wastewater from bathing and washing and from toilets in construction areas, if not treated properly, can contaminate soil and water bodies.	Construction		AMDAL Preparation, FBC Preparation SOP and Monitoring Preparation Plan	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan.
	Operation of water supply facilities will produce sludge.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Sanitation	Poor sanitation facilities can contaminate ground water, cause pooled stagnant water, unpleasant odors, and invite sources of disease.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
	The impact of sanitation facilities is negligible for a water supply facility.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Ground contamination & damage	Ground contamination could occur due to waste materials (such as metal, plastic, wood, and bricks) and waste from workers that are not disposed of properly.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. In PPP Agreement: obligations to be put on the



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
					IBE to monitor and report the waste and wastewater management to GCA.
	Landslides due to facilities that are built on steep slopes.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include landslide mitigation for facilities built on a steep slopes
	Ground contamination is negligible for water supply facilities.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Surface water quality	Land acquisition and construction activities can cause sedimentation due to runoff (especially during the rainy season), which can bring soil particles to the surface of the water around the project site.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
	Surface water contamination is negligible for water supply facilities.	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
Groundwater quality	Groundwater can be polluted due to the site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
	Groundwater contamination is negligible for water supply facilities.	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
Air quality	Land acquisition, mobilization of heavy equipment and materials, as well as construction activities will generate dust and gas emissions, resulting in a decrease in air quality at and around the Project site.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the air quality management to GCA.
	Air pollution is negligible for water supply facilities.	Operation		AMDAL Preparation, FBC Preparation,	AMDAL Also, FBC should include the ambient air



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
				PPP Agreement	quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the air quality management to GCA.
Noise	The use of heavy equipment during the construction stage will result in increased noise levels around the project site.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
	Operations of water supply facilities (e.g., water pumps) will produce noise that might disturb the surrounding communities.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
Vibration	Vibrations can occur due to the installation of foundations which can cause cracks in the soil, roads, and walls of local residents' houses.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
Flood	Risk of flooding during the construction and operation stages caused by changes to the existing rainwater drainage system.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on site/land condition, and potential remedy for mitigating flood risk through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the land condition to GCA.
Biodiversity (if any part of the water supply facilities is not located in urban areas)	Displacement of local native flora and fauna due to the associated land being used as a project development area.	Pre-construction & construction		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Aquatic life is disrupted due to construction waste contamination and operation activity.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Operations of the developed facilities should not increase the impact from the pre-construction and construction stages.	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Social					
Labor and working conditions	Lack of competent workers so that the existing workers become overworked. This can lead to worker resignations and project delays.	Construction	Yellow	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the recruitment plan for local labour through the project.
	Fatigue and OHS risks to workers to meet expedited construction schedule	Construction	Yellow	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	A number of job opportunities are not fulfilled by the local labor market.	Construction & operation	Red	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the recruitment plan for local labour through the project.
	Pressures on construction schedule can cause forced labor in working time.	Construction & operation	Red	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL & FBC: include the recruitment plan for local labor through the project.
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation	Red	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the recruitment plan for local labour through the project.
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers can cause community concern.	Construction & operation	Red	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the recruitment plan for local labour through the project.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & operation	Red	PPP Agreement, ESIA Preparation	In PPP Agreement: obligations to be put on the IBE to monitor and report OHS to GCA.
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air and noise pollution during construction activities and project operations.	Construction & operation	Red	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include community health and safety management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report OHS to GCA.
	Increase in household waste and a decrease in community sanitation due to the operation of the basecamp.	Construction	Red	AMDAL Preparation, ESIA Preparation	AMDAL Also, FBC should include community health and safety management plan through the project.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult negotiating with the landowners can shift the project's timeline or delay the project by needing to look for alternative land.	Pre-construction	Yellow	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	Request for increased compensation fees from affected communities.	Pre-construction	Yellow	AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction		AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	Customary land/Communal land affected by land acquisition.	Construction		AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	Economic displacement not only for landowners but also land users.	Construction		AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
Access to ecosystem services	Loss of community access to important places and natural resources.	Pre-construction & construction		AMDAL Preparation, ESIA Preparation	AMDAL ESIA
Sexual Exploitation, Abuse, and Harassment	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to include gender responsive clauses in the Cooperation Agreement, then monitor and report to GCA.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to include gender responsive clauses in the Cooperation Agreement, then monitor and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor and report SEAH to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction & operation		FBC Preparation	Public Consultation Report should include gender inclusion.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Pre-construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Lack of women's participation in community	Pre-construction		FBC Preparation,	Public Consultation Report should include



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	consultations and meetings that can prevent women from receiving the program's benefits, fair compensation, and information.			PPP Agreement Preparation	gender inclusion. In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	The absence of women's personal protective equipment can endanger female workers.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction		FBC Preparation	FBC should include the disability considerations through the project.
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction		FBC Preparation	FBC should include the disability considerations through the project.
	The absence of disability-friendly facilities can endanger persons with disabilities working in the related sector.	Construction & operation		FBC Preparation, ESIA Preparation	FBC should include the disability considerations through the project.
Human Rights	Gap between employees and non-employee workers.	Construction & operation		AMDAL Preparation, FBC Preparation ESIA Preparation	AMDAL Also, FBC should include the recruitment plan for local labour through the project.
	Disruption of road access and community safety for communities around project construction.	Construction		AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL & FBC: include the recruitment plan for local labor through the project.
Cultural Heritage	Change in community access will increase community concern.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation, ESIA Preparation	AMDAL Also, FBC should include the assessment on existing cultural heritage and the mitigation plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the cultural heritage to GCA.
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation		AMDAL Preparation, ESIA Preparation	AMDAL Also, FBC should include the assessment of the situation of IP through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the situation of IP to GCA.
Community Concern	Lack of communication and coordination with local community can lead to rejection of the	Construction & operation		AMDAL Preparation FBC Preparation,	AMDAL, FBC, and Public Consultation Report should include the assessment on social



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	related project.			PPP Agreement Preparation, ESIA Preparation	issues arising from the project. In PPP Agreement: obligations to be put on the IBE to monitor and report community concerns to GCA. GRM.
	The emergence of social jealousy due to lack of access to the services.	Operation		AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment of social issues arising through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report community concerns to GCA. GRM.
	Concerns or public protest from the community disrupting project activities.	Pre-construction & construction		AMDAL Preparation, FBC Preparation, ESIA Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment of social issues arising through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report community concerns to GCA. GRM.
Governance					
Business model resilience	ESG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may perceive that the project/institution has a less sustainable and less resilient business.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and disclosed to relevant parties.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Monitoring and reporting of ESG indicators	The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's strategies and policies.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.
Value for Money assessment	The value for money assessment must be carried out carefully so that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.	Pre-construction - operation		FBC Preparation	FBC should include an assessment on Value for Money (VfM) of the project.



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual agreements
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent

Tool 1.B ESG Risk Register for Urban Transportation Infrastructure Project

Transportation infrastructure is basic public facilities, such as roads, railroads, seaports, and airports provided by the government and/or private sector with the aim of facilitating and improving services or the economy of a country. The risk assessment table below covers Indonesia's most general Transportation infrastructure projects and its facilities. This impact identification encompasses all stages of project development (pre-construction – construction – operation). The transportation infrastructure project was used as a reference in the construction of toll roads and railway lines. Transportation development projects usually cover urban and rural areas.

Table 14. ESG Risk Register for Urban Transportation Infrastructure Project

Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Environmental					
GHG emissions	The energy use during the construction stage causes direct GHG emissions, while the manufacture of building material causes indirect GHG emissions.	Construction	High	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. Also, FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
	GHG emissions from urban transport might be affected in different ways (increased use of private vehicles, reduced travel time).	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
Energy use	Construction projects typically require large amounts of energy (i.e., fossil fuels) to operate the heavy equipment.	Construction	High	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.
	Urban transport (i.e. trains) utilize fossil fuels as the main power source.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.
Water use	The water use during the construction stage, including for concrete production, is typically sourced from groundwater. This can result in a decrease in the groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localized hazards such as land subsidence.	Construction	Medium	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.
Raw material use (to be confirmed)	Construction projects use a large number of raw materials, such as sand, gravel, concrete, and steel.	Construction	High	AMDAL Preparation	AMDAL



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Furthermore, residual material from raw material could potentially be wasted without being reused or recycled.				
Waste and wastewater generation	<ul style="list-style-type: none"> The construction process generates specific waste such as construction waste (e.g. soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. Wastewater from bathing and washing from toilets in construction areas, if not treated properly, can contaminate soil and water bodies. 	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
	Urban transportation will not typically produce large volumes of waste. However, there will be hazardous waste associated with rolling stock maintenance (e.g. oils, fuel and oil filters and caustic cleaning materials) and also domestic waste streams to be managed.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Sanitation	Poor sanitation facilities that can contaminate ground water, cause pooled stagnant water, unpleasant odors, and sources of disease. During construction stage, this will typically be associated with the workers' accommodation facilities and site offices.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Ground contamination & damage	Ground contamination due to waste materials (such as metal, plastic, wood, and bricks) and waste from workers that are not disposed of properly. Other risks are associated with the improper refueling of construction equipment, particularly should there be any spills or leaks of	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the waste and wastewater management to GCA.



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Surface water quality	fuels or oils. Construction activities can cause sedimentation due to runoff (especially during the rainy season), which can bring soil particles to the surface of the water around the project site. This can have environmental impacts and reduce the water quality for communities who rely on it for domestic or agricultural purposes. Pollution of surface water sources during construction is often a key source of community grievances.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
Groundwater quality	Groundwater can be polluted due to site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site. This can also occur as a result of poor refueling and oil changing procedures, and any leaks from storage areas.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
Air quality	Mobilization of heavy equipment and materials, as well as construction activities, will generate dust and gas emissions, resulting in a decrease in air quality at and around the Project site.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the air quality management to GCA.
	Air pollution can be material due to gas from the combustion of fuel from urban transport	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project.F In PPP Agreement: obligations to be put on the IBE to monitor and report the air quality management to GCA.
Noise	The use of heavy equipment during the construction stage will result in increased noise levels around the project site.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
	Traffic in urban transport facilities will produce noise that might disturb the surrounding communities.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
Vibration	Vibrations can occur due to the installation of foundations which can cause cracks in the soil, roads, and walls of local residents' houses.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
Flood	Risk of flooding during the construction and operation stages caused by changes to the existing	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the assessment result on site/land condition, and potential remedy for mitigating flood risk



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	rainwater drainage system.				through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the land condition to GCA.
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within Protected Area, Natural Habitat or Critical Habitat to accommodate the project footprint and any other associated facilities.	Pre-construction & construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Aquatic life is disrupted due to construction waste contamination and operation activity.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Operations of the developed facilities will not increase the impact from the pre-construction and construction stages.	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
Social					
Labor and working conditions	Lack of competent workers so that the existing workers become overworked or are working in positions for which they do not hold core competencies. This can lead to worker resignations, project delays, quality control concerns and health/safety incidents.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Fatigue and OHS risks to workers to meet expedited construction schedule	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	A number of job opportunities are not fulfilled by the local labor market.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers can	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	cause community concern.				
	Child and forced labor risk	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & operation		PPP Agreement	In PPP Agreement: obligations to develop a Health and Safety plan (including worker training plan) based on Hazard Identification and Risk Management Control (HIRAC) protocol on the IBE to monitor and report OHS to GCA.
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air and noise pollution during construction activities and project operations.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include community health and safety management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report OHS to GCA.
	Increase in household waste and a decrease in community sanitation due to the operation of the basecamp as well as contaminated water runoff and improper waste management including hazardous wastes.	Construction		AMDAL Preparation	AMDAL Also, FBC should include community health and safety management plan through the project.
	Safety risks due to blasting and quarrying activities	Construction		AMDAL Preparation	AMDAL Also, FBC should include community health and safety management plan through the project.
	Increase crime and safety risks due to increasing the number of visitors to the project area.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include community health and safety management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report OHS to GCA.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult to negotiate with the landowners which can shift the project's timeline or delay the project by looking for alternative land.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include community health and safety management plan through the project.
	Request for increased compensation fees from affected communities.	Pre-construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Pre-construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	The legacy land acquisition that may be conducted by GCA in anticipation of the project.	Pre-construction & construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include community health and safety management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Customary land/Communal land affected by land acquisition.	Construction	High	AMDAL Preparation, FBC Preparation	and report OHS to GCA. AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	Physical displacement (relocation, loss of residential land or loss of shelter), or economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood).	Construction	High	FBC Preparation, AMDAL Preparation, ESIA Preparation, GRM preparation, Stakeholder engagement planning, LARAP Preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP (if GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Insufficient compensation for economic displacement of the non-titled land users/squatters/illegal occupants.	Construction	High	FBC Preparation, AMDAL Preparation, ESIA Preparation, GRM preparation, Stakeholder engagement planning, LARAP Preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP (if GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction	High	FBC Preparation, AMDAL Preparation, ESIA Preparation, GRM preparation, Stakeholder engagement planning, LARAP Preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP (if GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
Access to ecosystem services	Loss of community access to important places for their livelihoods and natural resources.	Construction	High	AMDAL Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
Sexual Exploitation, Abuse, and Harassment	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & construction	High	PPP Agreement Preparation	AMDAL
	Increase of SEAH risk for female	Pre-	High	PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to include



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	workers in traditionally male-dominated workplaces.	construction & construction			gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction & operation		FBC Preparation	In PPP Agreement: obligations to be put on the IBE to monitor and report SEAH to GCA.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Construction & operation		PPP Agreement Preparation	Public Consultation Report should include gender inclusion.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving the program's benefits, fair compensation, and information.	Pre-construction		FBC Preparation, PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	The absence of women's personal protective equipment can endanger female workers.	Pre-construction		PPP Agreement Preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Construction & operation		FBC Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions,	Pre-construction		FBC Preparation	FBC should include disability considerations through the project.



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	audiotaped versions, etc.) in the public consultation.				
	The absence of disability-friendly facilities can endanger persons with disabilities working in the related sector.	Pre-construction		FBC Preparation	FBC should include disability considerations through the project.
Human Rights	Gap between employees and non-employee workers.	Construction & operation		AMDAL Preparation, FBC Preparation	FBC should include disability considerations through the project.
	Forced purchase of land (e.g. through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Forced labor violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Disruption of community access to important locations such as livelihoods, ecosystem services, and cultural heritage	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
Cultural Heritage	Change in community access will increase stakeholders concern regarding integrity of tangible and intangible cultural heritage. Also, important to ensure that any items subject to cultural heritage protection (or evaluation for such protection) are identified.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation		AMDAL Preparation	AMDAL Also, FBC should include the assessment of existing cultural heritage and the mitigation plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the cultural heritage to GCA.
Community Concern	Lack of communication and coordination with local community can lead to rejection of the related project.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the assessment of the situation of IP through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the indigenous people to GCA. GRM
	The emergence of social jealousy due to services from related sectors/Conflict of interest between types of transport. For Examples of the development of a new urban transportation system include. MRT and BRT can reduce employment and	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment of social issues arising from the project. In PPP Agreement: obligations to be put on the IBE to monitor and report community concerns to GCA. GRM



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	income for existing transport providers such as Angkot				
	Increase in negative concern/public protest from the community, if the project can't manage the issue, will cause disruption to project activities.	Operation		AMDAL Preparation, FBC Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment of social issues that arise through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report community concerns to GCA. GRM
Governance					
Business model resilience	ESG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may perceive that the project/institution has a less sustainable and less resilient business.	Construction & operation			FBC Preparation, PPP Agreement Preparation FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and disclosed to relevant parties.	Pre-construction - operation			FBC Preparation, PPP Agreement Preparation FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Monitoring and reporting of ESG indicators	The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's strategies and policies.	Construction & operation			FBC Preparation, PPP Agreement Preparation FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.
Value for Money assessment	The value for money assessment must be carried out carefully so that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.	Pre-construction - operation			FBC Preparation FBC should include an assessment on Value for Money (VfM) of the project.
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of	Pre-construction - operation			FBC Preparation, PPP Agreement Preparation FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual



Aspect - Issues	Potential Risk Impacts	Stage	Scale of Impact	Relevant activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	interest, corruption, and unethical behavior.				agreements
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project	Pre-construction - operation			FBC Preparation, PPP Agreement Preparation FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent

Tool 1.C ESG Risk Register for Housing Infrastructure Project

The risk register assessment table below provides issues within the environmental, social, and governance aspect for housing infrastructure projects. The table presents all potential impacts that may occur during all stages of project development (from pre-construction to operation construction stages) along with the scale of the impact. It presents the relevant activities and action required in the PPP preparation stage. During PPP preparation stage, ESIA with ESMP will be applicable if the project using international financing. Related to the SOP for management and monitoring, it should be provided by the executing entity (*Badan Usaha Pelaksana*).

Table 15. ESG Risk Register for Housing Infrastructure Project

Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Environmental					
GHG emissions	GHG emissions as derivative impact from air quality impact. GHG emissions are associated with off-road and on-road equipment as well as workers' vehicle trips.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include GHG assessment. ESIA with ESMP SOP for Air Quality Management & Monitoring Plan. SOP for GHG Mitigation & Monitoring Plan.
	GHG emissions as derivative impact from air quality impact. GHG emissions during Sei Mangkei operation are associated with on-road equipment as well as residents' vehicle trips.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include GHG assessment ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for GHG Mitigation & Monitoring Plan
Waste and Wastewater Generation	Vegetation waste during land preparation potentially arises from cuttings of trees, shrubs and grass from land cover clearing	Construction		AMDAL Preparation, FBC Preparation, ESIA preparation, Habitat Screening preparation	AMDAL with RKL-RPL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. ESIA with ESMP Habitat Screening Biodiversity Management Plan (if required) Biodiversity Offset Strategy (if required)
	The construction stage will generate specific waste such as construction waste (e.g. soil and concrete debris) which needs to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Wastewater from bathing and washing from toilets in construction areas, if not treated properly, can contaminate soil and water bodies.				
	Hazardous solid waste generation during the construction stage that has the potential to cause land contamination includes the use of solid or powdered chemicals, metal scraps, and plastic from waste storage facilities.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan
	Household waste from the daily activities of residents at Sei Mangkei, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, Habitat Screening preparation	FBC should include the initial assessment of biodiversity and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP Habitat Screening Biodiversity Management Plan (if required) Biodiversity Offset Strategy (if required)
	Wastewater from bathing and washing from toilets at Sei Mangkei, if not treated properly, can contaminate soil and water bodies.				
	Hazardous solid waste generation during the operation of Sei Mangkei that has the potential to cause land contamination includes used lamps, used oils, fuel and oil filters and caustic cleaning materials from vehicle maintenance, used ink/cartridges, and contaminated containers (paints, solvents, etc.).	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan
Surface Water Quantity	Land clearing activities will remove vegetation on the ground surface, which can increase the run-off discharged into the recipient water body and add flood as potential impact	Pre-Construction & Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of run off quantification or flood study and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan
Surface water quality	Land clearing activities will remove vegetation on the ground surface, which can increase the run-off discharged into the recipient water body and add flood as potential impact.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan
	Land clearing activities will expose	Construction		FBC preparation,	FBC should include the initial assessment of surface water



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	soil and increase the potential for erosion during rainfall periods. This run-off will bring sedimentation materials flowing into the recipient water body.			AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan
	All construction stages will potentially generate domestic wastewater from the workers domestic activity (workers camp & on project site). This includes wastewater from canteen and temporary office. These activities will impact the surface water if the effluent is discharged into the waterbody.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan SOP for Wastewater Management & Monitoring Plan
	Operational activities of Sei Mangkei will generate domestic wastewater from each sanitary facility in the Rusunawa (kitchen, toilet). The wastewater from domestic WWTP will potentially contain domestic pollutant if not treated well.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quantity and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan
Groundwater quality	All construction stages will potentially generate domestic wastewater from the workers domestic activity (workers' camp & on project site). This includes wastewater from canteen and temporary office. These activities will impact the groundwater if the effluent is stored in the retention well.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quantity and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan
	Groundwater pollution during operation stage can be sourced from onsite domestic wastewater treatment facility. This possibility could occur due to contamination from leaks or a non-standard waste treatment system.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan SOP for Wastewater Management & Monitoring Plan
Groundwater quantity	The water used during the construction stage, including for concrete production, is typically sourced from groundwater. This can result in a decrease in the	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quantity or pumping test and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localized hazards such as land subsidence.				SOP for Groundwater Management & Monitoring Plan
	The clean water used during operation of Sei Mangkei can be sourced from groundwater. This can result in a decrease in the groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localized hazards such as land subsidence.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan
Air quality	Land preparation prior to construction activities will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs during land preparation activities.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Mobilization of heavy equipment and materials will generate dust from exposed soil surface, unpaved roads and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Main facilities development will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs during civil works & building construction activities.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Air pollution can be material due to gas from the combustion of fuel from generators and activity from urban transport surrounding Sei Mangkei.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
Noise	Land preparation prior to construction activities will generate	Pre-construction & construction		FBC preparation, AMDAL preparation,	FBC should include the initial assessment of noise and the mitigation plan through the project.



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	noise from the machinery and equipment used during land clearing and land compaction.			ESIA preparation, SOP and Monitoring Plan preparation	AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Mobilization of heavy equipment and materials will generate noise disturbance along the access road, particularly in the area close to the sensitive receptors.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Main facilities development will generate noise during civil works & building construction activities.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Noise disturbance can be generated due to generator operations and activity from urban transport surrounding Sei Mangkei.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
Vibration	Main facilities construction activities will generate vibration from drilling/bore/piling activities during civil works (foundation) activities.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within Protected Area, Natural Habitat or Critical Habitat to accommodate the project footprint and any other associated facilities. Aquatic life is disrupted as a derivative impact due to construction waste contamination to the surface water.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan
Traffic	Increase of traffic on some road segments during construction will potentially emerge due to mobilization of equipment and material.	Construction		FBC preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include GHG assessment. ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for GHG Mitigation & Monitoring Plan
	Traffic activity due to urban transport and mobilization surrounding Sei Mangkei will potentially increase.	Operation		FBC preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include GHG assessment. ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for GHG Mitigation & Monitoring Plan
Social					



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Labor and working conditions	Lack of competent workers so that the existing workers become overworked or they do not hold core competencies. This can lead to worker resignations, project delays, quality control concerns and health/safety incidents.	Construction	Yellow	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	A number of job opportunities are not fulfilled the local labor (based on company commitment and stated in the RKL-RPL).	Construction & operation	Yellow	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation	Yellow	FBC preparation AMDAL preparation ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	No provision of terms and conditions of employment, thus the workers do not have a clear understanding of their terms and conditions of employment (wage, working hours, off-days, benefits, etc.).	Construction & operation	Red	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
	Risk of violation of labor rights by contractors/subcons/suppliers (including hiring child labor, using forced labor, etc.).	Construction & operation	Yellow	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers can cause community concern.	Construction	Red	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & operation	Red	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP
	Open access to the project site will increase the risk of crime.	Construction & operation	Red	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air and noise pollution during construction	Construction & operation	Red	FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP)



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	activities and project operations. Increase in household waste and a decrease in community sanitation due to the construction and operation of housing.	Construction		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement
	The increasing number of immigrants (job seekers, those seeking opportunities) will impact community exposure to disease.	Construction		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficulty negotiating with landowners can shift the project's timeline or delay the project while looking for alternative land.	Pre-construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Involuntary resettlement (when affected persons do not have the right to refuse land acquisition or restrictions on land use that result in displacement).	Pre-construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Customary land/Communal land affected by land acquisition.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning,	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	sources or other means of livelihood).			LARAP preparation	Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Insufficient compensation for economic displacement of the non-titled land users/squatters/illegal occupants.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
Access to Ecosystem Services	Loss of community access to important places for their livelihoods and natural resources.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning	FBC should include the initial assessment of access disruption to Ecosystem Services through the project. Amdal with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan
Sexual Exploitation, Abuse, and Harassment	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community SOP (including community SEAH GRM) and report it to GCA.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the effective handling and prevention of SEAH cases and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & operation		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community SOP (including community SEAH GRM) and report to GCA.
	Changes in the dynamics of life in	Construction &		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	operation			and monitor the implementation of gender-sensitive community engagement SOP (which includes programs developed for women's empowerment) and report to GCA.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Pre-construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP as well as gender-responsive HRD plans, and report to GCA.
	Lack of women's participation in community consultations and meetings can prevent women from receiving the program's benefits, fair compensation, and information.	Pre-construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP and report to GCA.
	The absence of women's personal protective equipment can endanger female workers.	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive PPE and report to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-responsive HRD plans and report to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive facilities and report to GCA.
	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction		FBC preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning	FBC should include the disability considerations throughout the project. ESIA & ESMP GRM Stakeholder engagement plan
Disability	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction		FBC preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning	FBC should include the disability considerations throughout the project. ESIA & ESMP GRM Stakeholder engagement plan
	The absence of disability-friendly facilities that can endanger persons with disabilities working in the	Construction & operation		FBC preparation, ESIA preparation, GRM preparation,	FBC should include the disability considerations throughout the project. ESIA & ESMP



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	related sector.			Stakeholder engagement planning	GRM Stakeholder engagement plan
Human Rights	Forced purchase of land (e.g. through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction & operation		ESIA preparation, GRM preparation, Stakeholder engagement planning, HRIA preparation	ESIA & ESMP GRM Stakeholder engagement plan Develop Human Rights Impact Assessment (HRIA)
	Modern Slavery (Forced Labor/Human Trafficking) violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime, Collective Bargaining and Freedom of Association, Job Security/Right to Work, non-discrimination, OHS, as well as labor conditions (wage, OHS, working hours, etc.).	Construction		ESIA preparation, GRM preparation, HRIA preparation	ESIA & ESMP Worker GRM Develop Human Right Impact Assessment (HRIA)
	Disruption of community access to important locations such as livelihoods, ecosystem services, and cultural heritage.	Construction & operation		ESIA preparation, GRM preparation, HRIA preparation	ESIA & ESMP Worker GRM Develop Human Right Impact Assessment (HRIA)
Cultural Heritage	Disruption (damage or displacement) of tangible and intangible cultural heritage will impact or cause loss of community cultural identity.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Cultural heritage assessment preparation	FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)
	Increase in community concern due to disruption of access to tangible and intangible cultural heritage.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Cultural heritage assessment preparation	FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening Indigenous Peoples Development Plan (required if IPs present)



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	The project has impacts on IP, and the FPIC process results in rejection.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	Free Prior and Informed Consent Strategy (required if IPs present) FBC should include the initial assessment of indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	Lack of consultation about the design or implementation of projects that affect IP's lives.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	Difficulty engaging with the relevant IPs to ensure their ownership and participation in project design, implementation, monitoring and evaluation and consult with them as to the cultural appropriateness of proposed services or facilities, and to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in the project.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of indigenous people through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Indigenous Peoples Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
Community Concern	Lack of communication and coordination with local community can lead to rejection of the related project.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
	Lack of stakeholder identification and mapping, which leads to unknown level of influence and interest of stakeholders and improper engagement strategy.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Increasing in negative concern/public protest from the community, if the project cannot manage the issue, will cause disruption to project activities.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	Public Consultation and Disclosure report FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
	Social conflict between residents of flats and apartments or disturbing social interaction between existing housing community and the residents of flats and apartments.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
Governance					
Business model resilience	ESG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may perceive that the project/institution has a less sustainable and less resilient business.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and disclosed to relevant parties.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Monitoring and reporting of ESG indicators	The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's strategies and policies.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.
Value for Money	The value for money assessment must be carried out carefully so	Pre-construction - operation		FBC Preparation	FBC should include an assessment on Value for Money (VfM) of the project.



Aspect - Issues	Potential Risk Impacts	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
assessment	that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.				
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual agreements
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent

Tool 1.D ESG Risk Register for Waste Treatment Facilities Infrastructure Project

The risk register assessment table below provides issues within the environmental, social, and governance aspect for Indonesia's most common Waste Treatment facilities infrastructure projects. The table presents all potential impacts that may occur during all stages of project development (from pre-construction to operation construction stages) along with the scale of the impact. It presents the relevant activities and action required in the PPP preparation stage. During PPP preparation stage, ESIA with ESMP will be applicable if the project using international financing. Related to the SOP for management and monitoring, it should be provided by the executing entity (*Badan Usaha Pelaksana*).

Table 16. ESG Risk Register for Waste Treatment Facilities Infrastructure Project

Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Environmental					
GHG emissions	GHG emissions as derivative impact from air quality impact. GHG emissions are associated with off-road and on-road equipment as well as worker vehicle trips.	Construction		FBC preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include GHG assessment. ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for GHG Mitigation & Monitoring Plan
	GHG emissions as derivative impact from air quality impact. GHG emissions during the operational activities of hazardous waste management facilities are associated with on-road equipment as well as emissions from the plants.	Operation		FBC preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include GHG assessment. ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for GHG Mitigation & Monitoring Plan
Waste and Wastewater Generation	Vegetation waste during land preparation potentially arises from cuttings of trees, shrubs and grass from land cover clearing.	Construction		AMDAL Preparation, FBC Preparation, ESIA preparation, Habitat Screening preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan
	The construction stage will generate specific waste such as construction waste (e.g. soil and concrete debris) which needs to be managed in accordance with national regulations. Hazardous solid waste generation during the construction stage that has the potential to cause land contamination includes the use of solid or powdered chemicals, metal scraps, and plastic from waste storage facilities. Waste such as household waste from	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	AMDAL with RKL-RPL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. ESIA with ESMP Habitat Screening Biodiversity Management Plan (if required) Biodiversity Offset Strategy (if required)



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	<p>the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned.</p> <p>Wastewater from bathing and washing from toilets in construction areas, if not treated properly, can contaminate soil and water bodies.</p>				
	Non-hazardous solid and liquid waste from the office activities, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan
	Hazardous solid waste generation during the operational activities of hazardous waste management facilities will potentially contaminate the surrounding environment if not treated correctly. The contamination can be sourced from mobilization (waste transportation) and from on site activities such as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfill.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan
Surface water quantity	Land clearing and other construction activities will remove vegetation from the ground surface and cover the ground surface area with building structures. This can increase the run-off discharged into the recipient water body and add flood as potential impact.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of run off quantification or flood study and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan
Surface water quality	Land clearing activities will expose soil and increase the potential for erosion during rainfall periods. This run-off will bring sedimentation materials flowing into the recipient water body. Generally, all construction stages will potentially generate domestic wastewater from the workers domestic activity (workers camp & on project site). This includes wastewater from	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	canteen and temporary office. These activities will impact the surface water if the effluent is discharged to the waterbody.				SOP for Erosion Control Management & Monitoring Plan
	The wastewater from the operational activities of hazardous waste management facilities will potentially contaminate the surface water if not treated well. The contamination can be sourced from mobilization (waste transportation) and from on site activities such as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfilling.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Surface Water Management & Monitoring Plan SOP for Wastewater Management & Monitoring Plan
Groundwater quality	All construction stages will potentially generate domestic wastewater from the workers' domestic activity (workers' camp & on project site). This includes wastewater from canteen and temporary office. These activities will impact the groundwater if the effluent is stored in the retention well.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Ground Water Management & Monitoring Plan SOP for Wastewater Management & Monitoring Plan
	The operational activities of hazardous waste management facilities will potentially contaminate the soil and groundwater if not treated well. The contamination can be sourced from mobilization (waste transportation) and from on site activities such as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfill.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of groundwater quantity and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Groundwater Management & Monitoring Plan
Air quality	Mobilization of heavy equipment and materials will generate dust from exposed soil surface, unpaved roads and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Land preparation prior to construction activities will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs during land preparation activities.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Main facilities development will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs, during construction of supporting facilities and infrastructure, structural works, facilities and utilities works, finishing and revegetation works	Construction	High	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Air pollution can be sourced from each activity (transportation, collection, treatment, and landfill) from the operational activities of hazardous waste management facilities. Polluting emissions from the incinerator may include CO, NOx, SO2, PM and VOCs, ammonia, amines, acids (HCL, HF), dioxins/furans, PCBs, PAHs, metals (Hg), sulfides, etc., depending on the waste content and combustion conditions. In addition, there will be potential odor from biological treatment processes and landfill activities.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
Noise	Mobilization of heavy equipment and materials will generate noise disturbance along the access road, particularly in the area close to the sensitive receptors.	Construction	High	FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Land preparation prior to construction activities will generate noise from the machinery and equipment used during land clearing and land compaction.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Main facilities development will generate noise during construction of supporting facilities and infrastructure, structural works, facilities and utilities works, finishing and revegetation works.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Noise disturbance can be generated from each activity (transportation and on-site treatment) from the operational activities of hazardous waste	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	management facilities.				SOP for Noise and Vibration Management & Monitoring Plan
Vibration	Main facilities construction activities will generate vibration from drilling/boring/piling activities during civil works (foundation) activities.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Sources of vibration can be sourced from waste receipt, unloading, and processing, including truck traffic, loading equipment (e.g., cranes, wheeled loaders), stationary compactors, balers, grinders, and other treatment and conveyance systems.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within Protected Area, Natural Habitat or Critical Habitat to accommodate the project footprint and any other associated facilities.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: Obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
Traffic	Increase of traffic on some road segments during construction will potentially emerge due to mobilization of equipment and material.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan
	Traffic disturbance due to waste transportation activity will potentially increase.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan
Social					
Labor and working conditions	Lack of competent workers so that the existing workers become overworked or work in positions for which they do not hold core competencies. This can lead to worker resignations, project delays, quality control concerns and health/safety incidents.	Construction		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	A number of job opportunities are not fulfilled by the local labor market.	Construction & operation		FBC preparation, AMDAL preparation,	FBC should include the recruitment plan for local labor through the project.



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
				ESIA preparation	AMDAL with RKL-RPL ESIA & ESMP
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	No provision of terms and conditions of employment, thus the workers do not have a clear understanding of their terms and conditions of employment (wage, working hours, off-days, benefits, etc.).	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
	Risk of violation of labor rights from contractors/subcons/suppliers.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers can cause community concern.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
Occupational health and safety	Construction work and operations involving heavy equipment, working with hazardous waste and dealing with electricity can pose several safety risks (fire & explosion) to workers.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP
	The possibility that workers will be exposed to hazardous waste can pose several safety risks to workers.	Operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air and noise pollution during construction activities and project operations.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement
	Increasing in household waste and a decrease in community sanitation due to the construction and operation of housing.	Construction		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement
	The increasing number of immigrants (job seekers, those seeking	Construction		FBC preparation, AMDAL preparation,	FBC should include the Health and Safety plan for the project activities.



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	opportunities) will impact community exposure to disease.			ESIA preparation	AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement
	Decrease in the quality of public health due to waste pollution, include health and soil contamination risks (potentially causing loss in livelihoods) to local communities due to improper transportation of waste, contaminated runoff, etc.	Operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL (which also includes impact analysis to community health due to soil contamination) ESIA & ESMP including GRM and stakeholder engagement SOP of emergency preparedness Emergency Preparedness Plan
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficulty negotiating with the landowners can shift the project's timeline or delay the project while looking for alternative land.	Pre-construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Involuntary resettlement (when affected persons do not have the right to refuse land acquisition or restrictions on land use that result in displacement).	Pre-construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Customary land/Communal land affected by land acquisition.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Physical displacement (relocation, loss of residential land or loss of shelter),	Construction		FBC preparation, AMDAL preparation,	FBC should include the initial assessment of land acquisition and resettlement through the project.



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood).			ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Economic displacement not only for landowners but also land users.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	The land status does not allow for waste management sites (is the land considered as protected forest, production forest, etc.).	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, LARAP	FBC should include the initial assessment of land acquisition and resettlement through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
Access to Ecosystem Services	Loss of community access to important places for their livelihoods and natural resources.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM planning, Stakeholder engagement planning	FBC should include the initial assessment of access disruption to Ecosystem Services through the project AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan
Sexual Exploitation, Abuse, and Harassment	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their	Pre-construction & construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community SOP (including community SEAH GRM) and report to GCA.



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	vulnerability to SEAH, for example women or the spouse of the head of the household.				
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the effective handling and prevention of SEAH cases and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & operation		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community SOP (including community SEAH GRM) and report to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP (which includes programs developed for women empowerment) and report to GCA.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Pre-construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP as well as gender-responsive HRD plans, and report to GCA.
	Lack of women's participation in community consultations and meetings can prevent women from receiving the program's benefits, fair compensation, and information.	Pre-construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP and report to GCA.
	The absence of women's personal protective equipment, which can endanger female workers.	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive PPE and report to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-responsive HRD plans and report to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive facilities and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction		FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning	FBC should include disability considerations through the project. ESIA & ESMP GRM



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
					Stakeholder engagement plan
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction		FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning	FBC should include disability considerations through the project. ESIA & ESMP GRM Stakeholder engagement plan
	The absence of disability-friendly facilities can endanger persons with disabilities working in the related sector.	Construction & operation		FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning	FBC should include disability considerations through the project. ESIA & ESMP GRM Stakeholder engagement plan
Human Rights	Forced purchase of land (e.g. through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction & operation		ESIA preparation, GRM planning, Stakeholder engagement planning, HRIA preparation	ESIA & ESMP GRM. Stakeholder engagement plan Develop HRIA
	Modern Slavery (Forced Labor/Human Trafficking) violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime, refusal of Collective Bargaining and Freedom of Association, and poor compliance with Job Security/Right to Work, non-discrimination, OHS and labor conditions (wage, OHS, working hours, etc.).	Construction		ESIA preparation, GRM planning, HRIA preparation	ESIA & ESMP Worker GRM Develop HRIA
	Disruption of community access to important locations such as livelihoods, ecosystem services, and cultural heritage.	Construction & operation		ESIA preparation, GRM planning, HRIA preparation	ESIA & ESMP Worker GRM Develop HRIA
Cultural Heritage	Disruption (damage or displacement) of tangible and intangible cultural heritage will impact loss of community cultural identity.	Construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholders Stakeholder planning, CH assessment planning	FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)
	Increase in community concern due to disruption of access to tangible and intangible cultural heritage.	Construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning,	FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
				Stakeholder engagement planning, CH assessment planning	ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IP Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	Lack of consultation about the design or implementation of projects that affect IPs' lives.	Construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IP Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	Difficulty engaging with the relevant IPs to ensure their ownership and participation in project design, implementation, monitoring and evaluation and consult with them as to the cultural appropriateness of proposed services or facilities, and to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in the project.	Construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IP Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	The project has impacts on indigenous people, and the FPIC process results in rejection.	Construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IP Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
Community Concern	Lack of communication and coordination with local community can	Construction & operation		AMDAL preparation, FBC preparation,	FBC should include the assessment of social issues arising from the project.



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	lead to rejection of the related project.			ESIA preparation, GRM planning, Stakeholder engagement planning, Public Consultation reporting	AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
	Lack of stakeholder identification and mapping, which leads to unknown level of influence and interest of stakeholders and improper engagement strategy.	Pre-construction, construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
	Increase in negative concern/public protest from the community, if the project can't manage the issue, will cause disruption to project activities.	Pre-construction, construction & operation		AMDAL preparation, FBC preparation, ESIA preparation, GRM planning, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
Governance					
Business model resilience	ESG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may perceive that the project/institution has a less sustainable and less resilient business.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and disclosed to relevant parties.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Monitoring and reporting of ESG indicators	The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.



Aspect - Issues	Potential Risk	Stage	Scale Of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Value for Money assessment	The value for money assessment must be carried out carefully so that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.	Pre-construction - operation		FBC Preparation	FBC should include an assessment on Value for Money (VfM) of the project.
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual agreements
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent

Tool 1.E ESG Risk Register for Gas Distribution Infrastructure Project

Gas Distribution projects will include construction of distribution pipes from transmission pipelines to household connections. The risk assessment table below covers Indonesia's most general Gas Distribution projects, covering the construction of gas pipelines and their facilities, as a transporter and as a gas distributor through pipelines, and risks during gas distribution operations. Gas Distribution projects are usually located in urban areas.

Table 17. ESG Risk Register for Gas Distribution Infrastructure Project

Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Environmental					
GHG emissions	The energy use during the construction stage causes direct GHG emissions, while the manufacture of building material causes indirect GHG emissions.	Construction		AMDAL preparation, FBC preparation, PPP Agreement preparation	AMDAL should include GHG emission analysis. Also, FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
Waste and wastewater generation	<ul style="list-style-type: none"> The construction process generates specific waste such as construction waste (e.g. soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. Wastewater from bathing and washing and from toilets in construction areas, if not treated properly, can contaminate soil and water bodies. 	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of waste generation and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan
Sanitation	Poor sanitation facilities can contaminate ground water, cause pooled stagnant water, unpleasant odors, and sources of disease. During the construction stage, this will typically be associated with the workers' accommodation facilities and site offices.	Construction		AMDAL preparation, FBC preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Surface	Land clearing and other	Pre-construction		FBC preparation,	FBC should include the initial assessment of run off



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
water quantity	construction activities will remove vegetation on the ground surface and cover the ground surface area with building structures. This can increase the run-off discharged into the recipient water body and add flood as potential impact.	Construction		AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	quantification or flood study and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan
Surface water quality	Land clearing activities will expose soil and increase the potential for erosion during rainfall periods. This run-off will bring sedimentation materials flowing into the recipient water body. Generally, all construction stages will potentially generate domestic wastewater from the workers' domestic activity (workers' camp & on project site). This includes wastewater from canteen and temporary office. These activities will impact the surface water if the effluent is discharged to the body of water. In addition to the construction impact, commissioning activity which will cover hydrostatic test also has the potential to degrade water quality during effluent discharging.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan SOP for Erosion Control Management & Monitoring Plan
	Surface water quality degradation during operation will potentially emerge due to pipeline maintenance activities. Pigging activities may generate wastewater which can impact the nearest surface water if not well managed.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of surface water quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Water Management & Monitoring Plan
Groundwater quality	Groundwater can be polluted due to site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site. This can also occur as a result of poor refueling and oil changing procedures, and any leaks from storage areas.	Construction		AMDAL preparation, FBC preparation, PPP Agreement preparation	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
Air quality	Mobilization of heavy equipment	Construction		FBC preparation,	FBC should include the initial assessment of air quality



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	and materials including the gas pipes will generate dust from exposed soil surface, unpaved roads and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs.			AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Land preparation including excavation for pipelines prior to construction activities will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs during land preparation activities.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
	Main facilities development including pipeline installation (stringing, welding, etc.) will generate dust from exposed soil surface and emissions from the vehicles/equipment used, including CO, NOx, SO2, PM and VOCs during construction of supporting facilities and infrastructure, structural works, facilities and utilities works, finishing and revegetation works.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of air quality and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Air Quality Management & Monitoring Plan SOP for Dust Management & Monitoring Plan
Noise	Mobilization of heavy equipment and materials will generate noise disturbance along the access road, particularly the area close to the sensitive receptors.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Land preparation prior to construction activities will generate noise from the machinery and equipment used during land clearing and land compaction.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
	Main facilities development including pipeline installation will generate noise during construction of supporting facilities and infrastructure, structural works, facilities and utilities works, finishing and revegetation works.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of noise and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
Vibration	Main facilities construction activities	Pre-construction &		FBC preparation,	FBC should include the initial assessment of noise and the



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	will generate vibration from drilling/bore/piling activities during civil works (foundation) activities.	construction		AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Noise and Vibration Management & Monitoring Plan
Flood	Risk of flooding during the construction and operation stages caused by changes to the existing rainwater drainage system.	Construction & operation		AMDAL preparation, FBC preparation, PPP Agreement preparation	AMDAL Also, FBC should include the assessment result on site/land condition, and potential remedy for mitigating flood risk through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the land condition to GCA.
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within Protected Area, Natural Habitat or Critical Habitat to accommodate the project footprint and any other associated facilities.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, Habitat screening preparation	FBC should include the initial assessment of biodiversity and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP Habitat Screening Biodiversity Management Plan (if required) Biodiversity Offset Strategy (if required)
Traffic	Increase of traffic on some road segments during construction will potentially emerge due to mobilization of equipment and material.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	FBC should include the initial assessment of traffic and the mitigation plan through the project. AMDAL with RKL-RPL ESIA with ESMP SOP for Vehicle and Traffic Management & Monitoring Plan
Social					
Labor and working conditions	Lack of competent workers so that the existing workers become overworked or they do not hold core competencies. This can lead to worker resignations, project delays, quality control concerns and health/safety incidents.	Construction		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	Fatigue and OHS risks to workers to meet expedited construction schedule	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	A number of job opportunities are not fulfilled by the local labor (based on company commitment and stated in the RKL-RPL).	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	No provision of terms and conditions of employment, thus the workers do not have a clear understanding of their terms and conditions of employment (wage, working hours, off-days, benefits, etc.).	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations
	Risk of violation of labor rights by contractors/subcons/suppliers (including hiring child labor, using force labor, etc.).	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers can cause community concern.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the recruitment plan for local labor through the project. AMDAL with RKL-RPL ESIA & ESMP Develop employment handbook & company regulations.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air and noise pollution during construction activities and project operations.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP
	Increase in household waste and a decrease in community sanitation due to the construction and operation of housing.	Construction		FBC preparation, AMDAL preparation, ESIA preparation	FBC should include the Health and Safety plan for the project activities. AMDAL with RKL-RPL ESIA & ESMP including GRM and stakeholder engagement.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficulty negotiating with landowners can shift the project's timeline or delay the project while looking for alternative land.	Pre-construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Involuntary resettlement (when affected persons do not have the right to refuse land acquisition or restrictions on land use that result in displacement).	Pre-construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning,	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
				LARAP preparation	Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Customary land/Communal land affected by land acquisition.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Physical displacement (relocation, loss of residential land or loss of shelter) or, economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood).	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Insufficient compensation for economic displacement of the non-titled land users/squatters/illegal occupants.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, LARAP preparation	FBC should include the initial assessment of land acquisition and resettlement. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Land Acquisition and Resettlement Action Plan Livelihood Restoration Plan
Access to Ecosystem Services	Loss of community access to important places for their livelihoods and natural resources.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation,	FBC should include the initial assessment of access disruption to Ecosystem Services through the project. AMDAL with RKL-RPL



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
				GRM preparation, Stakeholder engagement planning	ESIA & ESMP GRM Stakeholder engagement plan
Sexual Exploitation, Abuse, and Harassment	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community SOP (including community SEAH GRM) and report to GCA.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the effective handling and prevention of SEAH cases and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & operation		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community SOP (including community SEAH GRM) and report to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP (which includes programs developed for women's empowerment) and report to GCA.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Pre-construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP as well as gender-responsive HRD plans, and report to GCA.
	Lack of women's participation in community consultations and meetings can prevent women from receiving program's benefits, fair compensation, and information.	Pre-construction		Public Consultation preparation, PPP Agreement preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP and report it to GCA.



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	The absence of women's personal protective equipment can endanger female workers.	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive PPE and report it to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the implementation of gender-responsive HRD plans and report it to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction & operation		PPP Agreement preparation	In PPP Agreement: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive facilities and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction		FBC preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning	FBC should include disability considerations throughout the project. ESIA & ESMP GRM Stakeholder engagement plan
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction		FBC preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning	FBC should include disability considerations throughout the project. ESIA & ESMP GRM Stakeholder engagement plan
	The absence of disability-friendly facilities can endanger persons with disabilities working in the related sector.	Construction & operation		FBC preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning	FBC should include disability considerations throughout the project. ESIA & ESMP GRM Stakeholder engagement plan
Human Rights	Forced purchase of land (e.g. through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction & operation		ESIA preparation, GRM preparation, Stakeholders engagement planning, HRIA preparation	ESIA & ESMP GRM. Stakeholders engagement plan Develop HRIA
	Modern Slavery (Forced Labor/Human Trafficking) violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime, refusal of Collective Bargaining and Freedom of Association, and poor compliance with Job Security/Right to Work, non-discrimination, OHS and labor conditions (wage, OHS, working hours, etc.).	Construction		ESIA preparation, GRM preparation, HRIA preparation	ESIA & ESMP Worker GRM Develop HRIA
	Disruption of community access to	Construction & operation		ESIA preparation,	ESIA & ESMP



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	important locations such as livelihoods, ecosystem services, and cultural heritage.			GRM preparation, HRIA preparation	Worker GRM Develop HRIA
Cultural Heritage	Disruption (damage or displacement) of tangible and intangible cultural heritage will have an impact on loss of community cultural identity.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Cultural heritage assessment preparation	FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)
	Increase in community concern due to disruption of access to tangible and intangible cultural heritage.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Cultural heritage assessment preparation	FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Cultural heritage assessment Change finds procedures (if required)
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IPs Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	The project has impacts on indigenous people, and the FPIC process results in rejection.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IPs Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
	Lack of consultation about the design or implementation of projects that IPs' lives.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IPs Screening



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Difficulty engaging with the relevant indigenous peoples to ensure their ownership and participation in project design, implementation, monitoring and evaluation and consulting with them as to the cultural appropriateness of proposed services or facilities, and to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in the project.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, IPs screening preparation	IPDP (required if IPs present) FPIC Strategy (required if IPs present) FBC should include the initial assessment of the situation of IP through the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan IPs Screening IPDP (required if IPs present) FPIC Strategy (required if IPs present)
Community Concern	Lack of communication and coordination with local community can lead to rejection of related project.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
	Lack of stakeholder identification and mapping, which leads to unknown level of influence and interest of stakeholders and improper engagement strategy.	Construction & operation		FBC preparation, AMDAL preparation, ESIA preparation, GRM, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
	Increase in negative concern/public protest from the community, if the project cannot manage the issue, will cause disruption to project activities.	Pre-construction & construction		FBC preparation, AMDAL preparation, ESIA preparation, GRM preparation, Stakeholder engagement planning, Public Consultation reporting	FBC should include the assessment of social issues arising from the project. AMDAL with RKL-RPL ESIA & ESMP GRM Stakeholder engagement plan Public Consultation and Disclosure report
Governance					
Business model resilience	ESG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	perceive that the project/institution has a less sustainable and less resilient business.				
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and disclosed to relevant parties.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Monitoring and reporting of ESG indicators	The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's strategies and policies.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.
Value for Money assessment	The value for money assessment must be carried out carefully so that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.	Pre-construction - operation		FBC Preparation	FBC should include an assessment on Value for Money (VfM) of the project.
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual agreements
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent



Tool 1.F ESG Risk Register for Health Infrastructure Project

Table 18. ESG Risk Register for Health Infrastructure Project

Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Environmental					
GHG emissions	The energy use during the hospital construction causes direct GHG emissions, while the manufacture of building material results in indirect GHG emissions.	Construction	High	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emissions analysis. Also, FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
	The energy use for the operation of hospitals causes direct GHG emissions.	Operation	High	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include socio-economic costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report GHG emissions to GCA.
Energy use	Hospital construction projects use large amounts of energy to operate the heavy equipment.	Construction	Medium	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.
	Operations of hospitals use substantial energy.	Operation	High	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as carbon footprint through the project.
Water use	The water used during the hospital construction stage is sourced from groundwater and surface water, which can result in a decrease in the groundwater level and surface water quantity. This could interfere with the use of groundwater and surface water in the surrounding area and/or cause land subsidence and local flooding.	Construction	Medium	AMDAL Preparation, FBC Preparation	AMDAL (include water availability study) Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.
	Hospital operations use a substantial amount of water.	Operation	High	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC's CBA should include socio-economic costs and benefits such as depletion of natural resources through the project.
Raw material use	Construction projects use a large amount of raw materials, such as sand, gravel, concrete, and steel. Furthermore, residual material from raw material could potentially be wasted without being reused or recycled.	Construction	High	AMDAL Preparation	AMDAL Resources sustainability plan



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Raw material use in the health sectors is negligible because all are service-oriented sectors.	Operation		AMDAL Preparation	AMDAL
Waste and wastewater generation	-The construction process generates specific waste such as construction waste (e.g. soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. - Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. - Wastewater from bathing and washing from toilets in construction areas, if not treated properly, can contaminate soil and water bodies	Construction		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan
	Operations of health facilities will produce medical waste, hazardous waste, and non-hazardous waste.	Operation		FBC preparation, AMDAL preparation, ESIA preparation, SOP and Monitoring Plan preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. SOP for Non-Hazardous Waste Management & Monitoring Plan SOP for Hazardous Waste Management & Monitoring Plan
Sanitation	Poor sanitation facilities can contaminate ground water, cause pooled stagnant water, unpleasant odors, and sources of disease.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
	Sanitation facilities in hospitals, if not well maintained, may result in groundwater contamination.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project.
Ground contamination & damage	Ground contamination might occur due to waste materials (such as metal, plastic, wood, and bricks) and waste from workers that are not disposed of properly.	Construction		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the waste and wastewater management to GCA.
	Landslides might occur if facilities are built on steep slopes.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include landslide mitigation for facilities built on a steep slopes.
	Ground contamination might occur if medical waste and hazardous waste are not managed properly.	Operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the determination of waste management and wastewater treatment plan



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Surface water quality	Land acquisition and construction activities can cause sedimentation due to runoff (especially during the rainy season), which can bring soil particles to the surface of the water around the project site.	Construction	High	AMDAL Preparation, FBC Preparation, PPP Agreement	through the project. AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
	Surface water contamination might occur if medical waste and hazardous waste are not managed properly.	Operation	Medium	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the surface water quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
Groundwater quality	Groundwater can be polluted due to the site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site.	Construction	High	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
	Groundwater contamination might occur if medical waste and hazardous waste are not managed properly.	Operation	Medium	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the groundwater quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
Air quality	Land acquisition, mobilization of heavy equipment and materials, as well as construction activities will generate dust and gas emissions, resulting in a decrease in air quality at and around the Project site.	Construction	High	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the air quality management to GCA.
	Air pollution may be material where hospitals conduct their own waste incineration.	Operation	High	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the ambient air quality management and monitoring plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the air quality management to GCA.
Noise	The use of heavy equipment during the construction stage will result in increased noise levels around the project site.	Construction	High	AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Traffic around hospitals will produce noise that might disturb the surrounding communities.	Operation		AMDAL Preparation, FBC Preparation	the project. AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
Vibration	Vibrations can occur due to the installation of foundations which can cause cracks in the soil, roads, and walls of local residents' houses.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the noise level and vibration management and monitoring plan through the project.
Flood	Risk of flooding during the construction and operation stages caused by changes to the existing rainwater drainage system.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on site/land condition, and potential remedy for mitigating flood risk through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the land condition to GCA.
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area.	Pre-construction & construction		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Aquatic life is disrupted due to construction waste contamination and operation activity.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Operations of the developed facilities will not increase the impact from the pre-construction and construction stages.	Operation		AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL Also, FBC should include the assessment result on biodiversity condition, and land clearing management plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
Social					
Labor and working conditions	Lack of competent workers so that the existing workers become overworked. This can lead to worker resignations and project delays.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	A number of job opportunities are not fulfilled by the local labor market.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Pressures on construction schedule can cause forced labor in working time.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL & FBC: include the recruitment plan for local labor through the project.



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	Lack of information about job opportunities (especially for local worker hire).	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Employment opportunities will lead to high labor influx migration to the project area. The lack of adequate facilities for migrant workers can cause community concern.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & operation		PPP Agreement	In PPP Agreement: obligations to be put on the IBE to monitor and report OHS to GCA.
Community health and safety	Community health and safety risks associated with traffic accidents and cumulative impacts from increased dust, air and noise pollution during construction activities and project operations.	Construction & operation		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include community health and safety management plan through the project. - In PPP Agreement: obligations to be put on the IBE to monitor and report OHS to GCA.
	Increased household waste and decreased community sanitation due to the operation of the basecamp.	Construction		AMDAL Preparation	AMDAL Also, FBC should include community health and safety management plan through the project.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult negotiations with the landowners might shift the project's timeline or delay the project to look for alternative land.	Pre-construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	Request for increased compensation fees from affected communities might affect the project budget and timeline.	Pre-construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	The land might be unusable or difficult to access after being acquired due to social problems with local residents.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. - LARP
	Customary land/communal land affected by land acquisition.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
	Economic displacement of not only landowners but also land users.	Construction		AMDAL Preparation, FBC Preparation	AMDAL Also, FBC should include the initial assessment of land acquisition and resettlement through the project. LARP
Access to ecosystem	Loss of community access to important places and natural resources.	Pre-construction & construction		AMDAL Preparation	AMDAL



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
services					
Sexual Exploitation, Abuse, and Harassment	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor and report SEAH to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction & operation		FBC Preparation	Public Consultation Report should include gender inclusion.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Pre-construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report to GCA.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving the program's benefits, fair compensation, and information.	Pre-construction		FBC Preparation, PPP Agreement Preparation	Public Consultation Report should include gender inclusion. In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	The absence of women's personal protective equipment can endanger female workers.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate housing, and others.	Construction & operation		PPP Agreement Preparation	In PPP Agreement: obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and	Pre-construction		FBC Preparation, GRM Planning	FBC should include the disability considerations through the project.



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
	inadequate facilities. Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction		FBC Preparation, GRM Planning	GRM. FBC should include the disability considerations through the project. GRM.
	The absence of disability-friendly facilities that can endanger persons with disabilities working in the sector.	Construction & operation		FBC Preparation, GRM Planning	FBC should include the disability considerations through the project. GRM.
Human Rights	Gap between employees and non-employee workers.	Construction & operation		AMDAL Preparation, FBC Preparation, GRM Planning	AMDAL Also, FBC should include the recruitment plan for local labor through the project.
	Disruption of road access and community safety for communities around project construction.	Construction		AMDAL Preparation, FBC Preparation, GRM Planning	AMDAL & FBC: include the recruitment plan for local labor through the project. GRM.
Cultural Heritage	Change in community access will increase community concern.	Construction & operation		AMDAL Preparation, FBC Preparation, PPP Agreement Preparation, GRM Planning	AMDAL Also, FBC should include the assessment on existing cultural heritage and the mitigation plan through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the cultural heritage to GCA. GRM.
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & operation		AMDAL Preparation, GRM Planning	AMDAL Also, FBC should include the assessment on indigenous people through the project. In PPP Agreement: obligations to be put on the IBE to monitor and report the indigenous people to GCA. GRM.
Governance					
Business model resilience	ESG-related policies are a sign that the project/institution is aware of how ESG issues could affect the project commercial sustainability and is committed to maintaining a sustainable and resilient business. Without ESG-related policies, investors/financial institutions may perceive that the project/institution has a less sustainable and less resilient business.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include business model In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption. Therefore, the funding process should be well documented and	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC should include business ethics and anti corruption mechanisms. In PPP Agreement: Obligations to be put on the IBE to develop relevant policies and report to GCA.



Aspect - Issues	Potential Risk	Stage	Scale of Impact	Relevant Activities in the PPP Preparation Stage	Actions Needed in PPP Preparation Stage
Monitoring and reporting of ESG indicators	disclosed to relevant parties. The performance of the project/institution can be hampered for a long time if there is a problem related to ESG due to the absence of ESG indicators that are incorporated into the project's or institution's strategies and policies.	Construction & operation		FBC Preparation, PPP Agreement Preparation	FBC should include monitoring and reporting of ESG indicators. In PPP Agreement: Obligations to be put on the IBE to monitor and report based on ESG indicators to GCA.
Value for Money assessment	The value for money assessment must be carried out carefully so that the project will be profitable and there will be no losses that will cause the project to stop in the middle of the construction or operation phase.	Pre-construction - operation		FBC Preparation	FBC should include an assessment on Value for Money (VfM) of the project.
Clear and legitimate project institutional arrangement and contractual agreements	There needs to be clear roles and responsibilities for each party involved as well as clear and transparent (accessible) contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior.	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include clear and legitimate project institutional arrangements and contractual agreements
Transparent budgeting and spending process	The budgeting and spending process must be carried out transparently and monitored to minimize fiscal risks to the project	Pre-construction - operation		FBC Preparation, PPP Agreement Preparation	FBC and PPP Agreement should include budgeting and spending to ensure that the process more transparent

Tool 1.G Sector-specific ESG Risks

Some sector-specific material ESG risks are presented in IIGF's ESG Management Framework as summarized and adapted below. These risks should be assessed by GCA when conducting the preliminary study, OBC, and AMDAL. GCA might want to focus on these issues early on if they want to apply for Government Guarantee. Please note that the material risks listed below are inexhaustive.

Table 19. Sector-specific ESG Risks

Scope of project work	Material ESG risks
Water sector	
Extraction of surface water	<ul style="list-style-type: none"> • Conflict with other water users • Changes in the water balance, thus reducing water availability
Extraction of groundwater	<ul style="list-style-type: none"> • Ground subsidence • Seawater/saltwater intrusion • Groundwater level subsidence, thus drying up shallow wells used by communities
Distribution and transmission network construction	<ul style="list-style-type: none"> • Hydrological changes • Reduced water supply • Social conflicts along the network
Waste sector	
Sewage or household wastewater treatment plant construction	<ul style="list-style-type: none"> • Smell • Health issues • Waste (if not treated properly) • Visual disturbance
Hazardous waste treatment (incineration)	<ul style="list-style-type: none"> • Air pollution (dioxin and furans) • Reduced ambient air quality (dust, SO_x, NO_x, HF, HCl, As, Cd, Cr)
Hazardous waste treatment (biological treatment)	<ul style="list-style-type: none"> • Air, ground, and water pollution (organic compounds)
Hazardous waste injection into geological formations	<ul style="list-style-type: none"> • Pollution • Damage to geohydrological patterns
Hazardous waste landfilling	<ul style="list-style-type: none"> • Reduced landfill capacity • Pollution through leaching
Hazardous waste collection	<ul style="list-style-type: none"> • Pollution due to spillage
Wastewater network construction	<ul style="list-style-type: none"> • Traffic disruption • Infrastructure damage • Insufficient or unsatisfying compensation
Household waste treatment (landfill)	<ul style="list-style-type: none"> • Pollution • Landfill gas • Insufficient incinerator capacity resulting in additional pollution
Household waste treatment (incineration)	<ul style="list-style-type: none"> • Pollution, particularly as household waste often contains hazardous waste
Transportation Sector	
Road construction, expansion, or improvement	<ul style="list-style-type: none"> • Land use change • Increased traffic, resulting in noise, vibration, pollution, visual disturbance, and social adverse impacts • Damaged infrastructure (gas, electricity, water, telecommunication)
Subway/underpass, tunnel, flyover, or bridge construction	<ul style="list-style-type: none"> • Land subsidence • Groundwater contamination • Increased traffic, resulting in noise, vibration, pollution, visual disturbance, and social adverse impacts • Damaged infrastructure (gas, electricity, water, telecommunication)
Railway track and/or terminal construction	<ul style="list-style-type: none"> • Pollution • Traffic disruption • Noise • Vibration • Visual disturbance • Ecological impact



Scope of project work	Material ESG risks
	<ul style="list-style-type: none">• Social impact• Damaged infrastructure (gas, electricity, water, telecommunication)• Land stability and subsidence• Groundwater impact
Airport construction	<ul style="list-style-type: none">• Safety issues• Noise• Vibration• Pollution (solid waste, wastewater, smell, air pollution)• Traffic disruption• Landscape change
Port construction	<ul style="list-style-type: none">• Changed current system• Silting• Hydrological and bathymetric changes• Ecological impact• Noise
Public housing sector	
Public housing construction	<ul style="list-style-type: none">• Social impact due to land acquisition• Reduced land carrying capacity• Increased water demand• Increased waste generation

Tool 2. Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG

How to use this tool:

- GCA can use this tool:
 - during the development of the preliminary study and OBC, to showcase potential project benefits
 - during development of the Amdal document, as a reference in assessing the positive impacts of the project
 - during the implementation stage, to monitor the realized benefits during the infrastructure operations and to take measures to enhance the benefits if feasible
 - during financing applications, to enhance the project attractiveness
- MoF can use this tool:
 - during PDF application review and negotiation, to encourage GCAs in exploring ways to optimize the socio-economic benefits of the proposed project
- PDF Implementers can use this tool:
 - as a guidance in developing the ToR of the PDF Consultant, as well as the review of the delivered PDF outputs
- PDF Consultants can use this tool:
 - during the preparation stage, as an input in developing the Pre-FS document

The following benefit mapping template can be adjusted and elaborated in accordance with the project's characteristics and features. Examples are provided in Chapter 4. Case Studies. Background information on SDG is provided in Chapter 5. References.



Table 20. Mapping of the project's potential benefits to the SDG, high-level assessment⁹

SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
Goal 1: End poverty in all its forms everywhere	Target 1.1: By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	A lack of infrastructure access puts a disproportionate burden in the poor, who would often need to spend more time and/or money to secure basic services such as clean water, cooking fuel, transportation, and electricity (e.g., by using a generator). Furthermore, a lack of infrastructure also hinders productive activities, e.g., through reduced mobility or lack of stable electricity supply. Providing different types of infrastructure could help reduce poor households' expenditure while opening opportunities for productive work. Additionally, provision of clean water, sanitation, and health facilities could help improve health, reduce absenteeism (thus increasing productivity), and reduce household expenditure on health. Hence, infrastructure provision could help improve financial conditions and reduce poverty.
	Target 1.2: By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	
	Target 1.3: Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	Not particularly relevant to physical infrastructure
	Target 1.4: By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	See Target 1.3 above
	Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	Physical infrastructure that enhances climate resilience could contribute to the achievement of this target.
	Target 1.a: Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programs and policies to end poverty in all its dimensions	Not particularly relevant to physical infrastructure

⁹ It should be noted that the Government of Indonesia (GoI) has adapted the SDG indicators in accordance with the Indonesian context. The indicators in the table refer to the GoI's indicators instead of the global indicators.



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	<p>Target 1.b: Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions</p>	<p>Not particularly relevant to physical infrastructure</p>
<p>Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p>	<p>Target 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round</p>	<p>Similar to the above Target 1.1, provision of basic services through infrastructure development could result in cost savings, which could be used by households to spend more on nutritious food. However, this consumption shift might require behavioral changes and education on nutrition.</p>
	<p>Target 2.2: By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons</p>	<p>Provision of infrastructure that promotes health (e.g., clean water, sanitation, hospitals) could help prevent malnutrition by reducing the incidence of diarrhea, which hinders absorption of nutrition from consumed food and beverages.</p>
	<p>Target 2.3: By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, IPs, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment</p>	<p>Provision of irrigation infrastructure could contribute to the achievement of this target.</p>
	<p>Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>Target 2.5: By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>Target 2.a: Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>Target 2.b: Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in</p>	<p>Not particularly relevant to physical infrastructure</p>



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	accordance with the mandate of the Doha Development Round	
	Target 2.c: Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility	Not particularly relevant to physical infrastructure
Goal 3: Ensure healthy lives and promote well-being for all at all ages	3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	Provision of clean water, sanitation, and health facilities could help improve health and sanitation, thus reducing mortality rates.
	3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	
	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	Provision of health facilities could help achieve this target.
	3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	
	3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	
	3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents	
	3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs	Provision of health facilities could help achieve this target.
	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	
	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	In general, infrastructure projects should include careful consideration and proper mitigation of environmental impacts. In some cases, new infrastructure such as hazardous waste treatment facilities could help achieve this target.
	3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate	Not particularly relevant to physical infrastructure
3.b Support the research and development of vaccines and medicines for the	Not particularly relevant to physical infrastructure	



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	
	3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing states	Not particularly relevant to physical infrastructure
	3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks	Not particularly relevant to physical infrastructure
Goal 4: Ensure inclusive and quality education for all and promote lifelong learning	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	Provision of education facilities (with appropriate social considerations) could help achieve these targets. However, currently there are no education infrastructure PPP projects in development. Indirectly, provision of clean water could help improve health and sanitation, thus presumably improving concentration, reducing absences, and improving overall educational performance.
4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education		
4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university		
4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship		
4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, IPs and children in vulnerable situations		
4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy		
	4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	Not particularly relevant to physical infrastructure



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	See Target 4.1 above.
	4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries	Not particularly relevant to physical infrastructure
	4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States	Not particularly relevant to physical infrastructure
Goal 5: Achieve gender equality and empower all women and girls	5.1 End all forms of discrimination against all women and girls everywhere	Infrastructure project could contribute in two ways. The infrastructure project design should be gender-conscious so that project construction and operation could provide equal opportunity and benefit to women. The project design should also provide necessary measures to protect women against discrimination and SEAH. Responsibility for household tasks traditionally falls on women; provision of basic services (such as clean water, cooking fuel, electricity) could facilitate women's efficient accomplishment of the tasks and free them to conduct productive activities.
	5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	
	5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	Not particularly relevant to physical infrastructure
	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	See Target 5.1 above.
	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	
	5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	
	5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial	



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	services, inheritance and natural resources, in accordance with national laws	
	5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	Not particularly relevant to physical infrastructure
	5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	Not particularly relevant to physical infrastructure
Goal 6: Ensure access to water and sanitation for all	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	Provision of clean water will help achieve this target.
	6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	A more stable supply of clean water and provision of sanitation systems could encourage households to install or improve sanitation facilities at their homes. However, this might require health and sanitation campaigns from health agencies.
	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	In general, infrastructure projects should include careful consideration and proper mitigation of environmental impacts such as waste generation and water use. In some cases, new infrastructure such as waste treatment facilities could help achieve this target.
	6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	
	6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	Not particularly relevant to physical infrastructure
	6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	Not particularly relevant to physical infrastructure
	6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	Not particularly relevant to physical infrastructure
	6.b Support and strengthen the participation of local communities in improving water and sanitation management	Not particularly relevant to physical infrastructure
Goal 7: Ensure access to affordable, reliable,	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	Renewable energy infrastructure (e.g. Waste-to-Energy and Hydroelectric Power Plant) projects could help achieve this target.
reliable,	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
sustainable and modern energy for all	7.3 By 2030, double the global rate of improvement in energy efficiency	In general, infrastructure projects should strive for efficient energy use.
	7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	Not particularly relevant to physical infrastructure
	7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programs of support	Not particularly relevant to physical infrastructure
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all	8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries	The infrastructure construction and operation will help increase the gross domestic product.
	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high value added and labor-intensive sectors	Not particularly relevant to physical infrastructure
	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	Not particularly relevant to physical infrastructure
	8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead	Not particularly relevant to physical infrastructure
	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	The infrastructure construction and operation will provide temporary and permanent employment.
	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	
	8.7 Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms	In general, infrastructure projects should avoid forced labor and child labor, protect labor rights, and promote safe and secure working environments.
	8.8 Protect labor rights and promote safe and secure working environments for all	



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	workers, including migrant workers, in particular women migrants, and those in precarious employment	
	8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products	Not particularly relevant to physical infrastructure
	8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	Not particularly relevant to physical infrastructure
	8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries	Not particularly relevant to physical infrastructure
	8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization	Not particularly relevant to physical infrastructure
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Investments in infrastructure are crucial to achieving sustainable development and empowering communities, among others through improvements in health and education outcomes.
	9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	Not particularly relevant to physical infrastructure
	9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	Not particularly relevant to physical infrastructure
	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	Infrastructure upgrade projects could help achieve this target.
	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	Not particularly relevant to physical infrastructure
	9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States	Infrastructure projects could help achieve this target.



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, <i>inter alia</i> , industrial diversification and value addition to commodities	Not particularly relevant to physical infrastructure
	9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	Information and communication infrastructure projects could help achieve this target.
Goal 10: Reduce inequality within and among countries	10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	Provision of infrastructure could promote income growth in various ways, for example through improved mobility and through availability of basic services (e.g. electricity) for productive use.
	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	Not particularly relevant to physical infrastructure
	10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard	Not particularly relevant to physical infrastructure
	10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	Not particularly relevant to physical infrastructure
	10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations	Not particularly relevant to physical infrastructure
	10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions	Not particularly relevant to physical infrastructure
	10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies	Not particularly relevant to physical infrastructure
	10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements	Not particularly relevant to physical infrastructure
	10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programs	Not particularly relevant to physical infrastructure



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent	Not particularly relevant to physical infrastructure
Goal 11: Make cities inclusive, safe, resilient and sustainable	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	Housing infrastructure projects could help achieve this target.
	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	Transportation infrastructure projects could help achieve this target.
	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	Urban infrastructure projects could help achieve this target.
	11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	In general, infrastructure projects should protect and safeguard cultural and natural heritage within its sphere of influence.
	11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	Climate-resilient infrastructure projects could help achieve this target.
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	In general, infrastructure projects should include careful consideration and proper mitigation of environmental impacts. In some cases, new infrastructure such as waste treatment facilities could help achieve this target.
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	Transit oriented development (TOD) transport and public park infrastructure projects could help achieve this target.
	11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning	Not particularly relevant to physical infrastructure
	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	Climate-resilient infrastructure projects could help achieve this target.
	11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	Not particularly relevant to physical infrastructure



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
<p>Goal 12: Ensure sustainable consumption and production patterns</p>	<p>12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources</p>	<p>In general, infrastructure projects should strive for sustainable management and efficient use of natural resources</p>
	<p>12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p>	<p>In general, infrastructure projects should strive for environmentally sound management of chemicals and waste.</p>
	<p>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</p>	<p>In general, infrastructure projects should strive for minimum waste generation.</p>
	<p>12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products</p>	<p>Not particularly relevant to physical infrastructure</p>
<p>12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities</p>	<p>Not particularly relevant to physical infrastructure</p>	
<p>Goal 13:</p>	<p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and</p>	<p>Climate-resilient infrastructure projects could help achieve this</p>



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
<p>Take urgent action to combat climate change and its impacts</p>	<p>natural disasters in all countries</p>	<p>target.</p>
	<p>13.2 Integrate climate change measures into national policies, strategies and planning</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities</p>	<p>Not particularly relevant to physical infrastructure</p>
<p>Goal 14: Conserve and sustainably use the oceans, seas and marine resources</p>	<p>14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution</p>	<p>In general, infrastructure projects should be designed to prevent marine pollution or any other adverse impacts on marine and coastal ecosystems.</p>
	<p>14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans</p>	
	<p>14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information</p>	<p>Not particularly relevant to physical infrastructure</p>
	<p>14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of</p>	<p>Not particularly relevant to physical infrastructure</p>



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	the World Trade Organization fisheries subsidies negotiation	
	14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	Not particularly relevant to physical infrastructure
	14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries	Not particularly relevant to physical infrastructure
	14.b Provide access for small-scale artisanal fishers to marine resources and markets	Not particularly relevant to physical infrastructure
	14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want"	Not particularly relevant to physical infrastructure
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	In general, infrastructure projects should be designed for sustainable use of terrestrial and inland freshwater ecosystems and their services.
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	Not particularly relevant to physical infrastructure
	15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	Not particularly relevant to physical infrastructure
	15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	Not particularly relevant to physical infrastructure
	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	In general, infrastructure projects should be designed to prevent the degradation of natural habitats, biodiversity loss, and extinction of threatened species.
	15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as	Not particularly relevant to physical infrastructure



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	internationally agreed	
	15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products	Not particularly relevant to physical infrastructure
	15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species	In general, infrastructure projects should be designed to prevent the introduction of invasive alien species on land and water ecosystems.
	15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	Not particularly relevant to physical infrastructure
	15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	Not particularly relevant to physical infrastructure
	15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation	Not particularly relevant to physical infrastructure
	15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities	Not particularly relevant to physical infrastructure
Goal 16: Promote just, peaceful and inclusive societies	16.1 Significantly reduce all forms of violence and related death rates everywhere	Not particularly relevant to physical infrastructure
	16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	Not particularly relevant to physical infrastructure
	16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all	Not particularly relevant to physical infrastructure
	16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime	Not particularly relevant to physical infrastructure
	16.5 Substantially reduce corruption and bribery in all their forms	Not particularly relevant to physical infrastructure
	16.6 Develop effective, accountable and transparent institutions at all levels	Not particularly relevant to physical infrastructure
	16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	Not particularly relevant to physical infrastructure
	16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance	Not particularly relevant to physical infrastructure
	16.9 By 2030, provide legal identity for all, including birth registration	Not particularly relevant to physical infrastructure
	16.10 Ensure public access to information and protect fundamental freedoms, in	Not particularly relevant to physical infrastructure



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	accordance with national legislation and international agreements	
	16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime	Not particularly relevant to physical infrastructure
	16.b Promote and enforce non-discriminatory laws and policies for sustainable development	Not particularly relevant to physical infrastructure
Goal 17: Revitalize the global partnership for sustainable development	17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection	Not particularly relevant to physical infrastructure
	17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries	Not particularly relevant to physical infrastructure
	17.3 Mobilize additional financial resources for developing countries from multiple sources	Not particularly relevant to physical infrastructure
	17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress	Not particularly relevant to physical infrastructure
	17.5 Adopt and implement investment promotion regimes for least developed countries	Not particularly relevant to physical infrastructure
	17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism	Not particularly relevant to physical infrastructure
	17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favorable terms, including on concessional and preferential terms, as mutually agreed	Not particularly relevant to physical infrastructure
	17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and	Not particularly relevant to physical infrastructure



SDG #	Target	Potential benefits of infrastructure project in achieving the SDG targets
	communications technology	
	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation	Not particularly relevant to physical infrastructure
	17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda	Not particularly relevant to physical infrastructure
	17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020	Not particularly relevant to physical infrastructure
	17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access	Not particularly relevant to physical infrastructure
	17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence	Not particularly relevant to physical infrastructure
	17.14 Enhance policy coherence for sustainable development	Not particularly relevant to physical infrastructure
	17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development	Not particularly relevant to physical infrastructure
	17.16 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries	Not particularly relevant to physical infrastructure
	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	Infrastructure PPP projects will contribute to the achievement of this target.
	17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts	Not particularly relevant to physical infrastructure
	17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	Not particularly relevant to physical infrastructure

Tool 3. Checklist of PDF Support

The following checklist will be used by the MoF in reviewing PDF application. It is adapted from IIGF checklist for screening projects to receive guarantee support.

Table 21. Checklist of PDF Support

Category	ESG Items	Checklist Items	Status*
Environmental & Social Assessment, Licenses, and Public Engagement	Environmental assessment documents (AMDAL/UKL-UPL-SPPL) and Environmental Permits Environmental Impact	a) Has the GCA conducted a social and environmental impact study (AMDAL/UKL-UPL/SPPL) in accordance with applicable regulations?	
		b) Has the GCA obtained an Environmental Permit?	
		c) Has the GCA developed a social and environmental impact management plan?	
		d) Is the GCA required to have an Environmental Management and Protection Permit in accordance with the Environmental Permit obligations and when is the permit required to be completed?	
		e) Has the GCA conducted an alternative study for the project plan and has the assessment carried out complied with the assessment limits specified (Project Boundary, Ecological Boundary, Social Boundary, and Administrative Boundary)?	
		f) Has the GCA identified costs for the protection and management of social and environmental aspects at all stages (pre-construction, construction, and operation)?	
		g) Does the GCA have an organizational structure that ensures the effective management of potential social and environmental impacts from the project?	
		h) Does the GCA have a policy on the management and protection of Social and Environmental harms, as well as OHS?	
		i) Has the GCA developed a Management System to manage Social and Environmental aspects, as well as OHS?	
		j) Has the GCA developed a complaint handling mechanism system?	
		a) Has the GCA identified the impact of air pollution, noise, vibration, water pollution, traffic disturbances in each activity stage (pre-construction, construction, and operation)?	
		b) Has the GCA conducted a route study to avoid forest areas, residential areas, and cultivation areas and is the mitigation plan prepared in a practical way for implementation??	
		c) Has the GCA ensured that the technology used can mitigate environmental impacts arising from the project?	
	Public Consultation	a) Has the GCA conducted public consultations to obtain suggestions, opinions, and responses on the planned project in accordance with applicable	



Category	ESG Items	Checklist Items	Status*		
		regulations?			
		b) Has the GCA informed the affected communities and relevant stakeholders about the project plan and the potential impacts of the project?			
		c) Has the GCA identified the affected communities and related stakeholders and prepared a Stakeholder Engagement Plan?			
Project Location	Project Location Suitability	a) Has the GCA determined the project location and conducted an alternative study to determine the project location?			
		b) Has the GCA ensured that the project location is in accordance with the National, Provincial, and Regency/City Spatial Planning?			
		c) Has the GCA identified sensitive areas (forest area/protected area/cultural area/cultural heritage, etc.) that will be affected by the project?			
		d) If the GCA has not determined the project location, by whom and when will the project location be determined?			
	Project Land Condition	a) Will the project land cross and/or border areas with high biodiversity, and has GCA conducted sufficient studies to identify impacts and plan for mitigation?			
		b) Will the project land cross and/or border a cultural heritage area, and has the GCA conducted sufficient studies to mitigate the impacts?			
		c) Will the project land cross land used by or have an impact (direct and/or indirect) on the IPs, and has the GCA conducted sufficient studies to mitigate the impacts?			
		d) Will the project land acquisition result in large levels of population displacement, and have sufficient land acquisition and resettlement studies been conducted to mitigate these impacts?			
		Land Acquisition	Project Land Acquisition Status	a) Has the GCA prepared a Land Acquisition Planning Document in accordance with Government regulations?	
				b) Has the GCA conducted public consultations with communities affected by the land acquisition process and informed them of the form of compensation to be given?	
c) Has the GCA received a Location Determination from the Governor of where the project location is located?					
d) Has GCA estimated land acquisition costs based on applicable regulations and identified sources of land funding?					
e) If the GCA has carried out land acquisition, has the GCA carried out land acquisition in accordance with applicable regulations and has the process been well documented?					
	Social Impact	a) Has the GCA identified communities affected by land acquisition, namely: (a) landowners; (b) land status; (c) the area of land affected; (d) socio-			



Category	ESG Items	Checklist Items	Status*
		economic cultural conditions; and (e) the desired form of compensation?	
		b) Has the GCA conducted a comprehensive socio-economic study to identify the socio-economic impacts of the land acquisition carried out?	
		c) Does the GCA have an adequate land acquisition plan to mitigate the social impacts that arise?	
		d) Does GCA have a program to restore the economic level of vulnerable communities affected by land acquisition?	

Tool 4. Red Flags Identification of the Project

The following feasibility evaluation (adapted from an IIGF template) can be useful during the PDF application negotiation to identify deal-breaker issues in the proposed PPP project.

Table 22. Red Flags Identification of the Project

No.	Feasibility Aspect	Feasibility Evaluation
1.	Is the project location in accordance with the national and regional spatial plans?	
2.	Are there potential social and environmental impacts from the project that cannot be mitigated?	
3.	Are there any disturbances/impacts on other activities around the project site and are there any mitigations that can be done to minimize these impacts?	
4.	Is the project site located within the location of the moratorium on new permits, as shown in the Indicative Map for the Suspension of New Permits (<i>Peta Indikatif Penundaan Izin Baru/PIPIB</i>)? Or any locations that has significant biodiversity value and categorized as critical natural habitats (see the definition in the GIIP standards)	
5.	Is there permanent resistance or disputes from the community regarding the project plan including the project location?	
6.	Does the GCA have sufficient capacity for managing the social and environmental impacts that could potentially arise from the project?	
7.	Has the environmental assessment carried out by the GCA included proposed ESG risk mitigation actions (include those required by the IBE's lenders) in line with the GCA's capabilities?	
8.	Are adequate environmental management systems and occupational safety & health management systems in place to manage project risks?	
9.	Is there significant outstanding compensation or legacy grievances associated with land acquisition conducted in anticipation of the project?	
10.	Any unresolved significant labor and community disputes?	
11.	Is Free, Prior and Informed Consent (FPIC) required by the IBE's lender, and if so, does GCA and IBE have the ability to achieve FPIC?	
12.	Does the IBE have a track record of poor ESG performance including outstanding community or worker disputes, or allegation of significant unmitigated impact on environment, biodiversity and critical habitat?	
13.	Is the project categorized as yellow/red based on the Green Taxonomy classification?	
14.	Are there still regulations that are not align with the project plan?	
15.	Are there any political conditions that do not support the project?	



No.	Feasibility Aspect	Feasibility Evaluation
16.	Is the project located in an area with a high potential for disaster risk?	
17.	Are there communities affected by the project due to land conversion and land acquisition?	
18.	Does the project have a significant impact on natural habitats and/or critical habitats?	
19.	Is there any land conversion as a result of project development that has the potential to damage the environment and biodiversity therein?	
20.	Is the project carried out within and/or directly adjacent to a Protected Area?	
21.	Is there any rejection of the project from indigenous people?	
22.	Will any relocation of indigenous peoples take place without the FPIC of the indigenous peoples?	
23.	Are there certain physical cultural heritages that need to be relocated as a result of project development?	

Tool 5. Checklist of Location Selection

Regarding the project location, there are several Protected Areas that are regulated in Government Regulation no. 22 of 2021 concerning the Implementation of Environmental Protection and Management and also mentioned in SMI's ESS Guideline document in considering the selection of the project site.

Table 23. Checklist of Location Selection

No.	Area Description	Yes/No	Description
1.	Protected forest areas		
2.	Peat areas		
3.	Water catchment areas		
4.	Coastal areas		
5.	Riverside areas		
6.	Areas around lakes/reservoirs		
7.	Wildlife reserves and marine wildlife reserves		
8.	Nature reserves and marine reserves		
9.	Mangrove coastal areas		
10.	National parks and marine national parks		
11.	Conservation forest areas with public access (taman hutan raya)		
12.	Natural tourism parks and marine nature tourism parks		
13.	Cultural and scientific conservation areas		
14.	Geological nature reserve areas		
15.	Groundwater recharge areas		
16.	Spring areas		
17.	Germplasm protection areas		
18.	Animal refuge areas		
19.	Coral reefs		
20.	Coastal conservation areas and small islands		
21.	Maritime conservation area		
22.	Marine conservation area		
23.	Corridor areas for protected species or marine biota		
24.	Indigenous People's ancestral territory		
25.	Densely populated areas with potentially significant impact on local communities including through land acquisition and health and safety risks		

Tool 6. ESG Data Sheet

To ensure that a record of all environmental, social, and governance materials is maintained on site.

Table 24. ESG Data Sheet

Overview	
Project Name:	
Project Location:	
Government Contracting Agency:	
Project Scope:	
Project Status:	
AMDAL required? (yes/no)	
AMDAL category (A/B/C)	
Environmental and Socio-economic Benefit Assessment	
[summary of potential environmental and socio-economic benefit according to SDG and NDC]	
Environmental and Social Risk Assessment	
Environmental Risk Assessment	
[summary of material environmental risks]	
Social Risk Assessment	
[summary of material social risks]	
Public Consultation and Stakeholder Engagement	
[summary of public consultation and stakeholder engagement]	
Other Relevant Considerations	
[for example: disaster risk]	
Next Actions	
[list of pending actions]	

Tool 7. Checklist the ESG Scope of PDF Support

How to use this tool:

This checklist could be used as a reference by MoF and GCA in negotiating the ESG scope under the PDF support. Please note that the MoF will not assess a "stop or go" whether GCA wants to apply an ESG or not in the PDF process. During the high-level assessment of ESG, MoF can identify what ESG components are needed to improve by looking at the documents submitted by GCA.

The following table/checklist has been prepared based on the categories provided under the GIIP (Good International Industrial Practices) and is designed to be a guide to the main categories that must be investigated by the consultant. It is assumed that the appointed consultants will be qualified and understand the detail, SOPs and reference documents behind each of the Table/checklist headings. This is designed to be used mainly at early stages of the project planning, during the pre-construction stage, and during the EIA development process.

All the below activities should be conducted in the preparation stage and feed into the FBC and AMDAL documents. Assessment and Management of Environmental, Social, and Governance Risks and Impacts must also be required from bidders during the transaction stage. Please refer to Activity 11 (Review and Deliver the PDF Support) by PDF Implementer and Activity 12 (Review and Deliver the PDF Support) by MoF under Sub section 2.1 of this document.

Table 25. Checklist the ESG Scope of PDF Support

Aspect		Yes / No / Not Applicable	Remark
Assessment and Management of Environmental, Social, and Governance Risks and Impacts to meet EIA requirements, GIIP, ESS WB, and as best practice			
1	Grievance mechanism		
2	Project disclosure		
3	Stakeholder consultation		
4	Environmental and social management system		
Resource Efficiency and Pollution Prevention and Management			
5	Resources efficiency application		
6	Greenhouse gasses inventory		
7	Management of pesticides		
Community Health and Safety			
8	Risks and impacts to the health and safety of local communities (including but not limited to people who may be affected by land acquisition)		
9	Infrastructure and equipment safety		
10	Hazardous materials management and safety		
11	Environmental and natural resources issues		
12	Ecosystem services		
13	Community exposure to disease		
Land Acquisition, Restriction on Land Use and Involuntary Resettlement			



	Aspect	Yes / No / Not Applicable	Remark
14	Land acquisition and resettlement		
15	Physical displacement		
16	Economic displacement		
Biodiversity Conservation and Sustainable Management of Living Natural Resources			
17	Habitat classification process and extent		
18	Legally protected species		
19	Legally protected areas		
20	Invasive alien species		
Indigenous People			
21	Categorisation and presence of Indigenous Peoples (IP)		
22	Impacts on traditional or customary lands under use		
23	Relocation of IP from lands and natural resources subject to traditional ownership or customary use		
24	Meaningful and inclusive consultation with IP communities and their consent(FPIC, if so required by the IBE's Lender)		
Cultural Heritage			
25	Presence of items of cultural heritage		
26	Changed community access		
27	Removal of replicable cultural heritage		
28	Removal of non-replicable cultural heritage		
29	Critical cultural heritage		
30	Project's use of cultural heritage		
Stakeholders Engagement and Information's Disclosure			
31	Stakeholder identification		
32	Stakeholder mapping		
33	Stakeholder Engagement Plan (SEP)		
Gender Equality			
34	Gender-inclusive stakeholder engagement		
35	Identification of gender and social risks and challenges		
36	Identification of gender and social mitigation and opportunities		

Tool 8. Checklist to Review the PDF Outputs

How to use this tool:

This checklist could be used as a reference by PDF Implementer – and later MoF – in reviewing the PDF Outputs. Please refer to Activity 11 (Review and Deliver the PDF Support) by PDF Implementer and Activity 12 (Review and Deliver the PDF Support) by MoF under Sub section 2.1 of this document.

Table 26. Checklist to Review the PDF Outputs

Aspect		Yes / No / Not Applicable	Remark
PDF Scope of Work			
<i>(Note to the reviewer: Please refer to the completed Tool 6 that should be attached to the PDF Agreement. Please note in the Remark column whether the activities are included in the FBC or a separate document.)</i>			
1	Assessment and Management of Environmental and Social Risks and Impacts		
2	Community Health and Safety		
3	Land Acquisition, Restriction on Land Use and Involuntary Resettlement		
4	Biodiversity Conservation and Sustainable Management of Living Natural Resources		
5	Indigenous People		
6	Cultural Heritage		
7	Stakeholders Engagement and Information's Disclosure		
8	Gender Equality		
Project Preparation: FBC			
1	Does the FBC include thorough assessment of the Project's socio-economic benefits? <i>(Note to the reviewer: Please refer to Tool 2. Presenting the Potential Socio-economic Benefits of the Proposed Infrastructure Project under SDG. Please note any identified gaps in the remark column.)</i>		
2	Does the FBC include thorough assessment of the Project's ESG impacts? <i>(Note to the reviewer: Please refer to Tool 1. ESG Risk Register. The FBC should summarize findings from Amdal, including cumulative impact, and highlight any gaps. If there is no previous Environmental Impact Assessment, the FBC should highlight material risks. Please note any identified gaps/discrepancies in the FBC in the remark column.)</i>		
3	Does the FBC include mitigation actions to		



	Aspect	Yes / No / Not Applicable	Remark
	manage the Project's ESG impacts? <i>(Note to the reviewer: Please refer to Tool 1. ESG Risk Register. The FBC should summarize findings from Amdal and highlight any gaps. If there is no previous Environmental Impact Assessment, the FBC should highlight material risks. Please note any identified gaps/discrepancies in the FBC in the remark column.)</i>		
4	Does the FBC include an assessment and mitigation of legacy land acquisition issues, impact on biodiversity, critical habitat and GHG emission, pollution prevention and control, health and safety of workers and local communities, cumulative impact, community consent (incl. FPIC from IP communities if relevant), and other relevant ESG risks that may be required by the IBE's lender?		
Procurement: RFP document			
1	Does the RFP include the following minimum qualifying criteria? <ul style="list-style-type: none"> • Bidders must provide evidence for sufficient knowledge and experience to identify and assess ESG risks • Bidders must demonstrate sufficient financial and technical capacity to mitigate ESG risks • Bidders must provide evidence that their financial model is inclusive of ESG costs applicable for the project • Bidders must submit a draft ESMP and draft disaster prevention and response plan 		
Transaction: PPP Agreement <i>(Note to the Reviewer: please refer to Tool 19. Proposed Inputs to Contractual Documents)</i>			
1	Definition		
2	Construction		
3	Independent Certifiers		
4	Modifications		
5	Environment Management System		
6	Environmental Damage Compensation		
7	Performance Indicators		
8	Financial Model		

Tool 9. Project ESG Categorisation

How to use this tool:

- GCA can use this tool:
 - early in project preparation stage to understand the overall project risk level and the extent of effort needed to mitigate the risk
- MoF can use this tool:
 - during PDF application review, to understand the overall project risk level and the extent of support to provide to GCA
- PDF Implementers can use this tool:
 - during PDF agreement preparation: to understand the overall project risk level and the extent of support to provide to GCA

The Government of Indonesia currently does not have a standard for categorisation of a project based on ESG risks. This tool has been prepared based on good international industry practice as provided by the World Bank and ADB.

Proposed projects must be screened according to type, location, scale and sensitivity and the nature and magnitude of their potential **environmental impacts** including direct, indirect, induced and cumulative impacts. Depending on the categorisation, a full Environmental Impact Assessment or an Initial Environmental Examination (both including Environmental Management Plan) will be required.

For projects involving **involuntary resettlement** (involuntary resettlement impacts are considered significant if 200 or more persons will be physically displaced from home or lose 10% or more of their productive or income-generating assets), a Resettlement Plan (including assessment of social impacts) will be required that is commensurate with the extent and degree of the impacts. This includes legacy land acquisition that have been conducted in anticipation of the PPP project, if relevant.

For projects that may be implemented where **indigenous peoples** are present, a meaningful consultation will be conducted that is culturally appropriate and gender and generationally inclusive, to inform them about the potential benefit and the impact of the PPP project. The impacts will be determined based on the magnitude of impacts (customary rights of use and access to land and natural resources, socioeconomic status, cultural and communal integrity, health education livelihood and social security status and the recognition of indigenous knowledge) and the level of vulnerability of the affected Indigenous Peoples community. An Indigenous Peoples Plan (including assessment of social impacts) will be required that is commensurate with the extent and degree of the impacts. A Free, Prior and Informed Consent (FPIC) may need to be sought from IP community if so required by the IBE's lender.

For project involving impacts on **biodiversity and natural habitats**, when the adverse impact is unavoidable, it requires to implement measures to minimize adverse impacts and restore biodiversity. The Biodiversity Critical Habitat Screening, Biodiversity Action Plan, Biodiversity Management Plan, and Biodiversity Offset Strategy/Plan are required that is commensurate with the extent and degree of the impacts.

For project involving impacts on **cultural heritage**, when the adverse impact is unavoidable, it requires to identify and implement measures to address impacts on cultural heritage. Consultation with affected communities is required to identify the cultural heritage and to reveal the presence of unexplored archaeological material. Depending on the nature and the scale of the risks and impacts of the project, Cultural Heritage Management Plan (CHMP), a standalone document is required to be developed, or it can be part of the Environmental and Social Commitment Plan (ESCP).

Table 27. Project ESG Categorisation

Risk Level	Funding Proposals	ESG Compliance Requirements
High -	A proposed project with potentially	<ul style="list-style-type: none"> • National Regulations (AMDAL)



Risk Level	Funding Proposals	ESG Compliance Requirements
<p>Category A</p>	<p>significant adverse environmental and/or social risks and/or impacts that are sensitive, diverse or unprecedented.</p> <p>Category A projects may have impacts that are irreversible (e.g., lead to loss of a major natural habitat), will affect vulnerable groups or ethnic minorities, involve involuntary displacement or resettlement, or affect significant cultural heritage sites.</p> <p>These impacts may manifest in an area broader than the sites or facilities subject to physical works.</p>	<p>Category A, see below explanation)</p> <ul style="list-style-type: none"> • International Standards • Full EIA and EMP required (Environmental Management Plan RKL Rencana Pengelolaan Lingkungan and Environmental Monitoring Plan Rencana Pemantauan Lingkungan) to obtain Environmental Feasibility Decision. • Land Acquisition and Resettlement Action Plan (including Social Impact Assessment and possibly Resettlement Framework Document), and Livelihood Restoration Plan as required on project basis • IP Screening, IPDP (including Social Impact Assessment and possibly Indigenous Peoples Plan Framework), and FPIC Strategy as required on a project basis • Biodiversity Critical Habitat Screening, Biodiversity Action Plan, Biodiversity Management Plan, and Biodiversity Offset Strategy/Plan as required on a project basis • CHMP
<p>Medium - Category B</p>	<p>A proposed project with potentially limited adverse environmental and/or social risks and/or impacts.</p> <p>Category B projects are likely to have impacts that are reversible, and where mitigation measures can be designed and implemented more readily than for Category A projects.</p> <p>The impacts are usually confined to the project site.</p>	<ul style="list-style-type: none"> • National Regulations (AMDAL Category B, see below explanation) • International Standards • IEE and EMP required (UKL-UPL document with an Environmental Mitigation Program and Monitoring Programs required to obtain Environmental Feasibility Decision) • Land Acquisition and Resettlement Action Plan (abbreviated Resettlement Action Plan document including a Social

Risk Level	Funding Proposals	ESG Compliance Requirements
		<p>Impact Assessment and possibly a Resettlement Framework Document), and Livelihood Restoration Plan as required on project basis</p> <ul style="list-style-type: none"> • IP Screening, IPDP (including Social Impact Assessment and possibly Indigenous Peoples Plan Framework), and FPIC Strategy as required on project basis • Biodiversity Critical Habitat Screening, Biodiversity Action Plan, Biodiversity Management Plan, and Biodiversity Offset Strategy/Plan as required on a project basis • CHMP
Low - Category C	A proposed project with minimal or no adverse environmental and/or social risks and/or impacts. No involuntary resettlement impacts.	<ul style="list-style-type: none"> • National Regulations (AMDAL Category C, see below explanation) • Due diligence reports require an Environmental Management Statement (SPPL – <i>Surat Pernyataan Pengelolaan Lingkungan</i>)

Categorization Type of Business Plans and/or Activities Requiring Environmental Impact Analysis (AMDAL) Based on Minister of Environment and Forestry Regulations No. 4/2021

Table 28. AMDAL Categorisation and Requirements

AMDAL Category	Requirements
Category A	AMDAL Category A; with the scope of a business plan and/or very complex activities, located in a very sensitive area, and require very complex environmental baseline data. Business and/or activity plan has a cumulative score scale of > 9 (greater than nine).
Category B	AMDAL Category B; which is quite complex in scope for the business and/or activity plan, located in quite a sensitive area, and requires quite complex environmental baseline data. Business and/or activity plan has a cumulative score scale of 6 – 9 (six to nine).
Category C	AMDAL Category C; which is not complex in scope for the business and/or activity plan, not located in a sensitive area, and does not require complex environmental baseline data. Business and/or activity plan has a cumulative score scale of < 6 (less than six).

Table 29. Project Risk Categorisation based on IIGF Environmental and Social Management Framework

Category	Risk	Type of Projects
High	<ul style="list-style-type: none"> Projects that will potentially cause significant negative impacts on sensitive environments; where the potential environmental impacts are long term Project is included in the list of activities that require AMDAL Projects that will potentially cause significant impacts related to sensitive social issues Project requires land acquisition for public interest of > 5 Ha Projects that will potentially cause significant impacts on OHS 	<ul style="list-style-type: none"> Large-scale dams and reservoirs Development of new industrial area Oil and gas industry Development of ports, airports, rail networks, train stations Construction of power plants and transmission Highway construction Development of tourism areas Construction of residential areas/flats Construction of health facilities (hospitals) Construction of fossil fuel-based power plants
Medium	<ul style="list-style-type: none"> Projects that will potentially cause negative impacts on the local environment at the project site; where the impact is temporary and short term Project is not included in the list of activities that require AMDAL Project requires land acquisition for public interest of < 5 Ha Projects that will potentially cause negative impacts related to local social issues at the project site Projects that will potentially cause impact on OHS aspects, but not significant 	<ul style="list-style-type: none"> Telecommunications Construction of renewable energy-based power plants Small-scale <i>Sistem Penyediaan Air Minum</i> (SPAM) development New project in industrial area Construction of wastewater facilities
Low	<ul style="list-style-type: none"> Projects that have minimal environmental, social, and governance impacts at the project site 	<ul style="list-style-type: none"> Road construction and/or road revitalization on a small scale

Table 30. Scale grouping of the business and/or activity plan based on the value scale calculation:

Description	Interest Scale	Value Scale
Complexity of the business and/or activity plan		
<ul style="list-style-type: none"> Complexity of Main and Supporting Activities 	Very Complex	3
	Quite Complex	2
	Not Complex	1
Impact of the business and/or activity plan on the environment		
<ul style="list-style-type: none"> Impact of the business and/or activity to the environment 	Very High Important Impact (<i>Berdampak Sangat Penting</i>)	3
	Medium Important Impact (<i>Berdampak Lebih Penting</i>)	2
	Low Important Impact (<i>Berdampak Penting</i>)	1
Sensitivity of the business and/or activity plan location		
<ul style="list-style-type: none"> Location of the planned business and/or main and supporting activities 	Inside the conservation area	3
	Inside the protected area; outside the conservation area	2
	Outside the protected area	1



Description	Interest Scale	Value Scale
Status of Environmental Carrying Capacity (<i>Kondisi Daya Dukung dan Daya Tampung Lingkungan Hidup "D3TLH"</i>) from the location of the business and/or activity plan		
▪ Condition of the Environmental Carrying Capacity (<i>D3TLH</i>)	Very high potential impact	3
	Moderate potential impact	2
	Low potential impact	1

Tool 10. Gender Considerations

How to use this tool:

- GCA can use this tool:
 - as a reference in the development of gender assessment using several methodologies such as gender analysis and GAP
 - during project planning and preparation, to include the development of a gender assessment in the Pre-FS and OBC/FBC
 - to ensure the application of gender requirements in project transaction and implementation stages.
- MoF can use this tool:
 - during PDF application review, to identify gender requirements that should be addressed under the PDF;
 - to monitor gender aspects compliance in the preparation, transaction, and implementation stages
- PDF Implementers can use this tool:
 - As guidance in supporting the MoF in the development of gender assessment
 - As guidance to discuss and develop proposed gender activities with MoF
- PDF Consultants can use this tool:
 - As guidance in supporting the PDF and MoF to confirm gender activities in the ToR
- IIGF (as guarantee provider) can use this tool:
 - As guidance in conducting ESG assessment and allocate gender risks and identify gender monitoring requirements
 - As guidance to include gender monitoring requirements in the Guarantee Agreement, Recourse Agreement, and PPP Agreement

Gender mainstreaming is the concept of bringing gender issues into any planned action, including legislation, policies, or programmes. Gender mainstreaming is not only about increasing the meaningful participation of women, but it is also bringing the experience, knowledge, and interests of women and men on the development agenda. Infrastructure is one of the areas that largely requires gender mainstreaming, as it is highly related to development, and directly contributes to achieving Goal 5 and 9 of the Sustainable Development Goals.¹⁰ In Indonesia, these goals are adopted under Presidential Regulation No. 59 Year 2017 regarding the Implementation of Achieving Sustainable Development Goals. The decree acts as a form of commitment for the SDG to be implemented with the participation of all parties. Furthermore, the National Mid-term Development Plan (Rencana Pembangunan Jangka Menengah Nasional, or RPJMN) spanning the period from 2020-2024 particularly enlists gender equality as one of the six aspects that should be mainstreamed into Indonesia's overall development strategy, along with good governance, sustainable development, climate change, sociocultural capital, and digital transformation.

In the various infrastructure sectors, particularly in Public Private Partnerships (PPPs), integrating gender equality concerns is of an importance. There is an increasing recognition by private-sector infrastructure operators to cater more to women as users, improve the gender balance, source materials and service from more women-owned enterprises, and increase the number of women in the workforce. Therefore, this section will outline the procedures and criteria in implementing gender in the planning, development, and operation of a project.

Gender Criteria

1. Project Planning and Preparation

At this stage, GCA, with the support of Bappenas and a gender expert, must include the development of a gender assessment in the Pre-FS and OBC/FBC. Including the following methods or tools as part of the project-planning process can help GCA understand how a project might impact women and men differently. This could be in terms of possible benefits and uses women and men could derive

¹⁰ Goal 5: Achieve gender equality and empower all women and girls. Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

from the infrastructure project and resulting service, or of possible risks they could face. Some of the methods are as follows:

- a. **Gender analysis:** A socioeconomic examination of gender relations that gives information about the various conditions of men and women, as well as the many consequences that projects may have on them. Four gender equality dimensions: women's human capital, women's economic empowerment, women's voice and rights, and gender capacity building should be assessed. Several outcomes from the analysis are:¹¹ identifying gender-specific priorities, needs, and usage of infrastructure; designing facilities and services which are responsive to users' needs by differentiating needs based on gender and other social factors; challenging assumptions and stereotypes; and designing strategies to enhance positive outcomes and remedial measures to address negative impacts.
- b. **Collection of Sex-Disaggregated Data:** Women's and men's data were collected and tallied separately. This enables the measurement of gender inequalities in many social and economic factors associated to a project.
- c. **Gender-sensitive stakeholder consultation:** Public meetings held with women and men directly affected by an infrastructure project. The consultation needs to pay attention to the following in order for the consultation to be successful in achieving its objectives:¹²
 - i. Include an equal split of men and women from different age groups, in surveys, interviews, meetings and consultations, and sex-disaggregated data;
 - ii. Include female members in survey teams, community liaison staff;
 - iii. Ensure representation and presence of women from different socioeconomic groups and women's rights organisations in all meetings and consultations;
 - iv. Ensure that meetings and consultations are organized at a time when women find it convenient to attend, so that maximum participation can be ensured; consider offering childcare during meetings;
 - v. Consider separate meetings and consultations for women; and
 - vi. Raise priority issues for women.
- d. **Gender Action Plan (GAP):** Once the gender analysis has been carried out, there should be actions that adequately support the gender activities or objectives targeted as part of the project process. The GAP outlines the project's goals and initiatives for narrowing the gender gap in results for both men and women. These activities could be part of a project's core development, construction, and operations, or they could be part of the project's social engagement perspective, aimed to deliver the greatest benefit to the community. Gender indicators in the plan are also important to measure and compare the situation of women and men over time, both quantitatively and qualitatively. Furthermore, sufficient budget allocations must also be implemented to ensure that the GAP are carried out adequately.
- e. **Gender-Sensitive Design and Operations:** Gender analysis undertaken throughout the project planning stage can assist influence the design of the infrastructure project so that it serves the demands of both men and women equitably.

2. Project Transaction

- a. **Gender Requirements in the RFP:** Procurement procedures should require bidders to submit and comply to gender-related requirements within the RFP. This could be the adoption of core labour standards, such as ensuring female labour participation, commitment to anti-sexual harassment principle, and gender-responsive occupational health and safety standards.
- b. **Gender Covenants in PPP Agreement:** The PPP Agreement that will be signed by the IBE must include gender covenants that is required to be complied. Several commitments that can be included are as follows:

¹¹ Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee's Network on Gender Equality (2004) in *Ibid*.

¹² IFC (2007) and Asian Development Bank (2003) in *Ibid*.

- i. Commitment to apply core labour standards, as agreed under the RFP
- ii. Commitment to comply with the provisions of GAP
- iii. Establishment of a grievance redress mechanism that is gender responsive and socially inclusive to receive and facilitate the resolution of concerns raised by both staff and community members about the project's performance

3. Project Implementation

Throughout the project implementation, the GCA must ensure that the gender commitments as outlined by the GAP and the PPP Agreement are carried out through thorough monitoring and evaluation.

Gender Monitoring: Systematic and objective assessment of the design and planning (objectives, results pursued, and activities planned), implementation, and results of an ongoing project from a gender equality perspective

Gender Impact Assessment: An ex-ante examination, analysis, or assessment of a project to determine whether it had a positive, negative, or neutral impact on the condition of gender equality.

Case Studies

Geothermal Power Generation Project

Funded by the Asian Development Bank

The Geothermal Power Plant Project was jointly funded by the Asian Development Bank (ADB) of USD 300 million, the Clean Technology Fund (CTF) (USD 35 million) and PT Geo Dipa Energi (GDE) (USD 134 million). The implementation is carried out by GDE, a State-Owned Enterprise engaged in geothermal.

The loan is used to support the construction and commissioning of geothermal power plants with a capacity of 110 MW: PLTP 55 MW Dieng Unit 2 (Central Java) and 55 MW PLTP Patuha Unit 2 (West Java). The project has reached financial closure, and its financing agreement is effective on September 21, 2020, with the estimated loan closing when the project operates on December 31, 2024.

Gender mainstreaming activities include the development of:

1. **Gender and Social Inclusion Assessment**, through stakeholder consultation to identify specific risks, mitigations, and opportunities faced by people affected by gender-affected projects, their socio-economic circumstances, and so on.
2. **Gender Action Plan (GAP)** to ensure that project activities are specifically gender responsive in line with the Gender Assessment and Social Inclusion Assessment.

Gender perspectives are integrated into employment, corporate capacity building, and community development of the PT Geo Dipa Energi Power Plant Project as outlined below:

Employment

In the employment sector, to increase women's participation in the project, a target for women's employment was set. Further, to guarantee gender-perspective safety, the project established Basic Employment Standards in offer documents and contracts, provided Personal Protective Equipment (PPE) that considers the needs of women and conducted supervision, conducted training on sexual exploitation, violence, and harassment and formed a Gender-responsive grievance committee.

Corporate Capacity Building

Gender-sensitive company capacity building was carried out with the following provisions: gender-inclusive and gender-segregated HR Development Plan, employee training on gender-sensitive and social exclusion projects, and project-related contract management, gender-inclusive public consultation on monitoring plans and environmental management, including public health and safety.

Community Development

Gender and inclusion were mainstreamed within the community development programs through the preparation of a Gender-responsive Communication Strategy SOP at the project site which regulates the implementation of women's participation in community meetings and women exclusive meetings. In addition to this, consultations were conducted on the gender-responsive geothermal safety awareness and emergency preparedness in the project environment, including a minimum participation of women. as well as annual community-level consultations on the livelihoods on project sites. From this, a gender inclusive needs assessment of the local community's daily living practices was developed along with training for employees to facilitate the assessment and strategies were formed to maximize opportunities for women and youth for example through micro-enterprises run by women.

National Urban Transport Support Program in Bandung (BBMA)

Funded by the World Bank

The World Bank, through the Indonesia Sustainable Urbanization (IDSUN) Multi-Donor Trust Fund, provides technical assistance to the Government of Indonesia (GOI) to develop a suite of policy, advisory, financing, and program solutions to meet the challenge of sustainable urbanization. One sub-task is to lay the basis for the creation of the Indonesia Mass Transit Program (IMTP) in support of the Ministry of National Development Planning/National Development Planning Agency (Bappenas). The program aims to identify best practices in project preparation methodologies for a mass transit system for the Bandung Basin Metropolitan Area (BBMA).

Gender Mainstreaming activities for this project include the development of:

1. Gender Equality and Social Inclusion (GESI) Assessment

The GESI Assessment outlined the overview of mobility in the BBMA and explores transportation equity considerations as pertain to the proposed mass transit systems. It aims to (i) address the practical needs and vulnerabilities of women and marginalized groups associated with the implementation and operation of mass transit systems in the BBMA to ensure that this intervention will not harm or worsen conditions of gender inequality and discrimination; and (ii) identifying opportunities to empower women and marginalized groups, including economic empowerment through works and income generation opportunities. The GESI Assessment was developed through various stakeholder consultations involving different women groups related to the transport sector, such as Women's Business Association, and women working as drivers, bus station staff, and entrepreneurs. Furthermore, consultations also include government institutions (West Java Transportation Agency) and local NGOs.

2. Gender Equality and Social Inclusion Action Plan (GESI-AP)

The GESI-AP provided the necessary GESI actions in each stage of the project stages (design, construction, implementation, and operation). Several activities that are outlined in the GESI-AP are as follows:

a. GESI Representation

In increasing women and marginalized group's representation in the transportation sector, a target was set for women's recruitment (20%), women's participation in training (30%), as well as people with disabilities recruitment (5%). Furthermore, compliance to core labour standards, such as equal pay, provision of childcare services, and gender-responsive grievance redress mechanism are also applied to ensure an adequate working environment for women and marginalized groups.

b. Infrastructure Design

The planning and design of the project development must ensure that the design of the infrastructure will be gender-responsive, with the provision of CCTV, separate chairs, nursery or lactation rooms in stations, etc. Furthermore, the infrastructure must also be disability-friendly, through the provision of ramps, toilets for persons with disability, stairs with handrails, adequate lighting, and clear signs.

Tool 11. Checklist of Project Documents

How to use the tool:

- GCA can use this tool:
 - early in project preparation stage to understand if the documents have been made available to comply with national and international standard
- MoF can use this tool:
 - To understand if the documents have been made available and comply with national and international standard prior financial closing.
- IIGF (as guarantee provider) can use this tool:
 - To understand if the documents have been made available and comply with national and international standard prior financial closing.

In addition, the following table is a checklist of documents that to be used by project proponent, bidders or investor, lenders to understand the compliance of a project with national and international standards. The tool is normally used before the construction period or before the investor decides to invest in a project. Project information in the document available is the main thing for investors to understand. The problem that often occurs is the bidder or investor doesn't have access or information related to documents (study or risk management). Based on the available data, the bidder or investor can prepare a gap assessment between the national and the international standard. The document will also help investors expedite the process of financing projects.

Table 31. Checklist of Project Documents

No.	Document	Yes / No / Not Applicable	Remark
1	AMDAL & RKL-RPL /UKL-UPL		
2	Environmental Social Impact Assessment (ESIA)		
3	Environmental Social Management Plan (ESMP)		
4	Environmental Social Management System (ESMS)		
5	Technical Approval ("PERTEK"): <ul style="list-style-type: none"> a. Waste Water, b. Emissions, c. Hazardous Management, d. Traffic Impact Analysis 		
6	HSE Management Plan : <ul style="list-style-type: none"> a. HSE Policy b. Org. Chart, P2K3 (Emergency Response Plan, Emergency Contact) c. SOP (Include Form) d. HIRADC/JHHA/JHA/JSA e. CV & Certificate 		
7	Grievance Mechanism		
8	Stakeholder Engagement Report <ul style="list-style-type: none"> a. Stakeholder Engagement Plan b. Community Health and Safety Plan 		
9	Land Acquisition and Resettlement: <ul style="list-style-type: none"> a. Land Acquisition and Resettlement Action Plan b. Livelihood Restoration Plan c. Corrective Action Plan (if necessary to address legacy land acquisition) 		
10	Biodiversity: <ul style="list-style-type: none"> a. Habitat Screening b. Biodiversity Management Plan c. Biodiversity Offset Strategy 		
11	Indigenous People : <ul style="list-style-type: none"> a. Indigenous Peoples Screening b. Indigenous Peoples Development Plan 		



No.	Document	Yes / No / Not Applicable	Remark
	c. Free Prior and Informed Consent Strategy		
12	Cultural Heritage: a. Cultural Heritage Assessment b. Change Finds Procedure		

Tool 12. Checklist of Activities during FBC Preparation

How to use the tool:

- GCA can use this tool:
 - early in project preparation stage in terms of what can be prepared/done based on the indicators below
- MoF can use this tool:
 - To understand if the documents have been made available and comply with national standard prior to PPP transaction stage.

The tool below can be used during the FBC preparation. With this checklist, MoF can easily assess the GCA's compliance with the standards applicable to FBC.

Table 32. Checklist of Activities during FBC Preparation

No	Indicators	Present		Absent	Page(s)	Description
		Fair	Flaw			
Environmental Analysis						
The specified PPP project must have an environmental study in the form of:		AMDAL/UKL-UPL				
1	Environmental studies for PPPs that require AMDAL					
a)	Determine the potential significant impacts that will arise from the PPP					
b)	Determine the classification of PPP categories in estimating the impact that will be caused to the environment in accordance with the provisions of the legislation					
c)	Determine capacity building and training programs to implement environmental protection programs, if necessary					
d)	Estimating costs incurred for permits related to environmental matters					
e)	Prepare strategy and schedules to implement environmental compliance programs and carry out records for environmental approval					
2	Environmental studies for PPPs that require UKL-UPL					
a)	Fill in the identity of the initiator, namely GCA and/or IBE					
b)	Provide summary of business/activity plans					
c)	Provide summary of environmental impacts					
d)	Provide summary of environmental management and monitoring programs					
Social Analysis						
1	Determine the social impact of PPP on the community and prepare a mitigation plan					
2	Determine the agency responsible for land acquisition and resettlement					
3	Determine the parties to be affected by the project and compensation to be provided, if necessary					
4	Estimate the agency's capacity to pay compensation and implement resettlement plans, where necessary					
5	Determine training plans in order to implement social protection programs to increase the capacity of affected communities					
6	Land acquisition and resettlement plan					
7	Assess legacy land acquisition issues, and Corrective Action Plan that may need to be developed to fill the gap					
8	Assess health and safety risks for workers including through Hazard Identification and Risk Assessment and Control (HIRAC)					
9	Assess health and safety risks to local communities including traffic safety, pollution and contamination, Gender Based Violence, emergency response					
10	Assess if any significant cultural heritage is affected by the project					
Additional assessments that may need to be conducted to meet the lender's ESG requirements						
1	Develop Environmental and Social Impact Assessment (ESIA) Study					



Tool 13. ESG Corrective Action Plan

How to use the tool:

The corrective action plan is the result of the project's due diligence/audit. Corrective action plan (CAP) can be used by GCA/proponents/lenders during the pre-construction and construction stages to determine potential environmental, social, and governance risks in the context of a transaction to an acceptable level for financial institutions (following national and international standards). IIGF can also use this CAP as one of the considerations during guarantee application review.

The purpose of a CAP is to mitigate potential environmental, social, and governance risk in context of a transaction to acceptable level for financial institutional. The CAP document describing the environmental, social, and governance mitigation, monitoring and organisational measures to be implemented during stage of project. National regulations and international standards are used as a reference to develop CAP documents. A following table is a tool that can be used to compile a CAP document. The table uses an example of a project that will fund by Word Bank and uses the ESS WB standard reference in identifying potential impacts. The outcome form this corrective action table is to be later incorporated into the Environmental and Social Commitment Plan (ESCP) both for the GCA or the IBE.

Table 33. ESG Corrective Action Plan

No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
ESS 1 : Assessment and Management of Environmental and Social Risks and Impacts							
1	[please put in references to WB requirements/other references. For example as the following]	[Please put in project status regarding this ESS and any relevant issue, for example as the following]	[Please put in the corrective actions planned or implemented]	[please put in the result of corrective actions, this could be SOPs or procedures]	[Low/medium/high – see below]	[Please put in the position of the person/team responsible for this action]	[please put in the deadline for completing the corrective actions]
2	Environmental and Social Management Plan (ESMP): Does Project have adequate systems and approaches to identify, assess and manage all relevant social and environmental risks and impacts of its businesses and operations in particular the issues identified in WB ESS/IFC PS/ ADB SPS, and those required under national laws.	There is no single point of reference system and approach to the identification, assessment, and management of all relevant social and environmental risks. the project undertakes this on a largely ad-hoc and as-needs basis, for example: social programmes such as CSR and engagement is conducted annually to maintain good relations with surrounding	Project is to establish an environmental and social management system (ESMS) embedded at corporate level and suitable for managing all risks and impacts associated with current and future activities down to facility level. The ESMS is to be based on international good practice requirements including those specific to the sector,	The ESMS is to be based on international good practice requirements, defining roles and responsibilities from corporate to asset level, structures for implementation, objectives and targets, mapping to supporting management plans and procedures, and monitoring requirements. It is also to capture: <ul style="list-style-type: none"> Risk Identification and assessment (Job Safety 	High	Project proponent	Before lender (WB/ADB/IIF) disbursement



No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
		<p>community however specific need assessment for appropriate program planning or monitoring evaluation has not yet in place.</p> <p>Meanwhile, environmental, social and community health and safety risks associated with project facilities are included within the regulatory EIA (known as UKL-UPL), however these assessments generally contain limited baseline information and thus limited information to serve as a basis to undertake an appropriate impact assessment. The UKL-UPL also does not capture construction impacts and associated management, mitigation and monitoring measures, due to it being determined that the construction stage, being relatively basic civil construction, is low impact and therefore specific measures and reporting are not required.</p> <p>Management and Protection of Environment Permit (Izin Pengelolaan dan Perlindungan Lingkungan Hidup/PPLH) for Wastewater Discharge</p>	<p>defining roles and responsibilities from corporate to asset level, structures for implementation, objectives and targets, mapping to supporting management plans and procedures, and monitoring requirements.</p>	<p>Analysis)</p> <ul style="list-style-type: none"> • Health, Safety, and Environmental (HSE) plan and procedure • Working area arrangement (e.g., work permit) • Medical check-up, facility, and first aids equipment • Sanitation, drinking water, and basecamp housekeeping • Pollution Prevention plan (including spill prevention program, hazardous material management and waste management) • Mechanism to screen, categorize, assess ESG impacts and manage identified ESG risks as required by WB ESS • Risk and impacts register, including all social, environmental, community health and safety, and regulatory risks and impacts associated with Project existing and future operations • Stakeholder engagement procedure and engagement log • Community 			



No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
		Permit (Izin Pembuangan Limbah Cair/IPLC) and Temporary Hazardous Waste Storage Permit (Izin TPS Limbah B3) has been obtained following requirement as stated in UKL-UPL document.		Development/Corporate Social Responsibility policy <ul style="list-style-type: none"> External grievance mechanism and grievance register for both internal and external grievance mechanism Regular monitoring and evaluation of implementation of ESMS and its implementing procedures (include the above recommendations) to ensure consistency across assets Reporting mechanisms including internal reporting from facility to corporate level, and external monitoring to authorities and annual ESG reporting to lender. 			
ESS 2 : Labor and Working Conditions							
1	Occupational health and safety system processes	Project already has various SOPs regarding occupational health and safety systems. However, this SOPs has not been integrated into a document (HSE management system). The standard operational procedures related to occupational health and safety are as follows: <ul style="list-style-type: none"> SOP of working at height 	<ol style="list-style-type: none"> Develop an integrated H&S Management System Prepare a quarterly report on HSE performance 	<ol style="list-style-type: none"> Integrated H&S Management System HSE performance Monthly Report 	Medium	Project proponent	Six months after the Loan Agreement.



No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
		<ul style="list-style-type: none">• SOP of communication at emergency situation• SOP of occupational incident reporting SOP of energy efficiency <ul style="list-style-type: none">• SOP of ergonomic SOP of electricity safety <ul style="list-style-type: none">• SOP of electricity monitoring and maintenance• SOP of fire suppression at the hospital• SOP of directing visitors to the muster point SOP of rotating equipment <ul style="list-style-type: none">• SOP of hazardous waste identification• SOP of hazardous waste labelling• SOP of hazardous waste handling• SOP of hazardous waste management Project also conducted several indoor monitoring for microbiology (air quality and swab test), noises, and illumination to ensure the workplace is free from cross					



No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
		<p>contamination and comply the standard of noise and illumination in a workplace.</p> <p>In addition to periodic monitoring as written down on UKL-UPL document, the hospital also equipped with clean room adjacent to Operation Room and HVAC system which can prevent pathogen transfer.</p> <p>Regarding the covid-19 handling procedure, Project does not accept covid-19 patients. Before a patient is admitted to the project, the patient will have a PCR swab checked first and if the result is positive for covid-19, project will not accept the patient. Preventive procedures are also carried out by the project by measuring body temperature when entering the hospital, providing hand sanitizers in the body temperature measurement area and also in other areas such as the front of the ward, maintaining distance by placing a cross on the chair.</p> <p>Currently, Projects in the construction stage with the target of completion in December 2021. The Project contractor for piling construction is PT</p>					



No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
		<p>XX. Information provided by PT XX during the due diligence is considered limited. It is informed that PT XX has weekly project K3 reports, APAR monitoring reports, body harnesses, and first aid kits, statements that have followed K3 induction, attendance lists for toolbox meetings, K3 minutes of meeting, results of cleanliness inspections of project areas, and the results of the general inspection of the project. PT XX also has a license to use lift and transport aircraft for excavators and crawler cranes. However, no health and safety management system or standard operating procedures were available.</p> <p>There were three accidents that occurred in 2020 with one case impaled by ampoules and two cases impaled by needles. The treatment that is carried out during an accident due to being punctured by ampoules is to immediately wash the wound with running water. Meanwhile, the handling carried out in accidents due to needle sticks is by washing the part where the needle</p>					



No	WB Requirement / Other Reference	Project Status and Observation	Correction action	Output	Priority*	PIC	Timeline
		was pierced with running water, reporting it to the doctor on duty, and suggesting that it be examined in the hospital laboratory for further examination.					
2							
ESS 3: Resource Efficiency and Pollution Prevention and Management							
ESS 4: Community Health and Safety							
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement							
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources							
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities							
ESS 8: Cultural Heritage							
ESS 9: Financial Intermediaries							
ESS 10: Stakeholder Engagement and Information Disclosure							

Table 34. Risk Level and Timeline

Priority Level	Description	CAP Timeline
High	Significant non-conformance with regulatory requirements and standards, which may result in business interruption; a material cost, and/o affect sensitive receptors, and/or induce community opposition that may damage Owner's/Investor's reputation	Immediate action or Condition Precedent Or within 1-6 Months
Medium	Non-conformance with the regulatory requirements and standards, which may result in non-material rectification cost or fine, but is unlikely to result, in the short term, in business discontinuity in current regulatory enforcement context. Non rectification of this issue is likely to result in business interruption in the long term	6-12 months



Priority Level	Description	CAP Timeline
Low	Minor regulatory or safeguard non-compliance which may result in limited cost or only require management time to address the issue	12-24 months

Tool 14. Checklist of Plans to Develop Prior to Construction

How to use the tool:

The Grievance Redress Mechanism (GRM) is used by the GCA/ project proponent to address all grievances from affected people. Basically, the GRM describes the process of an available channel throughout the life cycle of the project for affected people (and other interested or concerned parties) to lodge a complaint or express a grievance against the project or related to the project activities. The grievance mechanism is developed and disclosed to the affected people prior to the construction stage. The GRM is used mainly during the construction and operation stages. The checklist provided below is the component that should be available in the GRM and the stages of grievance handling process.

Table 35. Grievance Redress Mechanism Checklist

Checklist		Yes	No	Unknown	Remarks
Grievance Mechanism					
1	Grievance register (record grievance using grievance form)				
2	Receiving & acknowledging (provide a receiving & acknowledge form/letter to complainant)				
3	Respond (Provide response and resolution summary to the grievance after investigation)				
4	Closed out grievance (using grievance closed out form if the grievance is resolved)				
5	Involvement of third party – resolution committee (in case the grievance can't be resolved. If yes, then continued with closed out)				
6	Legal Unit (legal approach in case the grievance can't be resolved with the involvement of third party)				
7	Grievance Log				
8	Monitoring and evaluation (using monitoring & evaluation form)				
9	Grievance's statistics and summary made public, typically as part of annual sustainability reporting				
10	integration into the online digital platform of the PPP unit (KPBU 4.0)				

Note:

The grievance mechanism needs to be communicated and published to the affected community.



Stakeholder Engagement Checklist

As described in the WB ESS 10, Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive, and responsive relationships that are important for successful management of a project's environmental, social, and governance risks. The stakeholder engagement plan is used by the GCA/ project proponent and serves as a 'living document' and need to be regularly updated for the full project cycle. The stakeholder engagement plan is normally developed by a consultant in the early stage of the project. The following checklist will provide information about stakeholder engagement and preparation of the stakeholder engagement plan. It is important to identify the correct and potential target group to ensure inclusion of all sections of society (affected, directly/indirectly) including women, and departments, private organizations and NGOs, are involved and informed about the project preparation and implementation. Following the stakeholder mapping, which is carried out in a participatory manner, the plan should present the sections covering Project Description, National and International Standards and Legislation, The Stakeholder Engagement Process, Project Stakeholders, Stakeholder Engagement, Feedback and Grievance Mechanism, Monitoring and Reporting. The following checklist provides the components that need to be included in the stakeholder engagement plan and serves as a guide to the consultant for the stages required in developing the stakeholder engagement plan.

Checklist		Yes	No	Unknown	Remarks
Stakeholder Engagement					
1	Stakeholder Identification (Identify through the workshop)				
2	Stakeholder Mapping (rank level of influence & level of interest)				
3	Develop plan for engagement during project stages (pre-construction, construction, operation, decommissioning; type of engagement, target group of engagement)				
4	Unit/ division that are responsible for stakeholder engagement				
5	Stakeholder engagement log				

Resource Efficiency & Pollution Prevention Checklist

Refer to the World Bank ESS 3, economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services, and the environment at the local, regional, and global levels. The following checklist aims to identify the resource efficiency including energy, water and raw materials and also potential impacts on human health and the environment by avoiding or minimizing pollution from project activities. The following checklist does not provide the actions or answers to identified risks but flags the main focus areas for risk and impact investigation and identification to be addressed by the appointed qualified consultants. The checklist will be used during the early stages of project preparation (scoping, Pre & FS) up to the point of EIA and DED.

Checklist		Yes	No	Unknown	Remarks
Resource Efficiency Identification					
1	Has the project implemented technical and financially feasible measures for improving efficient consumption of energy, water, and raw materials, as well as other resources?				



Checklist		Yes	No	Unknown	Remarks
2	Have the principles of Cleaner Production been considered?				
3	Has the project operation been benchmarked against the industry?				
Greenhouse Gasses Inventory Checklist					
4	Has the project implemented technical and financially feasible GHG reduction technologies and processes?				
5	Has the project implemented options for reducing GHG emissions?				
6	Has the project characterised and estimated sources of air pollution related to the project?				
Management of Pesticides Checklist					
7	Is it appropriate for the project to have its own Integrated Pest Management (IPM) or Integrated Vector Management (IVM) approach?				
8	Are the IPM and IVM approaches designed to be integrated and to utilise chemicals as last resort?				
9	Are the formulation, packaging, labelling and current licensing status of the manufacturer consider during the procurement of pesticides?				
10	Is the pesticide regime designed to: <ul style="list-style-type: none"> • avoid, or where not possible minimise, damage to natural enemy of the pest? • avoid development of resistance in pests and vectors? • are the stored, applied and disposed off in accordance with FAO code of conduct or other good international practice? 				
11	The client will not purchase, store, use, manufacture or trade in products that fall in WHO Recommended Classification of Pesticides Hazard Class Ia or Ib.				
12	If pesticides are applied, training and awareness raising are required for personnel handling and applying pesticides to avoid harm to personnel and avoid environmental issues				



Community Health and Safety Checklist

Project activities/infrastructure can increase community exposure to health and safety risk. The following Community Health and Safety checklist aims to identify the health, safety, and security risks and potential impacts on project-affected communities, and ensure that the GCA and PDF project-implementing consultants put in place responses to avoid/minimize/offset such risks and impacts, with particular attention on vulnerable and marginalized members of the project area community, and to promote quality and safety in the design and construction of project infrastructure. The following checklist does not provide the actions or answers to identified risks but flags the main focus areas for risk and impact investigation and identification to be addressed by the appointed qualified consultants. The checklist should be read with reference to WB ESS 4 and will be used during the early stages of project preparation (scoping, Pre & FS) up to the point of EIA and Detail Engineering Design (DED).

Checklist		Yes	No	Unknown	Remarks
Community Health and Safety					
1	Has the project undertaken a project to evaluate risks and impacts to the health and safety of affected communities during the project life cycle? E.g., within ESIA, QHRA, HAZOP/HAZID				
2	Is the Project of a high-risk nature that requires consideration of risk associated with design and equipment safety? This includes dams, tailings dams, power infrastructure, oil and gas etc.				
3	Are there any high-risk components of the project (e.g components related to sensitive high-risk infrastructure: dams, tailings dams, power infrastructure, oil and gas etc.) for which international best practice in relation to the design, construction, operation and decommissioning is to be considered?				
4	Was the design of structural elements undertaken by competent professionals, with certification or approval provided by competent authorities and/or professionals?				
5	Has a structure design from an external expert been conducted during the design and development project?				
6	Does the project involve the manufacture or generation of hazardous materials and substances?				
7	Is there any hazardous waste generated requiring storage and disposal?				
8	Have measures demonstrated that the project is exercising special care to avoid exposure of workers and communities by modifying, substituting, or eliminating materials that can cause hazards?				
9	Are there procedures and processes in place to demonstrate the hazardous materials can be managed to minimize exposure of local communities to hazardous situations?				
10	Has the project considered measures to minimize the potential for community exposure to water-borne, water-based, vector borne and communicable diseases that could result from project activities?				



Checklist		Yes	No	Unknown	Remarks
11	Are there any vulnerable groups within the local community that may be susceptible to any of the above-mentioned communicable diseases?				
12	Are there any diseases already endemic within the area that need to be accounted for in Project planning?				
13	Is there the potential for an influx of temporary or permanent project labor and associated economic migrants? If yes, does the project have measures in place to minimize the potential transmission of communicable diseases?				
Emergency Preparedness and Response					
14	Does the project have an emergency response plan in place?				
15	Does the ERP have mechanisms that describe collaboration with local government agencies and local communities where their participation and collaboration is necessary to respond to emergency situations?				
16	Has the ERP been disclosed to affected communities and relevant local government agencies?				
Security Personnel					
17	Has the company employed, contracted or outsourced any security workers?				
18	Is there a process in place to undertake screening of any companies or individuals engaged to provide security services?				
19	Is there a security policy in place, including aspects relating to appropriate use of force and conduct of the security team?				
20	Is there a security training plan, which includes specific aspects for training in use of force and appropriate conduct to workers and surrounding community?				
21	Is there a grievance mechanism in place for communities to express concerns about the security arrangements and acts of security personnel?				

Land Acquisition Checklist

Land acquisition is the responsibility of the Government and an important part of a project. Land acquisition funding can be sourced from private sector and must be repaid by the government¹³.

The checklist below serves as a guide to the stages in the process of land acquisition (to comply with both national and international requirements and standards), mainly, under Indonesian law, for developing the Land Acquisition and Resettlement Action Plan (LARAP). The LARAP is mainly developed by the appointed consultant and will cover issues of physical and economical displacement. The LARAP is developed prior to the construction stage and is required in parallel with the EIA/AMDAL process.

Checklist		Yes	No	Unknown	Remarks
Land Acquisition					
1	Identify area that is planned to be acquired				
2	Identify type of land & acquisition type (Forest land, community land, village land, etc.)				
3	Identify landowners of the area that is planned to be acquired (Physical and economical displacement)				
4	Develop legal framework and approach				
5	Develop socio economic profile of landowner, land user/ land renter (normally to conduct it through survey)				
6	Consultation, Participation, and information disclosure about land acquisition				
7	Valuation of asset				
8	Develop entitlement matrix for physical & economical displacement				
9	Institutional arrangement (internal organisation that manage land acquisition)				
10	Livelihood Restoration				
11	Budgeting & Schedule				
12	Monitoring & evaluation				

¹³ Art. 6 of Law No. 2 of 2012 jo Art. 122 of Government Regulation No. 19 of 2021



Biodiversity Checklist

Protecting and conserving biodiversity and sustainably managing living natural resources are a fundamental consideration in the preparation of any project where the project area interacts with areas of biodiversity and natural resources. The following checklist aims to identify potential risks and impacts on biodiversity to avoid/mitigate and offset these risks/impacts, and maintain core ecological functions of habitats, including forests, and the biodiversity they support. The checklist also aims to identify where there is primary production and/or harvesting of natural living resources, particularly by project area communities, including IP, whose access to, or use of, biodiversity or natural living resources may be affected by a project. The checklist is designed for use by qualified biodiversity specialists under the appointed project preparation consultants and should be read with reference to WB ESS 6, and will be used during the early stages of project preparation (scoping, Pre & FS) up to the point of EIA and DED.

Checklist		Yes	No	Unknown	Remarks
1	Has there been an assessment of biodiversity aspects considering relevant threats to habitat loss, degradation, fragmentation, invasive species, overexploitation, hydrological changes etc.?				
2	Has there been a biodiversity management plan, or appropriate management, mitigation and monitoring measures, developed commensurate with the identified level of risks and impacts?				
3	Has a biodiversity baseline assessment been conducted to identify threatened species and allow for definition of habitat type?				
4	Is there any modified, natural or critical habitat within the project footprint or to be indirectly impacted by the Project?				
5	Is a biodiversity offset required to address any losses of natural or critical habitat?				
6	Is the project situated within a legally protected or internationally recognised area?				
7	If yes, can it be demonstrated that this is legally permitted, has been subject to consultation with government authorities, affected communities, indigenous peoples and non-government organisations?				
8	Is there a specific management programmer in place to promote and enhance the conservation aims and effective management of the area?				
9	Are there measures in place to ensure that the potential for invasive alien species (plants or animals) to be introduced to a location is eliminated?				
10	Has the potential for ecosystem services to be impacted been identified and evaluated?				
11	If yes, have affected communities been integrated into the process of determining priority ecosystem services and development of management measures?				
12	Is the project involved in primary production of natural resources such as natural and plantation forestry, agriculture, animal husbandry, aquaculture and fisheries?				
13	If yes, do they apply credible global, regionally or nationally recognized standards for sustainable management?				



Checklist		Yes	No	Unknown	Remarks
14	If standards exists but the project has not yet been certified, has a pre-assessment of conformity to these standards been conducted?				
15	In absence of standards, is there a commitment to complying with international best practice and actively engaging and supporting the development of a national standard?				
16	Is there appropriate management and monitoring plans in place supported by organisational capacity?				



Cultural Heritage Checklist

Cultural heritage (tangible and intangible) is recognized, both nationally and internationally, as a core consideration defining history, continuity, and identity within the country and project area communities. As such cultural heritage crosses many of the areas defined in this manual including social, gender, community, and IPs. As such the following checklist should be cross-checked with other related checklists in in this section. The following checklist should be used with reference to WB ESS 8, by the PDF appointed consultants during the project preparation stages, but is designed to identify and protect cultural heritage throughout the project life cycle. The checklist items below aim to: protect cultural heritage from loss and adverse project impacts and support preservation, promote cultural heritage within sustainable development, engage stakeholders regarding cultural heritage, avoid exploitation and promote equitable benefits from cultural heritage use.

Checklist		Yes	No	Unknown	Remarks
1	Is there any critical cultural heritage affected by the project?				
2	Affect intangible forms of cultural heritage (e.g., objects, sites or structures having archaeological or historical value)				
3	Affect unique natural features or tangible objects that embody cultural values (e.g., sacred groves or waterfalls)				
4	Commercially use the intangible cultural heritage of communities embodying traditional lifestyles (e.g., traditional medicine)				
5	Does the project change to community access?				
6	Is the project complying with applicable laws including the host country's laws implementing its obligations under the Convention?				
7	Has the project provided evidence of surveys to determine the presence of tangible cultural heritage within the area of influence as part?				
8	Has the project hired competent professionals to assist in the process of identification and protection of cultural heritage where the risk?				
9	If the project already conducted an assessment process to determine where the project is located in and may be impacting cultural heritage that may not have been identified and protected during the assessment process, has the client put in place a chance find procedure for unexpected discoveries of cultural heritage?				
10	Has the project consulted with Affected Communities who have used potentially project-impacted cultural heritage within living memory?				
11	Where the project site contains cultural heritage used by Affected Communities, has the project allowed access to that cultural heritage?				



Checklist		Yes	No	Unknown	Remarks
Removal of Replicable Cultural Heritage					
12	Has the project considered measures to avoid, or minimize the impacts on cultural heritage, including leaving it in situs?				
13	Where removal is necessary, has the cultural heritage been restored in another location?				
14	Where avoidance or minimization of adverse impacts is not feasible, and the cultural heritage is being used by the Affected Communities, have the communities been compensated for its removal?				
Removal of Non-Replicable Cultural Heritage					
15	Where there is non-replicable cultural heritage whose removal may result in its destruction, has the project demonstrated that: <ul style="list-style-type: none"> a. There are no technically or financially feasible alternatives b. Overall project benefits conclusively outweigh the loss of the cultural heritage; and c. The removal of the cultural heritage is conducted according to the best available technique? 				
16	Does the project include the communities who have used internationally-recognized tangible cultural heritage for long-standing cultural purposes?				
17	If yes and where the impacts are unavoidable, has the project used a process of informed consultation and participation, leading to good faith negotiations that result in a documented agreement on the measures to address the impacts on the critical cultural heritage?				
18	Has the project retained external experts to assist in the assessment and protection of the heritage?				
19	Is the project located within a legally protected area or an internationally recognized cultural heritage area?				
20	In addition, has the project demonstrated <ul style="list-style-type: none"> a. That it is legally permitted? b. That it will act in a manner consistent with any government recognized management plans? c. Consultation with protected area sponsors and managers, Affected Communities, Indigenous Peoples and other stakeholders? d. Additional programs, as appropriate, to promote and enhance the conservation aims and effective management of the area? 				



	Checklist	Yes	No	Unknown	Remarks
21	<p>Does the project intend to commercially use any intangible cultural heritage of local communities (e.g., traditional medical knowledge, or techniques for plants, fibers or metals)?</p> <p>If yes, has the project :</p> <ul style="list-style-type: none">a. Informed the communities of their rights under national law; andb. Informed the communities of the scope and nature of the proposed commercial development; andc. Informed the communities of the potential consequences of such development; andd. Entered into the process of informed consultation and participation, using good faith negotiations, leading to a documented outcome; ande. Shown that the outcome provides for the fair and equitable sharing of benefits of the proposed commercialization?				



Indigenous Peoples Checklist

The following checklist is primarily designed to assist in the identification and definition of IPs within the project area /area of influence, and to ensure that IPs are properly consulted and accounted for during the project preparation and design process. By doing so, this ensures that the project maintains access to project area resources and contributes to poverty reduction and sustainable development amongst IPs.

Checklist		Yes	No	Unknown	Remarks
Indigenous Peoples Identification					
1	Do these groups: “tribes” (hill tribes, schedules tribes, tribal peoples), “minorities” (ethnic or national minorities), or “indigenous communities” present in the area or project proposed area?				
2	Are there national or local laws or policies as well as anthropological research/studies that consider these groups present in or using the project area as belonging to “ethnic minorities”, scheduled tribes, tribal peoples, national minorities, or cultural communities?				
3	Do the groups identify themselves as a distinct social and cultural group?				
4	Do the groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?				
5	Are they culturally, economically, socially, and politically (political institutions) distinct from the mainstream or dominant society?				
6	Do they speak a distinct language or dialect?				
7	Have they been historically, socially, and economically marginalized, disempowered, excluded, and/or discriminated against?				
8	Are they represented as “Indigenous Peoples” or as “ethnic minorities” or “scheduled tribes” or “tribal populations” in any formal decision-making bodies at the national or local levels?				



Gender Checklist

The following Gender Checklist must be read and applied with reference to the preceding Tool 8. Gender Consideration. Gender should not be dealt with as a separate item but should be integral in all aspects of the project preparation process.

Checklist		Yes	No	Unknown	Remarks
Gender Assessment					
1	Does the project collect and use sex disaggregated data and qualitative information to analyse and track the gender issues it addresses?				
2	Does the project build on or consider any human rights/gender equality instruments, commitments, policies, assessments?				
3	Identify the socio-economic conditions of women in the project site by assessing the four gender equality dimensions: <ul style="list-style-type: none"> • Women's human capital • Women's economic empowerment • Women's voice and rights • Capacity Building 				
4	Are women/gender focused groups, associations or gender units in partner organisations consulted/included in the project?				
5	Formulate an analysis of the project: <ul style="list-style-type: none"> • examine the different situations, roles, needs and challenges faced by women and men • analyse whether women and men will be differently affected by the project (in terms of their rights, needs, roles, opportunities, etc.)? 				
Gender Implementation					
6	Does the project approach specify how it will address the gender issues identified in the analysis?				
7	Does the project ensure that the IBE will comply to gender commitments as outlined in the Gender Action Plan?				
8	Does the project conduct monitoring and evaluation in the implementation of Gender Action Plan?				



Tool 15. Outlines of ESG Planning Documents

How to use this tool:

As a result of completing the checklists provided in Tool 10, where risks and impacts are identified there may be a requirement to prepare and implement other more detailed plans. This tool provides example indicative Table of Contents outlines for these plans, which can be prepared as stand-alone documents or incorporated in the project preparation Scoping, Pre-FS, FS and DED documents. Tool 9 is mainly used by the GCA/ project proponent. The documents under Tool 9 are prepared prior to the construction stage by a consultant. Some documents are updated throughout the project cycle. See also Reference A and Reference B for further explanations on national and international standards and regulations, as well as Tool E which consists of links to further international standards and guidelines.

1. Outline of the Environmental and Social Impact Assessment (ESIA)

An ESIA is designed to meet IFC Performance Standards and Equator Principles and is a more detailed and more holistically focused study than an AMDAL. The ESIA will include additional mitigation, management and monitoring plans designed to minimize potential adverse impacts on the environment and local communities during all project and operation phases. Component studies for the ESIA will be conducted to establish baseline conditions, assess the assimilative capacities of the local environment, determine the magnitude of the potential impacts and monitor the effectiveness of management programs. The following is the proposed Outline of the Environmental and Social Impact Assessment (ESIA) Document:

1. Project Overview
 - 1.1 Project Objectives
 - 1.2 Project Proponent
 - 1.3 Project Location
 - 1.4 Project Components
2. Environmental and Social Risks and Impacts Framework
 - 2.1 Environmental and Social Management System
 - 2.2 Environmental and Social Policy
 - 2.3 Emergency Preparedness and Response
 - 2.4 Grievance Mechanism
3. Environmental Design Criteria
 - 3.1 Indonesian Laws and Regulations
 - 3.2 International Standards
 - 3.3 Good International Industry Practices (GIIP)
 - 3.4 Emissions to Air Standards
 - 3.5 Emissions to Water Standards
 - 3.6 Hazardous Waste
 - 3.7 Biodiversity
 - 3.8 Community Health and Safety
4. Project Description
 - 4.1 Project Layout
 - 4.2 Main Project Facilities (Units)
 - 4.3 Project Supporting Facilities
 - 4.4 Other Project Activities
5. Resource Efficiency and Pollution Prevention
 - 5.1 Greenhouse Gases
 - 5.2 Water Consumption
 - 5.3 Waste Management
 - 5.4 Hazardous Materials Management
 - 5.5 Pesticide Use and Management
6. Labor and Working Conditions
 - 6.1 Working Conditions and Terms of Employment
 - 6.2 Protecting the Workforce
 - 6.3 Occupational Health and Safety
 - 6.4 Workers Engaged by Third Parties
 - 6.5 Supply Chain



7. Environmental and Social Baseline
 - 7.1 Atmosphere (Climate, Air Quality, Noise, Odor)
 - 7.2 Lithosphere (Topography, Geology, Soil)
 - 7.3 Hydrosphere (Hydrology, Surface Water, Groundwater)
 - 7.4 Biological Components (Terrestrial Flora, Terrestrial Fauna, Aquatic Biota)
 - 7.5 Socio-economic and Cultural Components (Demography, Economic, Culture, Education, Indigenous People)
 - 7.6 Public Health
 - 7.7 Transportation
8. Scoping of Environmental and Social Risks and Impacts
 - 8.1 Area of Influence
 - 8.2 Scoping Methodology
 - 8.3 Method for Impact Identification and Evaluation
 - 8.4 Method for Determining Significance of Impacts
 - 8.5 Potentially Significant Project Impacts
9. Information Disclosure, Consultation, and Participation
 - 9.1 Stakeholder Analysis and Engagement
 - 9.2 Disclosure of Information and Consultation
 - 9.3 Ongoing Community Feedback
 - 9.4 Grievance Mechanism
10. Assessment of Anticipated Environmental and Social Risks and Impacts
11. Environmental and Social Management Plan (ESMP)

The detailed development of ESIA and ESMP documents need to be undertaken in reference to international best practice. In this case, the guidelines from the IFC good practice note is the key document and can be accessed at [The Social and Environmental Impact Assessment Process](#) and [IFC Performance Standard 1 – Social and Environmental Assessment and Management System](#).

2. Outline of the Grievance Redress Mechanism Document

Grievance mechanisms are an important component of meeting requirements related to community engagement by clients under the Policy and Performance Standards on Social and Environmental Sustainability. Where it is anticipated that a new project or existing company operations will involve ongoing risk and adverse impacts on surrounding communities, it is necessary to establish a grievance mechanism to receive and facilitate resolution of the affected communities' concerns and complaints about the client's environmental, social, and governance performance. The grievance mechanism should be scaled to risks and adverse impacts of the project, address concerns promptly, use an understandable and transparent process that is culturally appropriate and readily accessible to all segments of the affected communities, and do so at no cost to communities and without retribution. The mechanism should not impede access to judicial and administrative remedies, thereby working alongside regulatory processes rather than overriding them. The client will inform the affected communities about the mechanism in the course of its community engagement process. The following is the proposed Outline of the Grievance Redress Mechanism Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Grievance Mechanism
2. National and International Requirements
 - 2.1 Overview
 - 2.2 Indonesian Regulations
 - 2.3 International Standards and Guidelines
3. Grievance Procedure
4. Grievance Team
5. Grievance List to Date
 - 5.1 Community Grievance
 - 5.2 Internal Grievance
6. Monitoring and Reporting

The detailed development of grievance mechanisms and associated documents need to be



undertaken in reference to international best practice. In this case, the guidelines from the IFC good practice note is the key document and can be accessed at [IFC's Grievance Management and Addressing Grievances From Project-Affected Communities by IFC](#).

3. Outline of the Stakeholder Engagement Document

Stakeholder engagement is about building and maintaining constructive relationships over time. It is an ongoing process between a company and its project stakeholders that extends throughout the life of the project and encompasses a range of activities and approaches, from information sharing and consultation, to participation, negotiation, and partnerships. The nature and frequency of this engagement should reflect the level of project risks and impacts. The purpose of a Stakeholder Engagement Plan is to describe a company's strategy and program for engaging with stakeholders in a culturally appropriate manner (whether it be for a single project or a range of company operations). The goal is to ensure the timely provision of relevant and understandable information. It is also to create a process that provides opportunities for stakeholders to express their views and concerns and allows the company to consider and respond to them. The following is the proposed Outline of the Stakeholder Engagement Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Stakeholder Engagement
 - 1.4 Method
2. National and International Requirements
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Stakeholder Identification and Category
 - 3.1 overview
 - 3.2 Stakeholder Identification
 - 3.3 Stakeholder Analysis and Category
 - 3.4 Stakeholder Participants of Women and Vulnerable Group
4. Stakeholder Engagement to Date
5. Future Stakeholders Engagement Activities
6. Timetable
7. Resources Responsibilities
8. Grievance Mechanism
9. Monitoring and Reporting
10. Management Functions

The development of Stakeholders Engagement documents needs to be undertaken with reference to international best practice. In this case, the IFC good practice note is the key document and can be accessed at [Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets by IFC](#).

4. Outline of the Resource Efficiency & Pollution Prevention Checklist

The objectives of developing a resource efficiency & pollution prevention document are to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. In addition, PPP can play a role in promoting the sustainable use of resources. Where the project proposes to use resources, international standard (IFC PS 3 and WB ESS 3) to ensure that the projects will integrate the principles of cleaner production into product design and production processes with the objective of conserving raw materials, energy, and water. **The following is the proposed Outline of the Resource Efficiency & Pollution Prevention:**

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Resource Efficiency
2. Legal framework and Approach



- 2.1 Overview
- 2.2 Indonesia Regulation
- 2.3 International Standards
3. Outcome of Resource Efficiency Screening
 - 3.1 Overview
 - 3.2 Energy Use
 - 3.3 Water Use
 - 3.4 Raw Material Use
4. Conclusion and Recommendation

The development of resource efficiency & pollution prevention documents need to be undertaken with reference to international best practice. In this case, there are numbers of international best practice guidelines that need to be utilized, including:

- World Bank ESS 3 Guidance Note: Resource Efficiency & Pollution Prevention
- World Bank Group Industry Sector EHS Guidelines (variable depending on the sector)
- [General EHS Guidelines by IFC](#)
- IFC Guidance Note Three: Resource Efficiency & Pollution Prevention

a. Greenhouse Gasses Inventory Outline

The Greenhouse Gasses Inventory could be prepared for any project that results in GHG emission during the design and operation of the project. These options may include, but are not limited to, alternative project locations, adoption of renewable or low carbon energy sources, sustainable agricultural, forestry and livestock management practices, the reduction of fugitive emissions and the reduction of gas flaring. The following is the proposed Outline of Greenhouse Gasses Inventory Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Greenhouse Gasses
 - 1.4 Method
2. Legal framework and Approach
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards
3. Outcome of Greenhouse Gasses Inventory
 - 3.1 Overview
 - 3.2 GHG Emission Sources
 - 3.3 GHG Control & Mitigation
 - 3.4 GHG Monitoring
4. Conclusion and Recommendation

The development of Greenhouse Gasses Inventory documents needs to be undertaken with reference to international best practice. In this case, there are numbers of international best practice guidelines that need to be utilized, including:

- World Bank ESS 3 Guidance Note: Resource Efficiency & Pollution Prevention
- World Bank Group Industry Sector EHS Guidelines (variable depending on the sector)
- [General EHS Guidelines by IFC](#)
- IFC Guidance Note Three: Resource Efficiency & Pollution Prevention

b. Pest Management Outline

The project should formulate and implement an integrated pest management (IPM) and/or integrated vector management (IVM) approach targeting economically significant pest infestations and disease vectors of public health significance. When pest management activities include the use of chemical pesticides, the project will select chemical pesticides that are low in human toxicity, that are known to be effective against the target species, and that have minimal effects on non-target species and the environment. The following is the proposed Outline of the Pest Management Outline Document:



1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Pest Management
2. Nasional and International Requirements
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Risk Identification of Pest
4. Procedure to Control Pest
5. Monitoring and Reporting

The development of Pest Management documents needs to be undertaken with reference to international best practice. In this case, there are numbers of international best practice guidelines that need to be utilized, including:

- World Bank ESS 3 Guidance Note: Resource Efficiency & Pollution Prevention
- World Bank Group Industry Sector EHS Guidelines (variable depending on the sector)
- [General EHS Guidelines by IFC](#)
- IFC Guidance Note Three: Resource Efficiency & Pollution Prevention

5. Outline of the Community Health and Safety Document

The purpose of developing the document is to identify that while projects often brings benefits to communities (including employment, services, and opportunities for economic development) they can also increase community exposure to risks and impacts arising from equipment accidents, structural failures, and releases of hazardous materials. Communities may also be affected by impacts on their natural resources, exposure to diseases, and the use of security personnel. While acknowledging the public authorities' role in promoting the health, safety, and security of the public, this Performance Standard addresses the client's responsibility to avoid or minimize the risks and impacts to community health, safety, and security that may arise from project activities. The level of risks and impacts described in this Performance Standard may be greater in projects located in conflict and post-conflict areas. The following is the proposed Outline of the Health and Safety Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Grievance Mechanism
2. National and International Requirements
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Risk Identification of Community health and Safety
 - 3.1 Infrastructure and Equipment Design and Safety
 - 3.2 Hazardous Material Management and Safety
 - 3.3 Ecosystem Services
 - 3.4 Community Exposure to disease
4. Emergency Preparedness and Response
5. Security Personnel
6. Monitoring and Reporting

The development of Community health and Safety documents need to be undertaken with reference to international best practice. In this case, there are numbers of international best practice guidelines that need to be utilized, including:

- [General EHS Guidelines by IFC](#)
- World Bank Group Industry Sector EHS Guidelines (variable depending on the sector)
- World Resources Institute (WRI) Ecosystem Services Review for Impact Assessment ([Weaving Ecosystem Services into Impact Assessment | World Resources Institute \(wri.org\)](#))



- [IFC's Good Practice Handbook: Use of Security Forces: Assessing and Managing Risks and Impacts](#)
- World Bank Group Good Practice Note: Assessing and Managing the Risks of Adverse Impacts on Communities from Project-Related Labor Influx ([ESF Labor Influx Good Practice Note](#))

6. Outline of the Land Acquisition Document

The objectives of developing a land acquisition document include recognizing that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land. Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of project-related land acquisition and/or restrictions on land use. Unless properly managed, involuntary resettlement may result in long-term hardship and impoverishment for the Affected Communities and persons, as well as environmental damage and adverse socio-economic impacts in areas to which they have been displaced. To help avoid expropriation and eliminate the need to use governmental authority to enforce relocation, clients are encouraged to use negotiated settlements meeting the requirements of this Performance Standard, even if they have the legal means to acquire land without the seller's consent. The following is the proposed Outline of the Land Acquisition Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Scope of Land Acquisition
 - 1.4 Survey Method
2. Legal framework and Approach
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards
3. Socio-Economic Profile of Affected Household
 - 3.1 overview
 - 3.2 Physically Displaced
 - 3.3 Economically Displaced Household
4. Consultation, Participation, and Information Disclosure
5. Entitlements and Benefit: Physical Displacement
6. Entitlements and Benefit: Economic Displacement
7. Monitoring and evaluation

The development of Land acquisition documents needs to be undertaken having regard for international best practice. In this case, there are a number of international best practice guidelines that need to be utilized, including:

- IFC Guidance Note Five: Land Acquisition and Involuntary Resettlement
- IFC Good Practice Note: Addressing the Social Dimensions of Private Sector Projects
- WB ESS 5 Guidance Note: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- IFC Handbook for Preparing a Resettlement Action Plan

a. Supplementary Resettlement Action Plan (SRAP)

The Resettlement Action Plan should be prepared for any project that results in physical displacement i.e., projects that involve the relocation of people from their homes. The SRAP is to be carried out if the project has the land acquisition process and involves physical displacement. The physical displacement case is audited against national regulations and IFC PS5, with any additional support contained within a Supplementary Resettlement Action Plan. The following is the proposed Outline of the Supplementary Resettlement Action Plan Document:

1. Introduction
 - 1.1 Overview



- 1.2 Scope of Supplementary Resettlement Action Plan
2. Minimizing Resettlement
3. Legal framework and Approach
 - 3.1 Overview
 - 3.2 Indonesia Regulation
 - 3.3 International Standards
4. Socio-Economic Profile of Affected Household
 - 4.1 Overview
 - 4.2 Survey Method
 - 4.3 Physically Displaced
5. Resettlement Sites
6. Income Restoration
7. Institutional Arrangements
8. Implementation Schedule
9. Consultation, Participation, and Information Disclosure
10. Grievance Redress
11. Monitoring and evaluation
12. Cost and Budgets

The development of Supplementary Resettlement Action Plan documents needs to be undertaken with reference to international best practice. In this case, there are numbers of international best practice guidelines that need to be utilized, including:

- IFC Guidance Note Five: Land Acquisition and Involuntary Resettlement
- IFC Good Practice Note: Addressing the Social Dimensions of Private Sector Projects
- WB ESS 5 Guidance Note: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- IFC Handbook for Preparing a Resettlement Action Plan :
<https://www.ifc.org/wps/wcm/connect/ee19f150-f505-41db-891f-6ef5557195b6/ResettlementHandbook.PDF?MOD=AJPERES&CACHEID=ROOTWORKSPA-CE-ee19f150-f505-41db-891f-6ef5557195b6-jkD0CRL>

b. Livelihood Restoration Plan (LRP)

Project situations where involuntary restrictions on land use and access to natural resources cause a community or groups within a community to lose access to resources where they have traditional or recognizable usage rights may include, for example, loss of access to common property resources such as forest, grazing land or fishing grounds. In such situations, the impacts of project-related restriction of access to resources are typically direct, adverse, and indistinguishable from the impacts of land acquisition. As noted in IFC PS 5 GN1: loss of access to common property resources has been identified as one of the primary impoverishment risks associated with involuntary resettlement and requires careful mitigation. Projects that entail land acquisition and causes economical displacement of people will prepare a Livelihood Restoration Plan. In the process of LRP preparation, it is required to gather socio-economic baseline data for those who are economical displace (titled and non-titled land-users displaced) due to the project. The following is the proposed Outline of the Livelihood Restoration Plan Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Scope of Livelihood Restoration Plan
2. Minimizing Resettlement
3. Legal framework and Approach
 - 3.1 Overview
 - 3.2 Indonesia Regulation
 - 3.3 International Standards
4. Socio-Economic Profile of Affected Household
 - 4.1 Overview
 - 4.2 Survey Method



- 4.3 Economically Displaced
5. Livelihood Restoration
6. Implementation arrangement and Budget
 - 6.1 Implementation step of LRAP
 - 6.2 Institutional arrangements
 - 6.3 Timeline
7. Stakeholder Engagement
 - 7.1 Consultation, Participation,
 - 7.2 Information Disclosure
 - 7.3 Grievance Mechanism
8. Monitoring and evaluation

The development of Livelihood Restoration Plan documents needs to be undertaken with reference to international best practice. In this case, there are numbers of international best practice guidelines that need to be utilized, including:

- IFC Guidance Note Five: Land Acquisition and Involuntary Resettlement
- IFC Guidance Note Five: Land Acquisition and Involuntary Resettlement
- IFC Good Practice Note: Addressing the Social Dimensions of Private Sector Projects
- WB ESS 5 Guidance Note: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- [IFC Handbook for Preparing a Resettlement Action Plan](#)
- Sample of LRP report:
 - [Livelihood Restoration Plan for Above Ground Installations from WB,](#)
 - [Detailed Livelihood Restoration Plan by ADB](#)
 - [Site Specific Action Plan Framework by IFC](#)

5. Outline of the Biodiversity Management Document

The objectives of Performance Standard 6 are derived from elements of the Convention on Biological Diversity and the recognition of the important role that the private sector can play in protecting and conserving biodiversity for future generations and promoting the sustainable management and use of renewable natural resources. The sustainable management and use of renewable natural resources by the private sector should be achieved by balancing conservation and development priorities as well as recognizing that this may require trade-offs on each side. The following is the proposed Outline of the Biodiversity Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Survey Method
2. National and International Requirement
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Survey Result
 - 3.1 Fauna
 - 3.2 Flora
4. Habitat Screening and Classification
5. Biodiversity Offset Design (if required)
6. Biodiversity Management Measures
7. Conclusion

The development of the biodiversity documents needs to be undertaken having regard for international best practice. In this case, there are a number of international best practice guidelines that need to be utilized, including:



- [IFC Guidance Note 6: Biodiversity Conservation and Sustainable Natural Resources Management](#)
- [Good Practices for Biodiversity Inclusive Impact Assessment and Management Planning](#)
- [IFC's Good Practice Handbook: Assessing and Managing Environmental and Social Risks in an Agro-Commodity Supply Chain](#)
- [Business and Biodiversity Offsets Programme: Biodiversity Offset Design Handbook](#)

6. Outline of Cultural Heritage Management Document

The objectives of developing a Cultural heritage document are to preserve and protect cultural heritage by avoiding, reducing, restoring, where possible, and in some cases compensating for the adverse impacts that projects might cause to cultural heritage. In addition, PPP can play a role in promoting awareness of and appreciation for cultural heritage. Where the project proposes to use the cultural heritage of a community, international standard (IF PS 8 and ESS WB) to ensure that the development benefit accruing from the commercial use of cultural heritage flow equitably to the Affected Communities. The following is the proposed Outline of the Cultural Heritage Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Screening Method and Methodology
2. National and International Requirement
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Outcome of Cultural Heritage Screening
 - 3.1 Overview
 - 3.2 Cultural Heritage Outcome
4. Conclusion and Recommendations

The development of Cultural Heritage documents needs to be undertaken having regard for international best practice. In this case, the guidelines from the IFC/WB good practice note, for the guideline can be seen at [IFC's Guidance Note 8: Cultural Heritage](#) and [WB's ESS8: Cultural Heritage](#)

7. Outline of Indigenous People Management Document

The purpose developing indigenous people document is to ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples. The following is the proposed Outline of the Indigenous People Document:

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Screening Method and Methodology
 - 1.4 Indigenous People Screening Structure
2. National and International Requirement
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Outcome of Indigenous People Screening
 - 3.1 Overview
 - 3.2 IPs Outcome
4. Conclusion and Recommendations

The development of the biodiversity documents needs to be undertaken having regard for international best practice. In this case, there are a number of international best practice guidelines that need to be utilized, including: [WB's ESS7: Indigenous Peoples](#) and [IFC's Guidance Note 7: Indigenous Peoples](#).

8. Outline of Gender Equality Management Document

The gender equality management document aims to ensure that the project development considers and ensures the conditions of gender, including their rights, opportunities, and needs. This document will provide an overview of the current gender conditions in the project area by assessing based on women's accessibility, participation and leadership, endowment, and capacity. This assessment will be used to identify possible gender challenges to ensure that equal opportunities and economic empowerment for women affected by the project can be achieved. The recommendations of this document should also propose a gender action plan along with its indicators so that gender implementation in the project can be monitored and measured. The following is the proposed Outline of the Gender Equality Management Document.

1. Introduction
 - 1.1 Overview
 - 1.2 Objectives
 - 1.3 Screening Method and Methodology
2. National and International Requirement
 - 2.1 Overview
 - 2.2 Indonesia Regulation
 - 2.3 International Standards and Guidelines
3. Outcome of Gender Screening
 - 3.1 Gender Status
 - 3.2 Gender Challenges and Opportunities
4. Conclusion and Recommendations

The development of the gender equality documents need to be undertaken having regard for international best practice. In this case, there are a number of international best practice guidelines that need to be utilized, including [World Bank's Gender Equality, Infrastructure and PPPs: A Primer](#) and [UNIDO Guide to Gender Analysis and Gender Mainstreaming in the Project Cycle](#).



Tool 16. Scope of Work for Consultant to Conduct Environmental Impact Assessment Study (AMDAL) & Environmental & Social Impact Assessment Study (ESIA)

How to use this tool:

Tool 16 is used by GCA/ Project proponent at early stage of the project to describe detail of scope of work that need to be covered by consultant. These documents are prepared in the process to obtain environmental permit and comply with national and international standards.

SCOPE OF WORK FOR CONSULTANT TO CONDUCT ENVIRONMENTAL IMPACT ASSESSMENT STUDY (AMDAL) & ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT STUDY (ESIA)

FOR A (Name of a project) PROJECT IN (location) - INDONESIA



Table of Contents

- 1. Introduction**
- 2. Project Information**
- 3. Scope of Work**
- 4. Proposal**
- 5. Deliverables**
- 6. Deadline & Contact**

1. Introduction

1.1 About the Company (Project Proponent)

This section describes a short introduction of the project proponent.

1.2 Project Description

This section describes the project description.

1.3 Objectives

The objective of the consultant's scope of work is as follows:

- Prepare AMDAL Documents (*Kerangka Acuan* ("KA") Form, ANDAL and RKL-RPL) following Government Regulation No. 22 of 2021 Regarding Implementation of Environmental Protection and Management.
- Conduct community engagement and public consultation in accordance with guidance Government Regulation ("GR") No. 22 of 2021.
- Prepare KA Form include scoping, impacts identifications, potential impacts evaluation and determination of Hypothetical Significant Impact - HSI (*Dampak Penting Hipotetik – DPH*); as well as analysis and results of community engagement and public consultation.
- Collection of reliable environmental and social baseline in accordance with the KA Form.
- Develop ANDAL and RKL-RPL documents following Guidance in Appendix II of GR No. 22 Year 2021.
- Prepare Technical Documents for *PERTEK* (*Persetujuan Teknis/ Technical Approval*) as described in Clause 43 – 45 and 49 of GR No. 22 of 2021 includes (a) fulfillment of wastewater standard, (b) fulfillment of emission standard, (c) hazardous waste management, as well as (d) ANDALALIN (Traffic Impacts Assessment).
- Manage to get approval of SKKLH (*Surat Keputusan Kelayakan Lingkungan*) as addressed in Clause 47, 49-51, 89, 93 and 527 and get Environmental Approval (*Persetujuan Lingkungan*) in accordance with Clause 2, 3 and others in GR No 22. of 2021.
- Identify government authority to issue SKKLH and Environmental Approval in accordance with the project location and scope.
- Develop AMDAL document and the other supporting documents which comply with IFC Performance Standard 2012/ Environment & Social Safeguard (ESS) World Bank/ Equator Principles (EP4).

2. Project Information

2.1 Geographical Location

This section describes the project location (village name, sub-district, regency, and province) and some basic contextual information about the project in relation to surrounding land uses, significant environmental features on and adjoining the site.

2.2 Site Access

This section provides information on how to access the project location.

3. Scope of Work

Scope of works for the preparation of AMDAL document includes:

1. Prepare Term of Reference (KA form) proceeded by coordination with the authority, conduct Community Engagement and Public Consultation (include public announcement in mass media, leaflet, posters, etc). Present the project activities to community includes their impacts, collect suggestions, opinions and responses from the community.
2. Preparation KA form document which includes the following work:
 - a. Incorporate community engagement and public consultation results into KA Form.
 - b. Prepare project description (description of the business/activity plan) based on the project plan provided by the project proponent. List project activities that potentially may cause impacts to social and environment.
 - c. Prepare scoping to identify potential impacts to geo-physical-chemical, biology (terrestrial and aquatic), and social (demography, socio-economic, socio-culture) and public health.
 - d. Prepare potential impacts evaluation to identify impacts that fall under category as Hypothetical Significant Impacts (HSI or DPH),
 - e. The scoping process will consist of the following information:
 - i. Type of project activities that may cause an impacts (potential and DPH) on the environment;
 - ii. Environmental management as planned by The Project and to be included in the KA Form;
 - iii. Potential impact description and Potential impact evaluation to identify HSI or DPH;
 - iv. Study area boundaries (overlay result of project boundary, ecological boundary, social boundary, and administrative boundary), limit of study period for each DPH
 - f. Prepare study methodology on geo-physical-chemical, biology (terrestrial and aquatic), and social (demography, socio-economic, socio-culture) and public health, which consist of the following information:
 - i. Methodology on data collection and analysis;
 - ii. Methodology on significant impacts (DPHs) predictions; and
 - iii. Holistic evaluation methodology of Environmental Impacts.
 - g. Provide advice and input to project proponent regarding the survey plan and sampling needs in the project area;
3. KA Form Presentation to TUK (*Tim Uji Kelayakan Lingkungan Hidup*) or Technical Team of AMDAL commission.
4. Prepare ANDAL Document consists of:
 - a. Detail project description (includes alternatives if exist),
 - b. Detail environmental baseline on geo-physical-chemical, biology (terrestrial and aquatic), and social (demography, socio-economic, socio-culture) and public health;
 - c. Results of scoping (extracted from KA Form),
 - d. All identified DPHs impacts prediction, holistic impacts evaluation and guidance of RKL-RPL to be prepared.
 - i. Prepare analysis results of detailed description of the initial environmental baseline based on the results of the analysis of primary and secondary data and information which consisting of the following work:
 - Processing the latest environmental & social baseline information and data from studies that have been carried out;



- Analyze the information and data obtained from surveys and sampling in the project area;
 - Geo-Physical-Chemical environmental baseline surveys, components include:
 - Surface water quality
 - Hydrology
 - Groundwater
 - Hydrogeology
 - Soil and erosion
 - Ambient air quality
 - Odor
 - Noise and vibration
 - Landscape and visual
 - Traffic survey
 - Others depend on project nature and description.
 - Biology baseline surveys (Biodiversity)
 - Terrestrial
 - Aquatic
 - Social (Socio-Economic, Social-Culture, Demography), Public Health baseline surveys to identify risk of the project and its direct impacts to the community, include:
 - Socio-economic and demographic profile
 - Livelihood activities and income sources
 - Sources of food and water
 - Community health
 - Land use and tenure
 - Development needs
 - Indigenous People and Vulnerable People
 - Existing infrastructure, public facilities, and community health
 - Religion and culture
 - Ecosystem services
 - Cultural heritage
 - Public health condition
 - Public health facility
- ii. Describe the results and evaluation of community engagement and public consultation;
 - iii. HSI or DPH predictions and holistic impacts evaluations on Social and Environment component;
5. Prepare Technical Documents for PERTEK (Technical Approval) as described in Clause 43 – 45 and 49 of GR No. 22 of 2021 includes (a) fulfillment of wastewater standard, (b) fulfillment of emission standard, (c) hazardous waste management, as well as (d) ANDALALIN (Traffic Impacts Assessment).
 6. Secure to get approval of the technical document or PERTEK.
 7. Secure to get approval of SKKLH as an outcome of ANDAL approval by TUK and AMDAL Evaluation Commissions.
 8. Secure to get Environmental Approval (Persetujuan Lingkungan).

9. Prepare Technical Detail (*Rincian Teknis*/*"Rintek"*) of hazardous waste temporary storage and obtain approval following the results of the impact analysis and the direction from Ministry of Environment and Forestry prior to AMDAL presentation.
10. AMDAL Presentation to TUK or Technical Team of AMDAL commission.
11. Preparation RKL-RPL Documents which includes the following:
 - a. Provide writings (advice) on the Environmental Management Plan (RKL) and Environmental Monitoring Plan (RPL) for each identified HSI or DPH as well as hypothetical impacts;
 - b. Completing the Environmental Management Plan Matrix and the Environmental Monitoring Plan Matrix following guidance in Appendix II of GR No. 22 of 2021.

The scope of works for the AMDAL and associated safeguard documents required to meet the IFC Performance Standards (2012), World Bank Environment and Social Safeguards and/or Equator Principles is to be defined and delivered in parallel to the AMDAL process to the extent possible.

1. Undertaking of AMDAL preliminary phase including:
 - a. Identification of environmental and social setting
 - b. Identification of sensitive receptor
 - c. Categorisation of Project
 - d. Scoping and screening of impacts
 - e. Baseline Methodology Definition
2. Environmental and Social baseline data collection, to be integrated into the process for the AMDAL as much as possible
3. Additional baseline data collection to account for seasonal requirements typically associated with aspects such as biodiversity, water quality and air quality
4. Preparation of documents necessary for effective engagement with surrounding communities and key stakeholders:
 - a. Stakeholder Engagement Plan ("SEP")
 - b. Grievance Mechanism ("GM")
 - c. ESIA Disclosure Plan
5. Land Acquisition and Resettlement Action Plan ("LARAP")
6. Aspects pertaining to Indigenous People in a structured approach following:
 - a. Indigenous Peoples Screening
 - b. Indigenous Peoples Development Plan ("IPDP")
 - c. Free, Prior, and Informed Consent ("FPIC") Strategy
7. Biodiversity Critical Habitat Screening
8. Cultural Heritage Screening and Assessment
9. The primary impact assessment process, incorporating variously documents such as:
 - a. ESIA
 - b. Cumulative Impact Assessment ("CIA")
 - c. Supply Chain Risk Assessment (if required)
 - d. Climate Change Risk Assessment ("CCRA")
 - e. Human Rights Impact Assessment ("HRIA")
10. Management and Monitoring Plan, incorporating variously documents such as:
 - a. Environmental and Social Management Plan which integrates recommended mitigation, management and monitoring measures from the AMDAL and combined with those contained in the RKL-RPL to provide a single source of reference for management and monitoring activities



- b. Biodiversity Action Plan
 - c. Biodiversity Offset Strategy
 - d. Livelihood Restoration Plan
 - e. Community Development Plan
 - f. Influx and In-migration Management Plan
 - g. Other plans as may be identified as an outcome of the AMDAL process
11. Be able to respond to comments, queries and requirements from Lenders during the due diligence process and review of the submitted documents

4. Proposal

The consultant is required to present a proposal covering both the technical and the financial in one file/ envelope.

4.1 Company's Profile and Related Experience

The consultant shall describe their company including technical capability, manpower, and previous AMDAL & AMDAL development experience, and company legal documents.

4.2 Team Member

The consultant shall describe their company including technical capability, manpower, and previous AMDAL & AMDAL development experience, and company legal documents.

4.3 Project Schedule

The consultant shall indicate the estimated timeline of the project execution:

- Schedule of important activities (kick-off meeting, Baseline survey, KA form Meeting, ANDAL, RKL-RPL, AMDAL submission & approval, ESIA, etc.)
- Schedule of works, a diagram indicating the working days of the offered key staff by activities.

4.4 Technical Proposal

The consultant should provide the detailed methodology, approach, and deliverables as provided in section 3 scope of work following government regulation and IFC Performance Standard 2012/ Environment & Social Safeguard (ESS) World Bank/ Equator Principles (EP4).

4.5 Financial Proposal

The consultant shall indicate in the financial part of the bid:

- The total amount for each main task in the scope of work.
- A breakdown for each task with the indication of unit rates of the staff (foreign and local).
- Terms of payment

5. Deliverables

5.1 Deliverable by Project Proponent

Project Proponent will provide available documents as:

- Map of the Project.
- Reports (including feasibility study, site assessment report, etc.)
- Other AMDAL and ESIA-related documents.

5.2 Deliverable by the Consultant

The consultant is expected to deliver the following documents as part of the deliverables:

No.	Project Document
1	AMDAL / UKL-UPL (including the public consultation & information disclosure)
2	Environmental Social Impact Assessment
3	Environmental Social Management Plan
4	Environmental Social Management System
5	Technical Details for Hazardous Waste Temporary Storage
6	Technical Approval: <ul style="list-style-type: none"> a. Wastewater; b. Emissions*; c. Hazardous Waste Management*; and d. Traffic Impact Analysis
7	HSE Management Plan: <ul style="list-style-type: none"> a. HSE Policy; b. Org. Chart, P2K3 (Emergency Response Plan, Emergency Contact); c. SOP (Include Form); d. HIRADC/JHHA/JHA/JSA; and e. CV & Certificate
8	Grievance Mechanism
9	Stakeholder Engagement Report
10	Land Acquisition and Resettlement <ul style="list-style-type: none"> a. Land Acquisition and Resettlement Action Plan; and b. Livelihood Restoration Plan
11	Biodiversity: <ul style="list-style-type: none"> a. Critical Habitat Screening; b. Biodiversity Management Plan; and c. Biodiversity Offset Strategy
12	Indigenous People: <ul style="list-style-type: none"> a. Indigenous People Screening; b. Indigenous People Development Plan; and c. Free Prior and Informed Consent Strategy
13	Cultural Heritage: <ul style="list-style-type: none"> a. Cultural Heritage Assessment; and b. Change Finds Procedure

Note: *Depend on the type of the project/activities

6. Deadline & Contact

The proposal from the consultant should be received no later than the date [dd-mm-yyyy] through e-mail to: [insert e-mail]

Email project proponent: [insert e-mail]



Tool 17. Outline of Annual ESG monitoring Report by the MoF PPP unit

This internal report by MoF PPP Unit submitted to the Minister of Finance on supported PPP projects is intended to provide a summary of environmental, social, and governance elements of MoF PPP Unit's projects.

It is proposed that this report is prepared and submitted on an annual basis to provide detail of the effectiveness of ESG mainstreaming in PPP Projects. The report should share ESG Monitoring & Reporting for commitments based on AMDAL documents (RKL/RPL) and for commitments based on good practice/international standards.

The following table provides the proposed contents for this Annual ESG Monitoring Report:

Table 36. Outline of Annual ESG Monitoring Report by the MoF PPP Unit

Chapter	Summary
1. Introduction	Background to the report Objectives of the report Projects under government support <ul style="list-style-type: none"> - Project name - Project sector and description - Project location - Reporting period - Project status (project lifecycle, permitting in relation to ESG)
2. ESG in PPP	Present the major ESG risks, and impacts related to the project, how it being mitigated, monitored, reported, as well as the action plans required. -
3. Relevant ESG Permits or Licenses Obtained	List of relevant ESG permits and/or licenses which includes the names of the relevant government agencies authorized to issue permits; date and time of validity period; and permit extensions that are being processed (if any).
4. Progress in Land Acquisition (if any)	<ul style="list-style-type: none"> - Land acquisition status - Progress of land acquisition - Progress of land permit (if any)
5. Lessons Learned and Ongoing Initiatives	ESG lessons learned from projects Corrective Action Plan Current progress towards Corrective Action Plan
Annex	Supporting documentation evidence

To develop the Annual ESG Monitoring Report, you can refer to:

- [IIF SEMS](#)
- [SMI ESS Guideline](#)
- [SMI Annual Report](#)
- [IIGF Annual Report](#)
- [WB Annual Report](#)
- [IFC Annual Report](#)

Tool 18. Outline of ESG Report at Financial Close by GCA

This internal report by GCA to the Ministry of Finance at the end of the PDF Support is intended to provide a summary of ESG commitments on a project-by-project basis. The GCA will be required to identify ESG issues and impacts, and to propose how these will be mitigated and monitored/reported during project construction. The report should share ESG Monitoring & Reporting for commitments based on AMDAL documents (RKL/RPL) and for commitments based on good practice/international standards.

The following table provides the proposed contents for this report:

Table 37. Outline of ESG Report at Financial Close by GCA

Chapter	Summary
1. Introduction	Introduction to the GCA and to the PPP project <ul style="list-style-type: none"> - Project name - Project sector and description - Project location - Project signing date - Project start date - Project completion date - Project status (project lifecycle, permitting in relation to ESG) - Commitment to ESG - Materiality Assessment - Overview of ESG goals
2. Updated ESG Assessment	<ul style="list-style-type: none"> - Updated ESG risk register (revised from the FBC, based on discussion with MoF, SMV, and IBE), how it being mitigated (including risk allocation and responsibilities to mitigate risk), and monitored. - Project Contribution to SDG
3. ESG Monitoring and Reporting Plan	Based on ESG indicators as agreed with MoF, SMV, and IBE
4. Conclusions and Recommendations	<ul style="list-style-type: none"> - Overall assessment on ESG - ESG lesson learned from projects - Recommendation
Annex	Supporting documentation

* Regular ESG reporting might also be feasible for:

- Projects with availability payment scheme: annually during AP billing
- Projects receiving VGF support: during each drawdown
- Projects receiving guarantee support: annually throughout the concession period under the guarantee monitoring.

Tool 19. Proposed Inputs to Contractual Documents

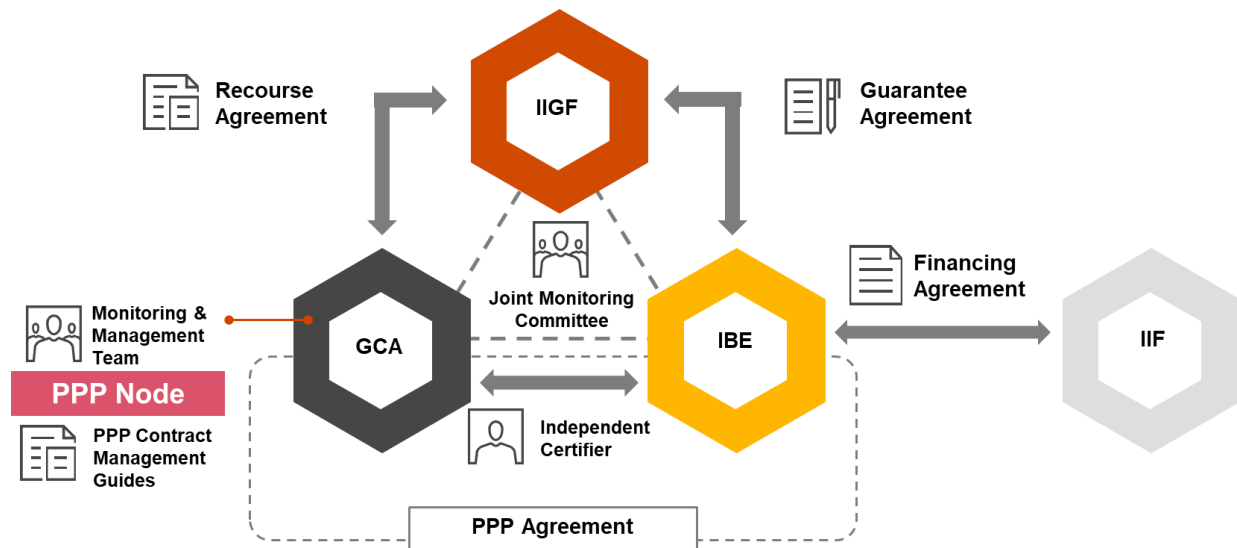
How to use this tool:

This tool includes proposed inputs to various contractual documents under a PPP scheme.

Suggested Contractual Framework in Government Support Legal Documents

In order to ensure the ESG enforcement in the PPP Project, we would like to suggest MOF to consider and implement the following enhancement of the contractual framework under the government support legal documents:

Figure 18. Suggested Contractual Framework in Government Support Legal Documents



In preparing this tool, we are reviewing and benchmarking the project showcase provided to us in the (i) Mapare Project; and the (ii) Pekanbaru Spam Project. In addition, we also refer to the Guidance on PPP Contractual Provisions published by the World Bank¹⁴ in order to understand the ESG provisions which are currently referenced in general practice for PPP projects. Furthermore, we aim that this section can be considered by MOF in implementing ESG provisions in future PPP Projects.

Given the above explanation, below are recommended clauses for ESG Integration in Contractual Framework:

I. PDF Agreements

a. Master Agreement

Overview of the Agreement

This agreement is entered into by the MOF and GCA which regulates the basic principles and implementation of PDF that must be complied with and fulfilled by the GCA as a consequence of the approval of the PDF application.

In general, this agreement regulates the facilities agreed between MOF and GCA which consist of project preparation facilities¹⁵ and transaction assistance facilities¹⁶ which can be implemented effectively in accordance with the prevailing laws and regulations until financial closing is achieved.

¹⁴ Guidance on PPP Contractual Provisions 2019 EDITION - https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2021-03/Guidance%20on%20PPP%20Contractual%20Provisions_2019%20edition.pdf

¹⁵ The project preparation facilities include (i) the preparation of a final business case; and (ii) the provision of a viability gap fund and government guarantees, and also to intensify the creditworthiness of the GCA and project.

¹⁶ The scope of the facilities provided at the PPP Transaction Implementation Phase includes (a) procurement of IBE; (b) the signing of the PPP Agreement; and (c) obtaining financing for the PPP Project (financial close), as long as it is part of the responsibilities allocated to GCA based on the PPP Agreement.

MOF as a PDF provider has an obligation and is primarily responsible for preparing PDF budgets, providing supporting documents on the procurement of PDF and ensuring the proper utilization of PDF funds for project sustainability. On the other hand, the GCA has an obligation to ensure that the distribution of PDF funds to IBE is in accordance with the utilization plan as stated in the final business case prepared by GCA. Furthermore, GCA is also obliged to hold IBE elections and prepare the execution of the PPP Agreement.

Key ESG Elements

The Master Agreement¹⁷ does not expressly stipulate ESG provisions for both MOF and GCA in relation to the PDF support. Therefore, the following ESG elements can be considered for setting in the Master Agreement:

1. Environmental Aspects

In order to approve the submission of the PDF application, MOF may require GCA to provide detailed assessments related to the compliance with environmental aspects, including but not limited to the action plan that will be carried out by the GCA to satisfy the environmental permits and licensing requirements.

The Master Agreement is the fundamental documents to lock in the GCA's commitment in ensuring that the project will apply sufficient environmental standards applicable for the project.

2. Social Aspects

Apart from environmental aspects above, MOF needs to ensure that GCAs in implementing projects must take social aspects into account, for example, (a) good practice in gender mainstreaming in PPP; (b) use of labor; (c) occupational safety and health; (d) the acquisition of land that considers the interests of the surrounding indigenous people, that all aspects shall be assessed and examined in accordance with the provisions of the applicable laws and regulations.

Table 38. Recommended Contractual Clause of PDF Agreements

Section in the Contract	Proposed Provisions
Recitals	The Parties commit to contribute to a more sustainable infrastructure development and therefore agree to apply an internationally recognized environment and social standards and guidance in carrying out the scope of this Agreement.
Purposes and Objectives	The objective of this Master Agreement are as follows: <ol style="list-style-type: none"> a. ... b. ... c. ... d. to ensure that the provision of this Facility and its Output comply with the applicable environmental, social, and governance regulations and applies a sufficient internationally recognized environmental, social, and governance standards to contribute to the national commitment for development of sustainable public infrastructure.
Duties and Responsibilities of the Contracting Parties	(1) MOF, as the facility provider has duties and responsibilities, among others, as follows: <ol style="list-style-type: none"> a. b.

¹⁷ In preparing this section, we refer to the Master Agreement of Makassar-Parepare Project and SPAM Pekanbaru Project.



Section in the Contract	Proposed Provisions
	<ul style="list-style-type: none">c. MOF must ensure that the performance of this Agreement follows the principle for building a more sustainable public infrastructure and uphold the principles of [Quality Infrastructure Investment]d. GCA shall comply with the environmental and social requirements in preparing the final business case pursuant to applicable laws and regulations and [MoF may insert internationally-recognized standards/principles that must be fulfilled and complied by the GCA].e. To ensure that the provision and utilization of the PDF funds is effective and efficient in accordance with the project scope by also taking environmental and social aspects into account under the final feasibility study. <p>(2) GCA has the following duties and responsibilities, among others:</p> <ul style="list-style-type: none">a. ...b. ...c. Prepare a final feasibility study on the project in accordance with environmental and social aspects based on the applicable laws and regulations as well as internationally-recognized standards/principles, as required by the MOF in PDF application request and mentioned in the Annexure [*] herein (the annexure which indicates the ESG requirement can be embedded in the Agreement on a case-by-case basis to the extent applicable).d. Ensuring the implementation of environmental and social aspects of the project carried out by GCA and IBE based on the final feasibility study.e. Prepare a draft PPP agreement in accordance with the prevailing laws and regulations with clauses that ensure the application of an agreed environmental and social standard as provided in the Pre-feasibility Study [or a specific ESG standards/principles can be expressly indicated].f. Provide a periodic report and coordinate with MOF and/or authorized representatives thereof to organize the action plan in relation to the fulfillment of environmental and social aspects of the project.
General Representations	GCA hereby agrees to comply with the terms and conditions set forth in this Agreement, the Facility Implementation Agreement, and other documents that support the provision of facilities by MOF with due regard to the provisions of environmental and social aspects to the extent relevant to the project.
Coordination and Supervision	GCA agrees that MOF or its authorized person has full authority to supervise and assess the fulfillment of the requirements for all processes and procedures determined by MOF in regard with the facility provision for PPP project, and MOF, based on its discretion, can coordinate with other ministries or third parties who have competence to assess the fulfillment of GCA obligations in obtaining facilities based on this agreement.



Section in the Contract	Proposed Provisions
	<p>During the term of this agreement, MOF has the right to:</p> <ol style="list-style-type: none"> a. request an update on the fulfillment of the action plan determined by the GCA; and b. request a copy of supporting documents for the fulfillment of the requirements for the provision of facilities or documents related to the fulfillment of indicators or action plans carried out by the GCA.

b. Assignment Agreement

Overview of the Agreement

This agreement is between the MOF and the assigned SMV as the PDF Implementer. This agreement set forth the key principles, required Outputs, rights and obligations of the Parties, commercial clauses between the MOF and PDF Implementer in connection with the assignment.

Key ESG Elements

The Assignment Agreement¹⁸ does not stipulate a detailed ESG aspects and standards that must be applied in the Outputs or in the connection of the project implementation. We understand, however, that one of the objectives of the assignment is for SMV may include the provision of assistance to prepare AMDAL documents and process environmental permit documents. Additionally, the agreement does not stipulate specific social aspects to be considered other than what is required under the Bappenas Regulation 4 of 2015.

1. Environmental aspects:

MOF may require SMV to provide an assistance in relation to the preparation of AMDAL/UKL-UPL documents in order to obtain the environmental approval as referred to in PP 22/2021, including by the fulfilment of the following requirements, among others:

- a. fulfillment of Wastewater Quality Standards;
- b. fulfillment of Emission Quality Standards;
- c. Hazardous Waste Management; and/or
- d. traffic impact analysis.

2. Social aspects:

MOF may require the SMVs to ensure that GCAs in implementing projects must take social aspects into account, for example, (a) good practice in gender mainstreaming in PPP processes; (b) use of labor; (c) aspects of occupational safety and health; (d) the acquisition of land that considers the interests of the surrounding indigenous people, that all aspects shall be assessed and examined in accordance with the provisions of the applicable laws and regulations.

Recommended Contractual Clause

Table 39. Recommended Contractual Clause of Assignment Agreement

Section in the Contract	Proposed Provisions
Rights and Obligations	In accordance with the assignment, SMV shall carry out the

¹⁸ In preparing this section, we refer to the Assignment Agreement of Makassar-Parepare Project and SPAM Pekanbaru Project

Section in the Contract	Proposed Provisions
of the Parties	following activities: <ol style="list-style-type: none"> a. ... b. Preparation of the final pre-feasibility study along with studies and/or supporting documents for the pre-feasibility study, provided that the analytical approach at least considers environmental, social, technical, occupational safety and health, and land use for the public interest. c. Assistance in relation to the preparation of AMDAL/RKL-RPL and other supporting documents in order to obtain environmental approval based on applicable laws and regulations. d. Ensure that the development of Outputs has complied to the [insert required standards/principle e.g. Quality Infrastructure Investment principles] e. Identify and conduct an analysis of IBE's ability to include the costs for management of environmental and social impacts under the financial framework during the life of the Project.

c. PDF Implementation Agreement

Overview of the Agreement

The PDF Implementation Agreement is signed by the MOF and PDF Implementer to set out the general rule of the facility implementation, including the scope of works and activities covered under the PDF, the required Outputs, compensation and payments for the PDF Implementer, reporting obligations, etc.

Key ESG Elements

The PDF Implementation Agreement contains the scope of work of the PDF Implementer and also requirements for the PDF outputs. It is important that the commitment in the Master Agreement between MOF and GCA is also reiterated here for consistent approach and application of ESG standards in PDF implementation.

1. Environmental Aspects

MOF may provide a detailed ESG requirement to be included in the Outputs of the PDF as applicable for the project. MOF may describe a specific principles or standards it wants to apply, for example Quality Infrastructure Investment principles, or any other environmental standards.

2. Social Aspects

Apart from environmental aspects above, MOF needs to ensure that PDF Implementer take social aspects into account, for example, (a) good practice in gender mainstreaming in PPP; (b) use of labor; (c) occupational safety and health; (d) the acquisition of land that considers the interests of the surrounding indigenous people, that all aspects shall be assessed and examined in accordance with the provisions of the applicable laws and regulations.

Recommended Contractual Clause

Table 40. Recommended Contractual Clause of PDF Implementation Agreement

Section in the Contract	Proposed Provisions
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Section in the Contract	Proposed Provisions
Activities and Outputs	In carrying out the activities and production of Outputs as stipulated in this Agreement, the PDF implementer is committed to apply the highest standard of environmental and social requirements as it deems fit and proper for the project [or can be replaced with a specific standards/practices if it has been identified as being suitable for the nature of projects]. The PDF Implementer will ensure that the Outputs contains an adequate and appropriate ESG requirement that will contribute to the sustainable and eco-friendly infrastructure development.

II. PPP Agreement

Overview of the Agreement

This agreement is entered into by and between the government and the enterprises in accordance with the infrastructure procurement for the public interest with reference to the pre-determined specification by the minister/head of institution/regional head/state-owned/regional owned enterprises, partly or wholly using the resources of the enterprises by paying attention risk sharing among the parties.

Key ESG Elements

In general, the PPP Agreement has considered ESG aspects for both the GCA and IBE to be complied with, such as (i) the obligation to comply with the provisions in the AMDAL; and (ii) compensation for the implementation of land acquisition for the benefit of the project. However, the implementation of the ESG aspects in the PPP Agreement can be improved by implementing various aspects, for example, (a) good practice in gender mainstreaming in PPP projects; (b) use of labor; and (c) occupational safety and health.

Table 41. Recommended Contractual Clause of PPP Agreement

Section in the Contract	Proposed Provisions
Definition	Environmental Document means Environmental Approval including EIA, UKL-UPL, [ESG Standards/Practices], Environmental Feasibility Decree, Environmental Commitment Statement, Environmental Technical Approval and/or Operational Worthiness Certificate (as relevant to the project)
Construction	<p>The IBE must design, engineer, rehabilitate and build the Project in accordance with the provisions of law and ensure the fulfillment of sustainability project development standards among others the safety of construction engineering, labor safety and health, public safety and the environment.</p> <p>The IBE undertakes that the design, engineering, procurement, construction, installation, testing of the Project shall comply with this Agreement and prevailing laws, including but not limited to environmental law and relating to social protection and certain parties affected by the Project.</p>
Independent Certifiers	Independent Certifier must assess and determine the satisfaction of environmental and social obligations under approved environmental documents and social analysis output



Section in the Contract	Proposed Provisions
	in the designs and technical specification.
Modifications	Modifications must be designed, executed, and commissioned with compliance to approved Environmental Documents and must consider the implications of the modification to the community and certain parties affected by the Project.
Environment Management System	<ol style="list-style-type: none"> 1. IBE, during the term of the Agreement, shall ensure the fulfillment of the following obligations: <ol style="list-style-type: none"> a. establish and manage a comprehensive of the Environmental and Social Management System of the Project in accordance with the prevailing laws and regulations, including but not limited to environmental and social protection related regulations, and [applicable ESG standard/practices applicable in the industry which has previously approved by the GCA]. b. comply with EIA and perform the reporting requirements in relation to the EIA every 6 months in accordance with the Law and provide a copy of such report to GCA; 2. In order to ensure the fulfillment of paragraph (1) point (b) above, unless it is required by the GCA, the IBE at any time shall coordinate and discuss with the GCA in respect of environmental obligations as required under EIA and Environmental Approval.
Environmental Damage Compensation	<ol style="list-style-type: none"> 1. The IBE is obligated to indemnify the GCA for any costs, claims, losses, expenses (including legal fees) or liability borne by the GCA either directly or indirectly as a result of: <ol style="list-style-type: none"> a. Violation in every environmental laws by the IBE from the date on which the IBE has access to the Project Site in accordance with this Agreement; and/or b. Leakage emission, discharge, release, seepage or movement of hazardous substances at any time including the handling, disposal or disturbance of any such hazardous substances caused either directly or indirectly from the construction or operation of the project. 2. IBE, at any time, shall be able to provide environment restoration and rehabilitation guarantee funds as requisite by the prevailing laws and regulations deposited in the bank account of a state-owned bank.
Performance Indicators	<p>The indicator of IBE's performance includes, among others, compliance to the environmental and social requirements, application of a high ESG standard to ensure sustainability of the environment and minimize the ESG impact to the society [if a specific standard/practices is identified, this can be inserted with the ESG standard/practices expressively].</p> <p>[In the case that incentives or disincentives clause are provided in the PPP Agreement, this must be elaborated to</p>

Section in the Contract	Proposed Provisions
	clarify the imposition of such incentives/disincentives to the IBE regarding ESG requirements fulfillment]
Financial Model	Expressively requires the recognition and internalization of environmental and social costs of the project to be included under the financial model. Since the financial model is a product deriving from the procurement process (submitted as part of the bid), it is important to ensure that the requirement to include ESG costs is reflected in the final financial model of the IBE.

III. Guarantee Agreements

Overview of the Agreement

Guarantee Agreement is a facility provided by GCA to IBE, to guarantee the fulfillment of GCA's obligations in making payments for services provided by IBE. The guarantee shall only be disbursed if the GCA fails to fulfill its obligations under the PPP Agreement.

The implementation of the infrastructure guarantee agreement is carried out by SMV and IBE in the event that certain projects are eligible to receive infrastructure guarantees based on the applicable laws and regulations.

Key ESG Elements

In general, the Guarantee Agreement has considered ESG aspects in the terms for the IBE to be complied with, for example, the obligation to comply with the provisions in the environmental law and labor law. However, the implementation of the ESG aspects in the Guarantee Agreement can be improved by implementing various social aspects, for example, (a) good practice in gender mainstreaming in PPP projects and (b) occupational safety and health.

Table 42. Recommended Contractual Clause of Guarantee Agreements

Section in the Contract	Proposed Provisions
Conditions Precedent	<p>The obligations of SMV under this guarantee agreement shall become effective from the date on which all of the following conditions are fulfilled:</p> <ol style="list-style-type: none"> a. the IBE has delivered to SMV, minutes of meeting signed by the IBE and GCA confirming the fact that all of the conditions precedent for the effective performance of the PPP Agreement have been fully satisfied or waived; b. the IBE has delivered to SMV a statement letter signed by the IBE and GCA confirming that the IBE has capabilities and qualifications to fulfil (i) all obligation under the PPP Agreement; and (ii) any legal obligations as set out under the prevailing laws and regulations to carry out the project.
IBE Undertakings	<p>The IBE undertakes that it shall, at all times in connection with the project:</p> <ol style="list-style-type: none"> a. comply with all prevailing laws and regulations, [including environmental and social related laws, regulations, and standards which are relevant with the project], b. allow SMV, or any of its authorized to examine and have access to the project,

Section in the Contract	Proposed Provisions
	c. upon a reasonable request from SMV, IBE shall allow SMV and provide access and supporting documents needed by the SMV to monitor the fulfilment of (i) environmental and social aspects; and (ii) project development progress.

IV. Recourse Agreement

Overview of the Agreement

The recourse agreement contains the terms agreed by GCA as the project owner and IIGF as the guarantor for the guarantee provided by IIGF to IBE in connection with GCA's financial obligations for services provided by IBE related to the PPP project development.

Key ESG Elements

The recourse agreement¹⁹ does not expressly stipulate ESG provisions for both GCA and SMV to be complied with, in relation to the guarantee support. Therefore, the following ESG elements can be considered for setting in the recourse Agreement:

1. Environmental aspects:

To minimize the impact that may result in IIGF disbursing guarantee payments for GCA's failure to fulfill its obligations under the PPP Agreement. One of the efforts that can be done by IIGF is to require GCA to comply with the ESG aspects to avoid losses that adversely affect and result in delays in the project development process.

IIGF may require GCA to provide detailed assessments related to compliance with environmental aspects, including but not limited to the action plan that will be carried out by GCA and IBE to obtain environmental approval and other relevant supporting environmental documents in carrying out environmental management and protection, based on applicable laws and regulations in the feasibility study prepared by GCA.

2. Social aspects:

Apart from environmental aspects above, IIGF needs also to ensure that GCAs in implementing projects must take social aspects into account, for example, (a) good practice in gender mainstreaming in PPP; (b) use of labor; (c) occupational safety and health; (d) the acquisition of land that considers the interests of the surrounding indigenous people, that all aspects shall be assessed and examined in accordance with the provisions of the applicable laws and regulations.

Table 43. Recommended Contractual Clause of Recourse Agreement

Section in the Contract	Proposed Provisions
GCA Commitment	GCA undertakes and commits to use its best endeavors in controlling, managing, preventing, and reducing the impact of infrastructure risks based on risk allocation during the term of the PPP Agreement and Guarantee Agreement by way of establishing a risk mitigation guideline document that at least contains potential risks and risk mitigation on environmental, social, technical and work accident protection aspects which such document is an integral part of this Recourse Agreement. If there is any amendment to the risk mitigation guideline document, it will

¹⁹ In preparing this section, we refer to the Recourse Agreement of SPAM Pekanbaru Project.



Section in the Contract	Proposed Provisions
	only be effective upon the approval of the SMV
Representations and Warranties	GCA hereby represents and warrants that the implementation of the project is in accordance with applicable laws and regulations including but not limited to laws and regulations related to environmental protection, social aspects which relevant to the project, and occupational health and safety protection as set out and required under the PPP Agreement and the final business outline prepared by the GCA



Tool 20. Environmental and Social Commitment Plan Template

How to use this tool:

This tool can be used by MoF to develop an ESCP document as an annex to the PDF Master Agreement, which will serve to secure GCA's commitment in assessing ESG risks and developing measures to minimize or mitigate the impact. Also as an addition to Tool#18 ESG Report at Financial Close by GCA.

ENVIRONMENTAL AND SOCIAL COMMITMENT PLAN (ESCP)

[Project Title]

Prepared by: [GCA]

[Month/year]

1. [GCA] ("the GCA") is planning to implement [Project title] ("the Project"). The Ministry of Finance has agreed to provide Project Development Facility ("PDF") support for the Project.
2. The GCA will implement material measures and actions so that the Project is implemented in accordance with the ESG Manual. This Environmental and Social Commitment Plan ("ESCP") sets out a summary of the material measures and actions.
3. Where the ESCP refers to specific plans or other documents, whether they have already been prepared or are to be developed, the GCA will also comply with all provisions of such plans or other documents.
4. The table below summarizes the material measures and actions that are required, as well as the timing of the material measures and actions. The GCA is responsible for compliance with all requirements of the ESCP even when implementation of specific measures and actions is conducted by the Implementing Business Entity ("IBE").
5. Implementation of the material measures and actions set out in this ESCP will be monitored and reported to the Ministry of Finance by the GCA as required by the ESCP and the conditions of the Master Agreement, and the Ministry of Finance will monitor and assess progress and completion of the material measures and actions throughout implementation of the Project.
6. As agreed by the Ministry of Finance and the GCA, this ESCP may be revised from time to time during PDF implementation, to reflect adaptive management of Project changes and unforeseen circumstances or in response to assessment of Project conducted under the ESCP itself. In such circumstances, the GCA will discuss and consult the changes with the Ministry of Finance and will update the ESCP to reflect such changes. Agreement on changes to the ESCP will be documented through an exchange of letters signed by the Ministry of Finance and the GCA. The GCA will promptly disclose the updated ESCP.
7. Where Project changes or unforeseen circumstances result in changes to the risks and impacts during Project implementation, the GCA shall provide additional funds, if needed, to implement actions and measures to address such risks and impacts.

Table 44. Timeframe of Material Measures and Actions to Mitigate the Project's Potential Risks and Impacts

Summary of the Material Measures and Actions to Mitigate the Project's Potential Environmental and Social Risks and Impacts		Timeframe
A	REGULAR REPORTING: Prepare and submit regular monitoring reports on the implementation of the ESCP.	Six-monthly throughout Project implementation
B	INCIDENTS AND ACCIDENTS NOTIFICATION: Prepare and implement an incident reporting procedure as part of the project-level Environmental and Social Management Plan (ESMP), indicating details of the incident, institutional responsibilities, immediate measures to address the reported incident and information requirements to be provided by the contractor or supervision engineer as appropriate.	Prior to the Master Agreement effective date Maintain throughout Project implementation
1.1	ORGANISATIONAL STRUCTURE: Require the IBE to establish an organisational structure with qualified staff to support management of ESG risks including dedicated ESG, Stakeholder Engagement, and Grievance Redress Mechanism ("GRM") Specialists.	Prior to the financial close Maintain as necessary throughout Project implementation
1.2	ENVIRONMENTAL AND SOCIAL ASSESSMENT: Undertake studies for environmental and social assessment for relevant project activities, with support from the PDF Consultant.	Prior to entering the Transaction stage
1.3	PERMIT, CONSENTS, AND AUTHORIZATIONS: Obtain relevant environmental permits through AMDAL or UKL/UPL processes applicable to the project activities from relevant government authorities.	Prior to procurement of construction works
2.1	LABOR MANAGEMENT PROCEDURES: Require the IBE to develop Labor Management Procedures ("LMP") in accordance with the GOI's legal framework. This LMP is applicable to direct workers, contracted workers, and community workers.	Prior to the financial close and updated during Project implementation
2.2	GRM FOR PROJECT WORKERS: Develop and maintain a grievance mechanism as part of the labor management procedures for project workers.	GRM procedure for project workers to be established prior to the financial close GRM to be disseminated to project workers prior to commencing any works and maintained throughout the project implementation
2.3	OCCUPATIONAL HEALTH AND SAFETY ("OHS") MEASURES: Require IBE to develop and implement OHS measures for project workers. Require IBE to implement training of project workers designed to heighten awareness of OHS risks.	OHS measures: Prior to the financial close and maintained throughout the project implementation. Training: Prior to and during construction
2.4	EMERGENCY PREPAREDNESS AND RESPONSE: Require the IBE to prepare an Emergency Preparedness and Response Plan for (i) construction period and (ii) for operation stage. Ensure workers and contractors are trained. Implement the plan as needed.	Plan in place: prior to construction, prior to operation Workers trained: prior to commencing project work Plan implemented: as required during construction and operation



Summary of the Material Measures and Actions to Mitigate the Project's Potential Environmental and Social Risks and Impacts		Timeframe
3.1	MANAGEMENT OF WASTE AND HAZARDOUS MATERIALS: Require the IBE to develop and implement measures and procedures for management of waste and hazardous materials during demolition, dismantling, and disposal.	Prior to the financial close and maintained throughout the project implementation.
4.1	COMMUNITY HEALTH AND SAFETY: Prepare hazard risk assessment and contingency plan in coordination with local authorities and affected communities to build early warning communication and evacuation plans.	Prior to construction works Maintained throughout construction activities
4.2	GENDER-BASED VIOLENCE (“GBV”) AND SEXUAL EXPLOITATION, ABUSE, AND HARASSMENT (“SEAH”) RISKS: Require the IBE to develop and implement measures and actions as well as capacity building plans to assess and manage GBV and SEAH risks as direct risks of project implementation.	Prior to the financial close Maintained throughout Project implementation
4.3	EMERGENCY RESPONSE MEASURES: Require the IBE to develop and implement measures to address emergency events during the construction and operation stages in coordination with measures under 2.4 where relevant.	Prior to the financial close Maintained throughout Project implementation
4.4	[Insert if applicable to the Project: TRAFFIC AND ROAD SAFETY: Require the IBE to develop and implement a road safety management procedure to address potential hazards for communities resulting from construction activities and operationalization of construction equipment.]	[Prior to the financial close Maintained throughout construction activities]
5.1	RESETTLEMENT POLICY FRAMEWORK (“RPF”): Develop an RPF describing policies, procedures and processes that will be followed throughout the project in the course of mitigation of adverse social impacts due to project-related land acquisition, restriction on land use and involuntary resettlement.	Prior to the Transaction stage Maintained throughout Project implementation
5.2	RESETTLEMENT PLANS (“RP”): in the event that involuntary resettlement is envisaged for the purpose of land acquisition, develop and implement RP consistent with the requirements of Government of Indonesia's law and regulation. The plan will include details of consultations and engagement with affected people, livelihoods restoration measures and available GRM processes to affected landowners.	Prior to land acquisition and resettlement (if any)
5.3	GRIEVANCE MECHANISM: Prepare a Grievance Redress Mechanism (“GRM”) framework for potentially affected people as a result of land acquisition (if any)	Prior to land acquisition and resettlement (if any) Maintained throughout Project implementation
6.1	BIODIVERSITY RISKS AND IMPACTS: Develop and implement screening procedures to minimize and mitigate biodiversity risks and impacts resulting from the proposed infrastructure.	Prior to the Transaction stage Maintained throughout Project implementation
7.1	INDIGENOUS PEOPLES PRESENT OR COLLECTIVELY ATTACHED TO PROJECT AREA: Conduct an assessment in conjunction with action 1.2 (Environmental and Social Assessment) of the ESCP to understand the nature and degree of the expected direct and indirect economic, social, cultural and	Following identification of project locations



Summary of the Material Measures and Actions to Mitigate the Project's Potential Environmental and Social Risks and Impacts		Timeframe
	environmental impacts on community groups identified as Indigenous Peoples who are present in, or have collective attachment to, the project area and other footprints.	
7.2	INDIGENOUS PEOPLES PLANNING FRAMEWORK ("IPPF"): develop and implement an IPPF as a guideline for screening, consultations and engagement as well as GRM for community groups identified as Indigenous Peoples.	Prior to the Transaction stage
7.3	INDIGENOUS PEOPLES PLAN ("IPP"): develop and implement an IPP in the event that there is presence of Indigenous Peoples in the project target areas as informed by the screening process specified in 7.1.	After screening (if there is presence of Indigenous peoples)
8.1	CHANCE FINDS: Incorporate assessment of potential risks and impacts on cultural heritage in the environmental and social assessment under 1.2. Require the IBE to develop a chance find procedure, if applicable.	Prior to construction works Maintained throughout Project implementation
9.1	STAKEHOLDER ENGAGEMENT PLAN (SEP) PREPARATION: Develop an SEP that describes how information will be provided to, and received from, stakeholders. The SEP will include and describe a grievance mechanism.	Prior to the Transaction stage
9.2	SEP IMPLEMENTATION: Implement the SEP, including grievance mechanism. This is to include information dissemination and consultations regarding emergency preparedness and response, and training of workers and local officials as needed to implement the plan.	Throughout Project implementation
10.1	GENDER ASSESSMENT: In conjunction with action 1.2, develop an assessment to screen the existing gender considerations in the project area and identify potential gender risks that could arise from the project. Develop recommendations and action plan to mitigate the identified risks resulting from the proposed infrastructure.	Prior to entering the Transaction stage
<p>Note: When the Material Actions to Mitigate the Potential Environmental and Social Risks and Impacts do not apply to the project. Accordingly, the timeframe column is filled with "not applicable" and adds with an explanation. Please see the right column for the example.</p>		<p>1. [Not applicable]; project activities will not involve land acquisition activities nor restriction of land use.</p> <p>2. [Not applicable]; the project scope of influence is limited to urban areas and thus will not cause significant conversion and degradation to modified, natural, and critical habitats</p> <p>3. [Not applicable]; initial assessment identified no community groups as Indigenous Peoples who are present in, or have a collective attachment to, the project area and other footprints.</p>

4. Case Studies

What You Will Find Inside This Chapter

This chapter contains the results of ESG assessment of four infrastructure PPP projects receiving PDF support. The assessed projects consist of two projects that have reached financial close and another two projects that start to receive PDF support, at the time this Manual was developed (early 2022). The projects that have reached financial close are the Makassar – Parepare Railway and the Pekanbaru Water Supply Projects. The two projects with ongoing PDF support are Sumatera Hazardous Waste Management and Sei Mangkei Public Housing. The assessment includes socio-economic benefits as well as environmental and social risks and mitigation actions.

Purpose of This Section

This section aims to provide the users of this Manual with examples on how ESG considerations should be incorporated throughout the project preparation stage, including examples on how to use some tools provided in this Manual. This section also provides lessons learned on the impact to project delivery, when certain ESG issues were not identified and resolved appropriately, early in the preparation.

4.1. Makassar - Parepare Railway

Project Background

Passenger travel and goods movements in Sulawesi in 2030 is estimated to be quite high, with 15.5 million people per year and the movement of goods is 27 million tons per year. South Sulawesi being the province with the highest movement. The government has launched a connectivity acceleration development through the Trans-Sulawesi national railway construction to support equitable development in Indonesia.

Although South Sulawesi is expected to experience the largest movement of goods and people on the island of Sulawesi, to date there is no train line operating in the province. The government proposed the construction of the Makassar-Parepare railway line to support the improvement and equity of national development as well as being the first stage of the construction of the Trans-Sulawesi Railway. Makassar City as the Capital of South Sulawesi Province has a very important position and role for Sulawesi Island and Eastern Indonesia, while Parepare City is the second largest city that supports the function of the provincial capital. The railway construction is expected to significantly increase this role by increasing the flow of goods and passenger traffic.

Project Description

The planned Makassar - Parepare railway will include six segments, i.e. Segments A, B, C, D, and E (main tracks from Makassar to Parepare) and Segment F (side tracks to Garongkong port and to Tonasa cement factory). Figure 21 illustrates the map overview for the Makassar - Parepare Railway plan (main track).

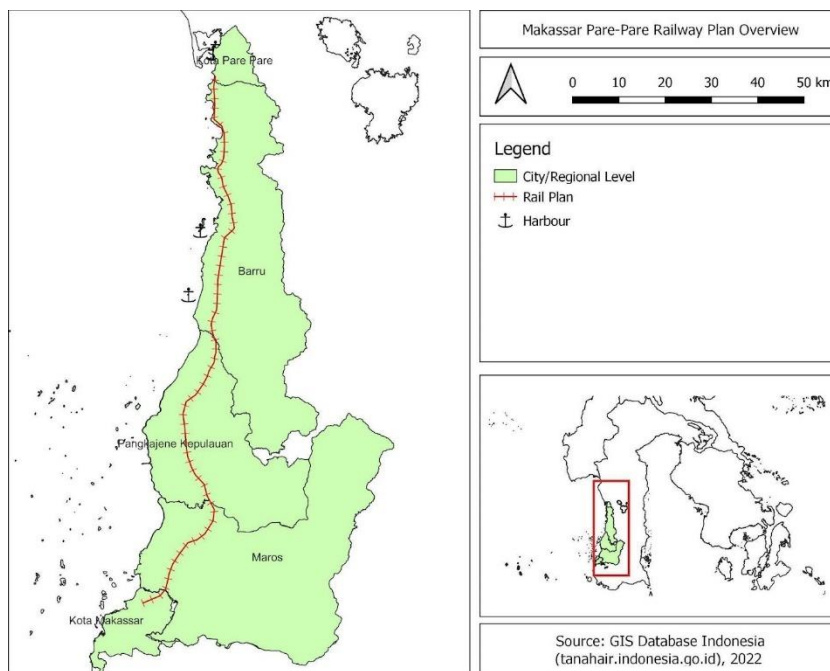


Figure 19 Makassar - Parepare Railway Plan Map Overview

Of the planned Makassar - Parepare railway network, the PPP project covers:

- The operation and maintenance of Segments B, C, and D, which are being constructed by the Ministry of Transportation
- The construction, operation, and maintenance of Segments F, i.e., side tracks to Garongkong Port and to the Tonasa cement factory (note: another side track to the Bosowa cement factory has been canceled due to land acquisition issues)

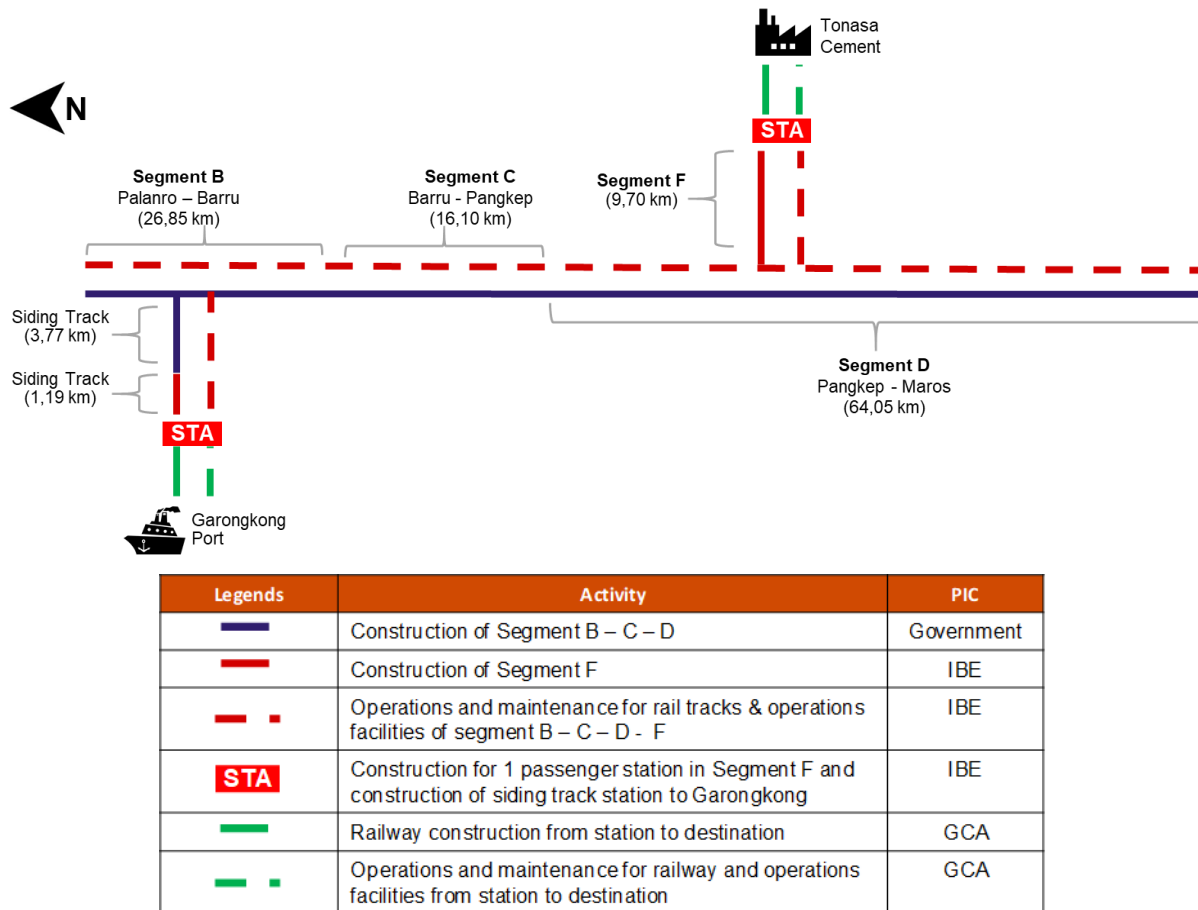


Figure 20 Planned Makassar – Parepare railway and the PPP scope

The PPP project details are summarized in Table 44 below, while the PPP arrangement scheme is shown in Figure 23.

Table 45 Makassar – Parepare Railway PPP Project Details

Location	South Sulawesi Province
Government Contracting Agency	Ministry of Transportation (Directorate General of Railway)
Implementing Business Entity	PT Celebes Railway Indonesia
Type of PPP	Solicited
Railway Length	±120 km
Financial Sources	SMI, IIF, BSI
Support from MoF	PDF and Guarantee
Capital Value	USD 67.88 million
Revenue Model	Availability Payment
Beneficiaries	Commuters, Businesses
PPP Started	September 2021
Concession Period	17 years
Project Status	Construction

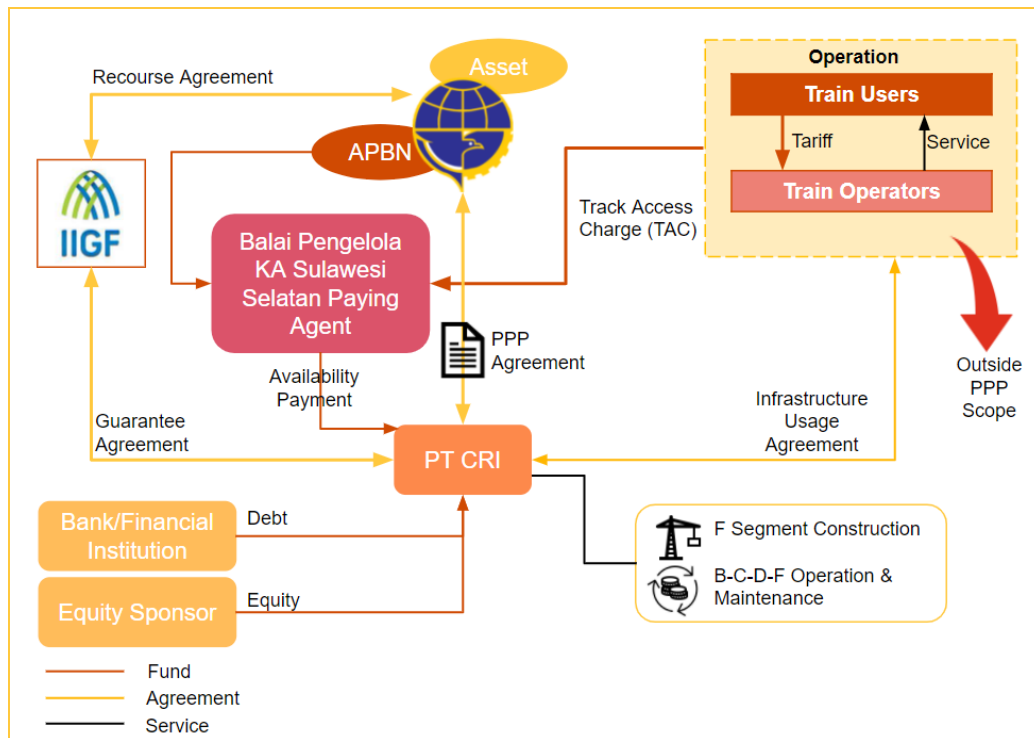


Figure 21 Makassar – Parepare Railway PPP Scheme

Project Benefits and Potential Issues

The planned railway will provide various socio-economic benefits but also entail potential environmental and social issues as presented below. However, some parameters were not assessed in detail in the FBC document (the detailed ESG assessment is provided at 4.1.1)

Potential benefits

The segment B-C-D and F Tonasa will pass through the towns of Maros to Palanro. Therefore the railway will improve connectivity to:

- Makassar, Garongkong, and Parepare ports
- The Hasanuddin international airport in Makassar
- Mining areas (andesite, basalt, marble, limestone, gravel, and sand)
- Large- and medium-scale industrial areas, as well as the Tonasa cement factory
- The planned special economic zone in Barru
- Ecotourism areas such as the Kapoposang marine park and the Bantimurung- Bulusaraung national park

The shift from private vehicles and truck freight to rail transportation will lead to a reduction in greenhouse gas emissions. Furthermore, the new public transport will improve mobility and improve socio-economic opportunities including access to jobs for all sectors of the community including vulnerable groups such as women and disabled. The option to select rail transportation will reduce travel time and costs.

Potential issues

The route will pass through protection and production forests, wetlands, rivers, aquaculture ponds, farms, and residential areas. There might be disturbances to local livelihood (e.g., ease of access to water or to farms) as well as an impact on the environment where the railway passes through forests (potential loss of flora and fauna and impact on biodiversity).

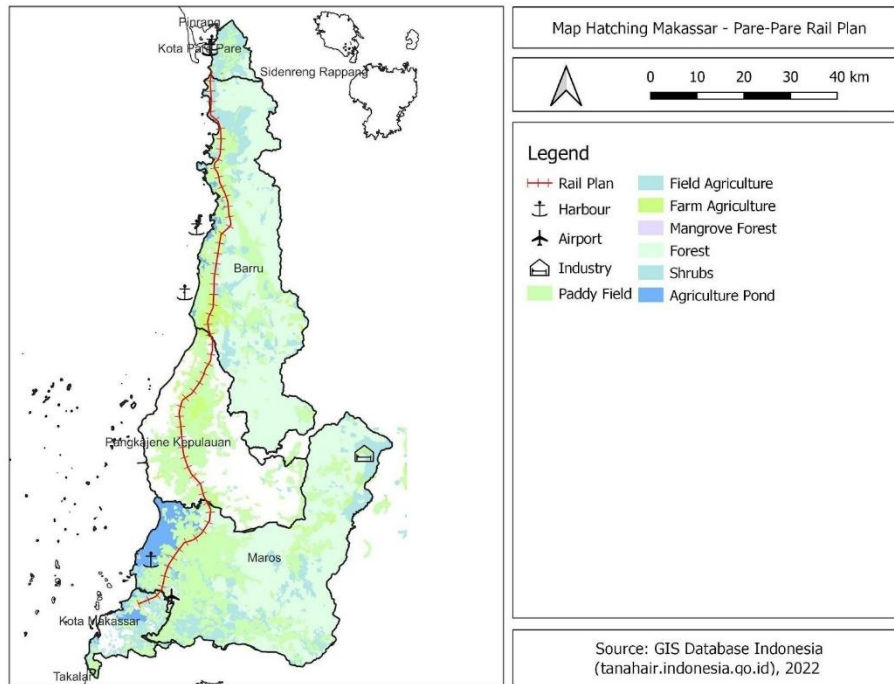


Figure 22 Makassar – Parepare Railway Map Hatching

Issues Identified and Mitigation Actions at Makassar - Parepare Railway

Various ESG issues were not identified or not linked to mitigation actions in the FBC and Andal document. Issues that are not anticipated and mitigated appropriately may result in negative ESG outcomes for the project. Such issues have been captured in parallel in an ESG Risk Register that is based on the experience of previous projects, consultant's assessment and good international industrial practices (GIIP). The detailed ESG assessment is provided in the 4.1.1.

Below are the issues identified and mitigation actions at Makassar-Parepare Railway project. The issue identification is done by the consultant as part of preparing the examples for this section of the ESG Manual, and is not the real project support or transaction in improving the ESG performance. The project has been undertaken before the development of this ESG Manual.

Table 46 Issues Identified and Mitigation Actions at Makassar-Parepare Railway - Environmental aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Environmental				
Raw material use	CRI's hazardous material management procedures are scattered, unorganized, and not specific to CRI's work activities	Construction & operation	Develop specific hazardous materials management documents for CRI activities, e.g. labels, 3Rs, handling procedures, MSDS, etc.	CAP
Waste and wastewater generation	Soil and groundwater contamination due to spills of oil and or fuel for heavy equipment and locomotives.	Construction & operation	No mitigation action assessed	FBC & ANDAL
	Waste generation due to terminal/station operations	Operation	No mitigation action assessed	FBC
	CRI's (hazardous and non-hazardous) waste procedures are scattered, unorganized, and not specific to CRI's work activities	Construction & operation	Create specific waste management documents for CRI activities and carry out waste monitoring	CAP



Aspects	Issues Identified	Stage	Mitigation	Source
Ground contamination & damage	Soil contamination due to construction and operation of basecamps for workers and construction of stations	Construction	Choose a basecamp location that does not disturb the environment and returns it to its original condition after completion of Provisional Hand Over (PHO) as well as managing solid waste and wastewater.	FBC
	Potential for landslides due to cut and fill activities on slopes	Construction	No mitigation action assessed	ANDAL
Surface water quality	Soil, sand, and hazardous materials carried by the water flow (drainage) to the river	Construction & operation	No mitigation action assessed	FBC & ANDAL
Groundwater quality	Groundwater contamination due to spilled oil/fuel and other waste	Construction & operation	No mitigation action assessed	ANDAL
Air quality	Decreased air quality due to engine combustion and dust generated from passing heavy equipment and trains	Construction & operation	Watering on the road where the materials are transported to reduce dust	FBC & ANDAL
Noise & vibration	Increased noise and occurrence of vibration due to mobilization of heavy equipment, materials, and construction activities	Construction	<ul style="list-style-type: none"> Plan a special path of mobilization Do not work at night for rail segments adjacent to residential areas 	FBC & ANDAL
	Terminal operations and passing trains	Operation	Selection of facility technology	FBC & ANDAL
Flood	The rail line has the potential to become a barrier to water flow so that it will cause pooled stagnant water or flooding	Construction & operation	No mitigation action assessed	FBC & ANDAL
	Surface water flow during heavy rain turned out to overwhelm the water tunnels, leading to a risk of deteriorating rail tracks and impact on quality of surface and groundwater	Construction & operation	No mitigation action assessed	Stakeholder consultation
Biodiversity	Damage to vegetation and decreased environmental aesthetics	Construction	Make efforts to repair it to its original condition (remediation) after completion of Provisional Hand Over (PHO)	CAP & Stakeholder consultation
	Population of moor macaque (<i>Macaca maura</i>) was found near the project area (outside of protected forest)	Construction	CRI needs to carry out management and monitoring of flora and fauna (land and water) both at the construction and operation stages	FBC
	Disturbance to the life of aquatic biota, especially in the construction of rail bridges that cross rivers	Construction & operation		ANDAL & CAP

Table 47 Issues Identified and Mitigation Actions at Makassar-Parepare Railway – Social aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Social				
Labour and working conditions	There is still a gap in labor policy	Construction & operation	Update the employment policies in accordance with laws and regulations and socialize them	CAP
	Social jealousy of local workers	Construction & operation	Involve local workers in the project	FBC & ANDAL
	Incompetent workers	Construction & operation	Develop capacity building programs related to ESG and OHS aspects	CAP
	Incompetent workers	Construction & operation	Develop capacity building programs related to ESG and OHS aspects	CAP
Occupational health and safety	CRI's H&S and emergency response plan is not adequately comprehensive specific to railways or CRI's work activities	Construction & operation	Develop an Emergency Response Plan (ERP) and update more specific OHS documents for the construction and operation period of railway activities	FBC & CAP
Community health and safety	Traffic accidents and respiratory diseases from decreased air quality due to heavy equipment and train traffic	Construction & operation	<ul style="list-style-type: none"> • Create a work schedule that minimizes traffic disruption • Installation of traffic signs • Watering on roads traversed by heavy equipment and material transporters 	FBC & ANDAL
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Conflicts arise during land acquisition	Pre-construction	<ul style="list-style-type: none"> • Develop a supplementary resettlement action plan (SRAP) • Involve BPN and local government during land acquisition process 	FBC, ANDAL, & CAP
Cultural heritage	The discovery of Jotta's Grave that may affect the project	Construction & operation	<ul style="list-style-type: none"> • Negotiating with Village Heads, community leaders, and land owners • Coordinate with the Archaeological Center, the Cultural Conservation Preservation Center, and the Tourism Office to find out areas that contain cultural heritage 	CAP
Community concern	Lack of local community involvement	Construction & operation	<ul style="list-style-type: none"> • Communicate project activities and hire local communities • Develop a Stakeholder Engagement Plan 	ANDAL & CAP
	Bad perceptions and complaints from local communities	Pre-construction & construction	<ul style="list-style-type: none"> • Socialization • Develop GRM for affected communities 	FBC, ANDAL, & CAP
Governance				
Monitoring and reporting of ESG indicators	Semester reporting for environmental management (e.g. monitoring of pollution prevention, resource conservation, and energy efficiency) had not been	Construction & operation	<ul style="list-style-type: none"> • Ensure environmental monitoring up to the operational stage • Develop an energy saving plan and flora and fauna management 	CAP

Aspects	Issues Identified	Stage	Mitigation	Source
	conducted		<ul style="list-style-type: none"> Carry out reporting every semester 	
Clear and legitimate project institutional arrangement and contractual agreements	There is no special unit to manage the risk of environmental and social impacts	Pre-construction - construction	CRI needs to form a unit consisting of competent personnel with clear tasks in managing the risk of environmental, social, and OHS impacts	CAP

Table 48 Issues Identified and Mitigation Actions at Makassar-Parepare Railway - More Environmental Issues that Should also be Identified

Aspects	Potential Issues	Stage	Mitigation
Environmental			
Greenhouse gas (GHG) emissions	The energy used during the construction stage causes direct greenhouse gas emissions, while the manufacture of building material is an indirect greenhouse gas emissions.	Construction	Develop an energy saving plan to monitor and calculate annual energy consumption and GHG or CO ₂ emissions
	GHG emissions from transport might be affected in different ways (reduced truck freight, reduced private vehicles in the main route but increased use of private vehicles to reach the stations, reduced travel time along Makassar - Parepare road).	Operation	
Energy use	Construction project uses a large amount of energy to operate the heavy equipment.	Construction	Develop an energy saving plan to monitor and calculate annual energy consumption and GHG or CO ₂ emissions
	Railway transport may use substantial energy depending on train types, while energy use from operation and maintenance of stations and tracks is relatively small.	Operation	
Sanitation	Poor sanitation facilities during construction and operation (stations) could contaminate groundwater, cause pooled stagnant water and unpleasant odors, and attract vectors of diseases	Construction & operation	<ul style="list-style-type: none"> Build proper sanitation facilities Develop a management and monitoring plan for domestic waste and wastewater and implement it
Light pollution	Light pollution during the construction Stage is from illumination devices used at night. If light is directed towards adjacent residents' windows, it has the potential to disturb sleep.	Construction	<ul style="list-style-type: none"> The lighting only points to the area under construction Develop a light pollution management and monitoring plan for the AMDAL

Table 49 Issues Identified and Mitigation Actions at Makassar-Parepare Railway - More Social Issues that Should also be Identified

Aspects	Potential Issues	Stage	Mitigation
Social			
Socio-economic benefits	Construction work will create job opportunities, business opportunities, and community income	Construction	Advise contractors to hire local workers for construction activities



Aspects	Potential Issues	Stage	Mitigation
	Railway transport will offer an alternative route with potentially shorter travel time	Operation	<ul style="list-style-type: none"> • Disclose to local communities the positive impacts to attract them to use the train • Develop GRM and Stakeholder Engagement Plan to support the achievement of the project's positive impacts
	Railway transport will serve as another option of public transportation, increasing mobility of people lacking private vehicles	Operation	
Access to Ecosystem Services	loss of community access to important places such as livelihoods and natural resources	Pre-construction & construction	Assess the accessibility to certain ecosystem services during pre-construction Stage to determine if design changes can be accommodated to reduce the impacts
Sexual Exploitation, Abuse, and Harassment (SEAH)	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household	Pre-construction & construction	Include a set of gender responsive clauses under the contract agreement with the project workers, which provides statements including: (i) anti-sexual harassment among workers and community members (ii) Community engagement plan, which contains the commitment of active public consultation to community members, including women and vulnerable groups
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces	Pre-construction & construction	
	Remote locations where people have limited access to resources to report SEAH cases and receive support	Construction & operation	Form a specific team and mechanism for SEAH reports
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources	Construction & operation	Conduct gender awareness capacity building through public socialization to communities
Gender	Unequal employment opportunities for women due to the preference of male applicants, particularly in STEM (science, technology, engineering, and math) positions.	Pre-construction	Set targets for women employees and avoid preference in job vacancies. For women in the communities, use gender-sensitive communication channels.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving program's benefits, fair compensation, and information.	Pre-construction	Develop a gender-sensitive community consultation SOP. This includes several aspects such as women-only consultation in flexible time and place; childcare facility; give invitations under the women's name (not husband/or family); use sex-disaggregated attendance list; ensure meaningful participation of women through providing space and opportunity for women to speak.
	The absence of women's personal protective equipment, which can endanger female workers.	Construction & operation	Some projects are usually male-dominated, there may be unavailability of PPE for women. It is necessary to provide properly fitting PPE and personal protective clothing based on female anthropometric (body



Aspects	Potential Issues	Stage	Mitigation
			measurement) data.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction	Take specific measures to ensure women workers' rights such as the provision of a no discrimination policy, collecting sex-disaggregated employees data to measure equal promotion, pay raise, and training opportunities between men and women.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, child care, separate mess, and others.	Construction & operation	Provide specific and secure facilities for women
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	Include aspects in project design taking into account the needs of gender, disadvantaged people and people with disabilities.
	Lack of facilitation for people with disabilities in the public consultation.	Pre-construction	
	The absence of disability-friendly facilities that can endanger persons with disabilities to work in the related sector.	Construction & operation	
Human rights	Forced purchase of land (e.g. through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction & operation	Conduct initial assessment on land acquisition and Supplementary Resettlement Action Plan (SRAP)
	Forced labour violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime	Construction & operation	Develop grievance mechanism for workers, have in place appropriate human resources management system, and identify any construction contractors with a high risk profile for forced labour indicators
	Lost or reduced community access to important places such as sources of livelihoods and public services	Construction & operation	Prepare the Grievance mechanism for the community in all of the project Stages. Ensure that appropriate human rights screening and assessment is undertaken during the project preparation Stage.
Indigenous people	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land	Construction & operation	<ul style="list-style-type: none"> • Carry out assessment on indigenous people • Require IBE to monitor and report indigenous people to GCA

4.1.1 Identified Issues in Makassar – Parepare Railway

The table below outlines the ESG issues pertaining to the Makassar – Parepare Railway PPP Project. It also includes relevant PPP preparation activities and project documents to develop or improve for similar projects, as reference for GCAs planning to develop urban transport infrastructure projects.

Table 50 Identified Issues in Makassar - Parepare Railway

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
Environmental				
GHG emissions	The energy use during the construction stage causes direct GHG emissions, while the manufacture of building material causes indirect GHG emissions.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report GHG emissions to GCA.
	GHG emissions from transport might be affected in different ways (reduced truck freight, reduced private vehicles on the main route but increased use of private vehicles to reach the stations, reduced travel time along Makassar - Parepare road due to reduced road traffic).	Operation	AMDAL Preparation, FBC Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions throughout the project.
Energy use	Construction project uses a large amount of energy to operate the heavy equipment.	Construction	AMDAL Preparation, FBC Preparation	AMDAL should include energy use analysis. FBC's CBA should include costs and benefits such as energy use throughout the project.
	Railway transport may use substantial energy depending on train types, while energy use from the operation and maintenance of stations and tracks is relatively small. However, overall energy use might be reduced with the shift from the truck freight.	Operation	AMDAL Preparation, FBC Preparation	AMDAL should include energy use analysis. FBC's CBA should include costs and benefits, such as energy use throughout the project.
Water use	Construction may consume water from the ground or nearby streams, which can decrease the groundwater level or river volume and interfere with the use of water in the surrounding area and/or can cause land subsidence and local flooding.	Construction	AMDAL Preparation, FBC Preparation	AMDAL should include water use analysis. FBC's CBA should include Socioeconomic costs and benefits, such as the depletion of natural resources throughout the project.

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	The water used in the railway operation should be negligible.	Operation	AMDAL Preparation, FBC Preparation	AMDAL should include water use analysis. FBC's CBA should include costs and benefits, such as the depletion of natural resources throughout the project.
Raw material use	Construction projects use large amounts of raw materials, such as sand, gravel, concrete, and steel. Furthermore, residual raw materials may be wasted without being reused or recycled.	Construction	AMDAL Preparation	AMDAL should include raw material use.
	Raw material use in railway operation is relatively negligible.	Operation	AMDAL Preparation	AMDAL should include raw material use.
Waste and wastewater generation	<ul style="list-style-type: none"> The construction process generates specific waste, such as construction waste (e.g., soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. Wastewater from bathing and washing from toilets in construction areas, if not treated properly, can contaminate soil and water bodies. 	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
	Waste from railway operation might be negligible in volume but might include hazardous waste (e.g., used oil). However, the waste generated at stations also needs to be considered.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
Sanitation	Poor sanitation facilities during construction could contaminate groundwater, cause pooled stagnant water and unpleasant odors, and attract vectors for disease.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
	Poor sanitation facilities in stations could contaminate groundwater, cause pooled stagnant water and unpleasant odors, and attract vectors for disease.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
Ground	Ground contamination might result from waste	Construction	AMDAL Preparation,	AMDAL and FBC should include the

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
contamination and damage	materials (such as metal, plastic, wood, and bricks) and waste from workers that are not disposed of properly.		FBC Preparation, PPP Agreement Preparation	determination of waste management and wastewater treatment plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the waste and wastewater management to GCA.
	Risk of landslides due to facilities built on steep slopes.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the result of soil investigation throughout the project.
	Ground contamination might result from oil leaks and other waste from the passing trains.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
Surface water quality	Construction activities can cause sedimentation due to runoff (especially during the rainy season), which can bring soil particles to the surface of the water around the project site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the surface water quality management and monitoring plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
	Surface water contamination might result from oil leaks and other waste from the passing trains.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the surface water quality management and monitoring plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
Groundwater quality	Groundwater can be polluted due to the site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the groundwater quality management and monitoring plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
	Groundwater contamination might result from oil leaks and other waste from the passing trains.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the groundwater quality management and monitoring plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
Air quality	Mobilization of heavy equipment and materials, as well as construction activities will generate dust and gas emissions, resulting in a decrease in air quality at and around the project site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the ambient air quality management and monitoring plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the air

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	Air pollution can be material due to the combustion of fuel from the passing trains.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	quality management to GCA. AMDAL and FBC should include the ambient air quality management and monitoring plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the air quality management to GCA.
Noise & vibration	The use of heavy equipment during the construction Stage will result in increased noise levels around the project site.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the noise level and vibration management and monitoring plan throughout the project.
	Vibration can occur due to the installation of foundations, which can cause cracks in the soil, roads, and walls of local residents' houses.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the noise level and vibration management and monitoring plan throughout the project.
	The passing trains will produce noise that might disturb the surrounding communities.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the noise level and vibration management and monitoring plan throughout the project.
Light pollution	Light pollution during construction may occur due to illumination devices used at night. If light is directed towards adjacent residents' windows, it has the potential to disturb sleep.	Construction	AMDAL Preparation	AMDAL should include light pollution management and monitoring plans throughout the project.
	The passing trains will produce light pollution that might disturb the surrounding communities at night.	Operation	AMDAL Preparation	AMDAL should include light pollution management and monitoring plan throughout the project
Flood	Risk of flooding during the construction and operation Stages caused by changes to the existing rainwater drainage system.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the assessment result on site/land conditions, and potential remedy for mitigating flood risks throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the land condition to GCA.
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area.	Pre-construction & Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the assessment result on biodiversity condition, and land clearing management plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Aquatic life is disrupted due to construction waste contamination and operational activity.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the assessment result on biodiversity condition, and land clearing management plan

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
				throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
	Operations of the developed facilities may disturb animals living near or crossing the tracks.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the assessment result on biodiversity condition, and land clearing management plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the biodiversity management to GCA.
Social				
Labor and working conditions	Lack of competent workers, resulting in the existing workers becoming overworked. This can lead to worker resignations and project delays.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	A number of job opportunities are not fulfilled by the local labor market.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	Lack of information about job opportunities (especially for local worker hire).	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & Operation	PPP Agreement	PPP Agreement should include obligations to be put on the IBE to monitor and report OHS to GCA.
Community health and safety	Community health and safety risks associated with traffic accidents and increased dust, air and noise pollution during construction activities and project operations.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include a community health and safety management plan (including rail traffic safety precautions) throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community health and safety to GCA.
	Railway construction may increase household waste and harm community sanitation due to the operation of the workers' accommodation.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include a community health and safety management plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community health and safety to GCA.

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult to negotiate with the landowners, which can shift the project's timeline or delay the project by looking for alternative land.	Pre-construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the initial assessment on land acquisition and resettlement throughout the project. LARP.
	Request for increased compensation fees from affected communities.	Pre-construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the initial assessment on land acquisition and resettlement throughout the project. LARP.
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the initial assessment on land acquisition and resettlement throughout the project. LARP.
	Customary land or communal land affected by land acquisition.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the initial assessment on land acquisition and resettlement throughout the project. LARP.
	Economic displacement not only for landowners but also land users.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the initial assessment on land acquisition and resettlement throughout the project. LARP.
Sexual Exploitation, Abuse, and Harassment ("SEAH")	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & Construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & Construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & Operation	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor and report SEAH to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources	Construction & Operation	FBC Preparation	Public Consultation Report should include gender inclusion.

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	(for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).			
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in science, technology, engineering, and mathematics ("STEM") positions.	Pre-construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving program benefits, fair compensation, and information.	Pre-construction	FBC Preparation, PPP Agreement Preparation	Public Consultation Report should include gender inclusion. PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	The absence of women's personal protective equipment, which can endanger female workers.	Construction & Operation	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & Construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction & Operation	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	FBC Preparation	FBC should include the disability considerations throughout the project.
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, accessible materials such as braille versions, audiotaped versions, etc) in the public consultation.	Pre-construction	FBC Preparation	FBC should include the disability considerations throughout the project.
	The absence of disability-friendly facilities that can obstruct or endanger persons with disabilities when working or using the railway facilities.	Construction & Operation	FBC Preparation	FBC should include the disability considerations throughout the project.
Human Right	Gap between employees and non-employee workers.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	Forced purchase of land (e.g., through forcible eviction without payment or due process, or not undertaking a fair or transparent negotiation process).	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	Forced labor violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	Lost or reduced community access to important places such as sources of livelihoods and public services.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
Cultural Heritage	Lost or reduced access to cultural heritage sites; potential damage to the cultural heritage sites themselves due to vibration, topographical or hydrological changes, etc.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the assessment on existing cultural heritage and the mitigation plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the cultural heritage to GCA.
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land.	Construction & Operation	AMDAL Preparation	AMDAL and FBC should include the assessment on indigenous people throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the indigenous people to GCA.
Community Concern	Lack of communication and coordination with the local community can lead to rejection of related projects.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising from the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.
	The emergence of social jealousy due to services from related sectors.	Operation	AMDAL Preparation, FBC Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.
	Negative concern/public protest from the community may disrupt project activities.	Pre-construction & Construction	AMDAL Preparation, FBC Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.

4.2. Pekanbaru Water Supply

Project Background

The coverage of water supply services in Pekanbaru City is still low. PDAM was only able to serve 9.3% of the total population of Pekanbaru City in 2017. The low coverage of PDAM services is mainly due to limited funding from PDAM to be able to invest in increasing drinking water treatment capacity. To increase the coverage of drinking water in Pekanbaru City area, the City Government through PDAM, responsible for water supply in Pekanbaru. The project is planned to be implemented using the PPP scheme. The project will be built with the participation of business entities in the construction and operation and maintenance of the project. PDAM will act as GCA based on the assignment from the Mayor of Pekanbaru.

The objective of the Project is to provide reliable drinking water infrastructure according to the drinking water quality standards and managed efficiently so as to meet the needs of the community and support economic activities in Pekanbaru City.

Project Description

The Pekanbaru Water Supply PPP project covers the rehabilitation of existing water supply facilities (water treatment plant and supply network), expansion of the facilities (one additional water treatment plant and extended distribution pipes), and maintenance of both the existing and planned facilities.

The Water Treatment Plants are located in a PDAM-owned site on Siak River, and the water distribution network will be laid throughout seven districts in the center of Pekanbaru.

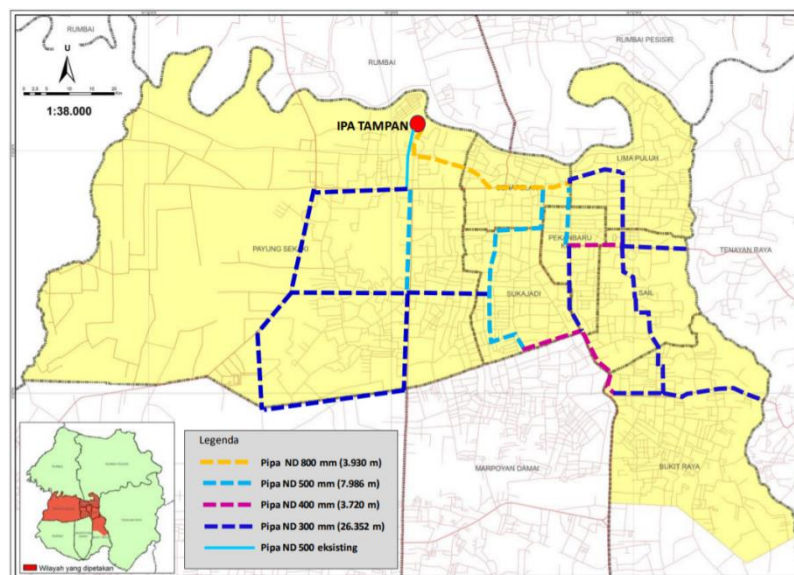


Figure 23 Pekanbaru Water Supply Project Location

The PPP project details are summarized in Table 4-6 below, and the PPP arrangement scheme is shown in Figure 26.

Table 51 Pekanbaru Water Supply PPP Project Details

Location	Pekanbaru, Riau Province
Government Contracting Agency	Tirta Siak Water Supply Company (PDAM Tirta Siak)
Implementing Business Entity	PT PP Tirta Madani ("PPTM")
Type of PPP	Solicited
Total Capacity	750 L/s
Financial Source	PDAM, Municipal Government, VGF
Support from MoF	PDF, VGF, Guarantee
Capital Value	USD 50.03 Million
Revenue Model	User charge (to GCA)
Beneficiaries	Households, Businesses
PPP Started	December 2020
Concession Period	25 years
Project Status	Construction

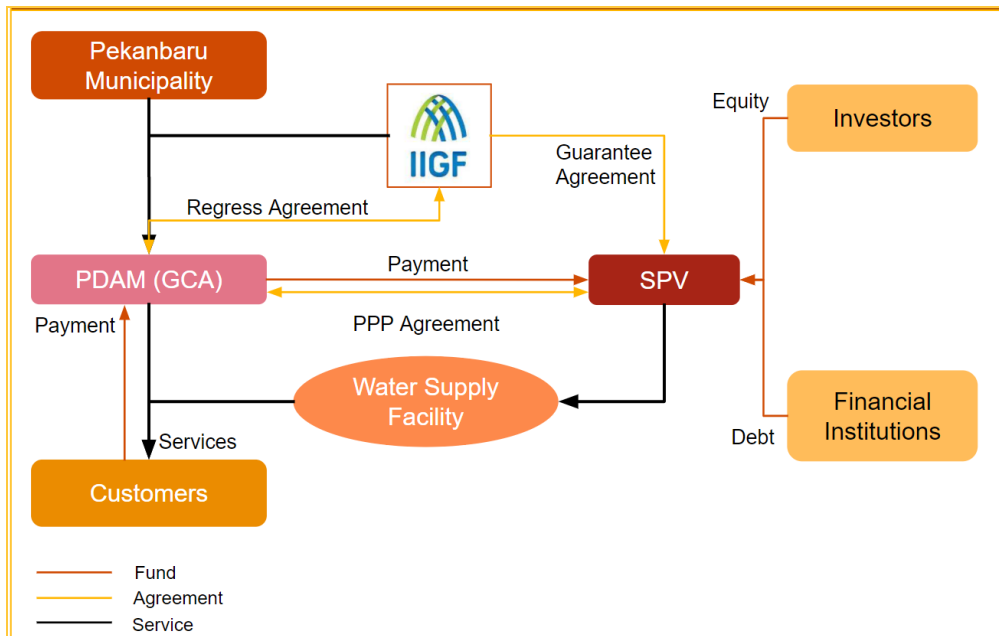


Figure 24 Pekanbaru Water Supply PPP Scheme

Project Benefits and Potential Issues

The planned water supply network will provide various socio-economic benefits but also entail potential environmental and social issues as presented below. However these parameters were not assessed in detail in the FBC document.

Potential benefits

The water supply network will serve densely populated residential, commercial, and office areas in Pekanbaru. Improved supply to clean water will reduce the use of groundwater in the city, thus reducing the risk of lowered water table and consumption of contaminated water. Reliable water supply will reduce the time and money spent by households (particularly the women) to get water, and will improve health and sanitation, therefore increase life expectancy, decrease the likelihood of water-borne diseases and hospital treatment, and prevent stunting.

Based on overlays with the city spatial plan, the water supply network will cross two designated Urban Strategic Regions (“KSK”) for Economic Development, i.e., Bandar Raya Payung Sekaki and Hijau Setia Maharaja. Therefore, the water supply will support the expected economic growth in those areas.

Potential issues

The pipe network route will pass through major thoroughfares in the center of Pekanbaru. Construction might disrupt commercial activities as well as disturb local residents through slowed traffic, noise, dust, and vibration.

Additionally, the pipeline will pass through the old town area in Senapelan; construction might (temporarily or permanently) negatively affect some historically important sites and the overall landscape.

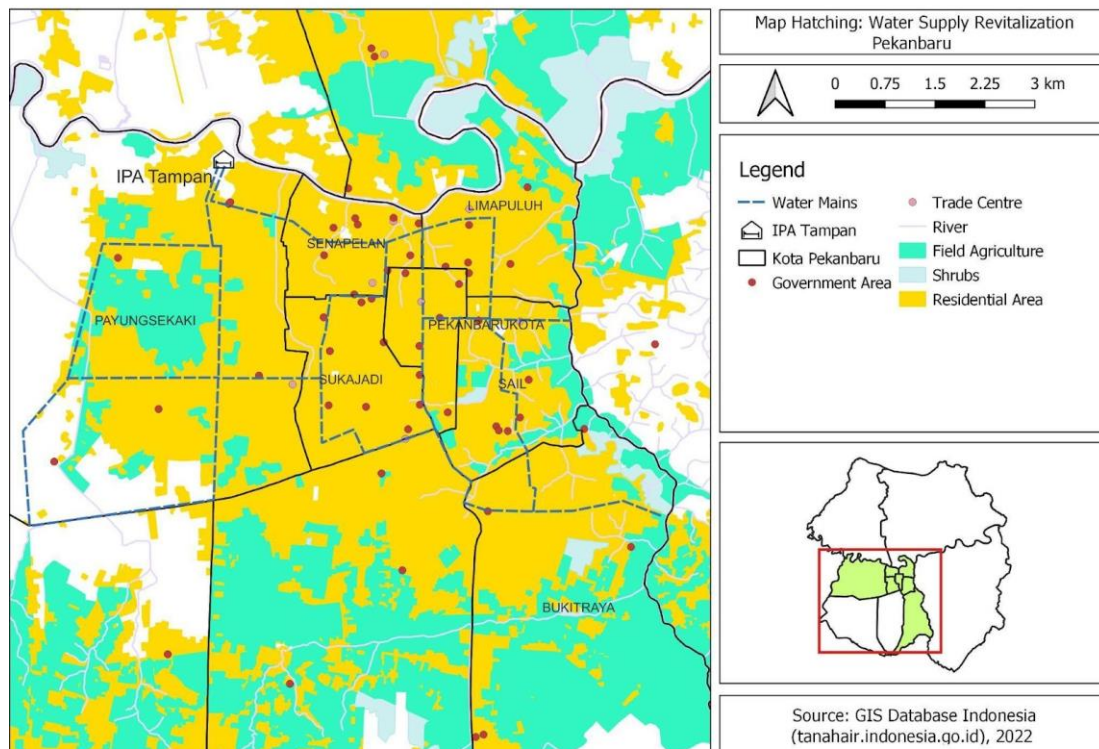


Figure 25 Pekanbaru Water Supply Map Hatching

Issues Identified and Mitigation Actions at Pekanbaru Water Supply

Various ESG issues were not identified or not linked to mitigation actions in the FBC and Andal document. Issues that are not anticipated and mitigated appropriately may result in negative ESG outcomes for the project. Such issues have been captured in parallel in an ESG Risk Register that is based on the experience of previous projects consultant’s assessment and good international industrial practices (GIIP). The detailed ESG assessment is provided at 4.2.1.

Below are the issues identified and mitigation actions at Makassar-Parepare Railway project. The issue identification is done by the consultant as part of preparing the examples for this section of the ESG Manual, and is not the real project support or transaction in improving the ESG performance. The project has been undertaken before the development of this ESG Manual.

Table 52 Issues Identified and Mitigation Actions at Pekanbaru Water Supply – Environmental Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Environmental				
Greenhouse gas (GHG) emissions	There was no plan for monitoring and calculating annual energy consumption and GHG or CO ₂ emissions	Construction & operation	PPTM needs to develop an energy saving plan to monitor and calculate annual energy consumption and GHG or CO ₂ emissions	CAP
Energy use	There was no plan for monitoring and calculating annual energy consumption and GHG or CO ₂ emissions	Construction & operation	PPTM needs to develop an energy saving plan to monitor and calculate annual energy consumption and GHG or CO ₂ emissions	CAP
Water use	Raw water quality sometimes still exceeds the threshold, which is 5 NTU	Operation	Make SOPs for management and monitoring of raw water quality and report periodically to IIF and include it in the RKL RPL	CAP
Raw material use	Used diesel fuel was found dripping to the ground as the storage tank did not have a secondary retainer	Operation	<ul style="list-style-type: none"> • Provide secondary containment with a capacity of 110% of the tank volume, equipped with symbols and labels • Carry out land remediation 	CAP
Waste and wastewater generation	Hazardous waste was not clearly labeled or properly disposed of and there was no designated area to store hazardous waste.	Operation	<ul style="list-style-type: none"> • PPTM must have waste management procedures (e.g. waste water, sludge, and hazardous) and report it in RKL-RPL per semester • PPTM must obtain a permit to store hazardous waste 	RKL-RPL & CAP
Sanitation	Decrease in environmental sanitation due to base camp operations and material spillage during material mobilization	Construction	<ul style="list-style-type: none"> • Build sanitation facilities at basecamp for workers • Cover material with tarpaulin during mobilization 	RKL-RPL & CAP
Ground contamination & damage	Landslide	Construction & operation	Avoid steep slopes and landslide prone areas for pipelines	FBC
Surface water quality	Decline in surface water quality	Construction & operation	<ul style="list-style-type: none"> • Build a hazardous waste storage area to store hazardous waste • Carry out the recovery process for sludge and don't throw it into the river • Build a communal septic tank to facilitate the management of domestic wastewater 	FBC, RKL-RPL, & ANDAL
Air quality	Decreased air quality due to dust from material mobilization and pipeline work	Construction	<ul style="list-style-type: none"> • Limit the vehicle speed • Water the road and soil • Install the pipes according to SOP • Install the signs to give a warning regarding pipe excavations 	FBC, RKL-RPL, & ANDAL

Aspects	Issues Identified	Stage	Mitigation	Source
	Air quality disturbance from backup generator operation	Operation	<ul style="list-style-type: none"> Routine maintenance for generator engine Use low emission fuel Install chimney with emission filter 	RKI-RPL
Noise & vibration	Increased noise due to heavy equipment	Construction	Good use of heavy equipment	FBC
Flood	The emergence of muddy puddles	Construction & operation	Make temporary drainage	FBC

Table 53 Issues Identified and Mitigation Actions at Pekanbaru Water Supply - Social Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Social				
Labour and working conditions	Lack of information about job opportunities	Construction & operation	Open job vacancies by prioritizing local workers according to their qualifications	FBC
Social economic benefits	Open job opportunities for construction workers	Construction	Advise contractors to hire local workers for construction activities in accordance with Pekanbaru City labor regulations	ANDAL
	PPTM needs to develop labor regulations and retrenchment mechanisms and be adopted by contractors, especially for non-local workers	Construction & operation	Develop company regulations related to self-employment in accordance with Law No. 13/2003 and ESG IIF 2 principles regarding labour and working conditions	CAP
Occupational health and safety	Failed to maintain security and safety on site	Construction & operation	<ul style="list-style-type: none"> Experienced and reliable EPC Penalty clause for breach of OHS in the contract 	FBC
	Existing emergency response procedures do not cover how to address potential chlorine gas leaks for workers and the public	Operation	PPTM needs to make its own specific response procedures for WTP Pekanbaru including the operation of chlorine gas	CAP
	The roof of the warehouse is suspected to be wearing asbestos	Operation	Replace suspected asbestos materials with non-asbestos materials during rehabilitation	CAP
Community health and safety	Road user safety is reduced due to pipeline construction	Construction & operation	<ul style="list-style-type: none"> Traffic management and installation of traffic signs Develop a "safety framework" for pipe laying along roads Transport the remaining excavated soil so as not to cause dust that interferes with community health 	FBC, RKL-RPL, & CAP
Human right	Disruption of road access and community safety for communities around project site	Construction	<ul style="list-style-type: none"> Make excavation protection Repair damage Traffic management and installation of traffic signs Limit vehicle speed 	FBC

Aspects	Issues Identified	Stage	Mitigation	Source
Cultural heritage	There is a cultural heritage in the form of an old sacred tomb, namely the Makam Tampan which is located in the WTP Tirta Siak area	Construction	<ul style="list-style-type: none"> • Conduct consultations with community representatives regarding old graves at the project site • Maintain and ensure that residents can access the tomb • Developed the Historic Objects Discovery Procedure document to anticipate similar incidents 	CAP
Community concern	Negative public perception of labor recruitment and pipeline work	Construction	<ul style="list-style-type: none"> • Disseminate project activities to the community before the construction Stage begins • Announce job vacancies in public places and government offices • Respond to suggestions from affected communities • Develop GRM to mitigate social conflicts and ensure the sustainability of the WTP Pekanbaru project 	FBC, RKL-RPL, ANDAL, & CAP

Table 54 Issues Identified and Mitigation Actions at Pekanbaru Water Supply – Governance Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Governance				
Business model resilience	The OHS policy does not include a commitment to manage social aspects in terms of good relations or involvement with workers or the community in the project area and ensure that the community is not seriously affected by the project.	Construction & operation	PPTM needs to revise its OHS and environmental policies by including a commitment to managing social risks and impacts	CAP
Monitoring and reporting of ESG indicators	PPTM as IBE is obliged to carry out RKL RPL reporting every semester according to law to PDAM	Operation	PPTM needs to prepare a statement of ability to carry out AMDAL and make RKL RPL reporting every 6 months in accordance with applicable regulations and report it to the relevant government.	CAP

Table 55 Issues Identified and Mitigation Actions at Pekanbaru Water Supply - More Environmental Issues that Should also be Identified

Aspects	Potential Issues	Stage	Mitigation
Environmental			
Groundwater quality	Groundwater can be polluted due to the site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site	Construction	<ul style="list-style-type: none"> • Build proper sanitation facilities • Develop a management and monitoring plan for domestic waste and wastewater and implement it
	Water treatment facilities use hazardous materials and generate hazardous waste, which may contaminate the groundwater if not properly managed	Operation	<ul style="list-style-type: none"> • Store hazardous materials and waste in a special room and ensure that the containers are well insulated • Treat or cooperate with

Aspects	Potential Issues	Stage	Mitigation
			licensed third parties in hazardous waste treatment <ul style="list-style-type: none"> • Conduct regular groundwater quality measurements
Light pollution	Light pollution during the construction Stage is from illumination devices used at night. If light is directed towards adjacent residents' windows, it has the potential to disturb sleep.	Construction	<ul style="list-style-type: none"> • The lighting only points to the area under construction • Develop a light pollution management and monitoring plan for the AMDAL
Biodiversity	Aquatic life may be disrupted due to construction waste contamination and operation activity	Construction & operation	<ul style="list-style-type: none"> • Conduct assessment on biodiversity conditions before land acquisition • Monitor and report the biodiversity to GCA • Ensuring waste is properly managed according to SOP

Table 56 Issues Identified and Mitigation Actions at Pekanbaru Water Supply - More Social Issues that Should also be Identified

Aspects	Potential Issues	Stage	Mitigation	
Social				
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult to negotiate with the land owners which can shift the project's timeline or delay the project by looking for alternative land.	Pre-construction	<ul style="list-style-type: none"> • Develop a supplementary resettlement action plan (SRAP) • Involve BPN and local government during land acquisition process • Include non-titled land-users and economic displacement in the documentation process as these are often the important stakeholders 	
	Request for increased compensation fees from affected communities	Pre-construction		
	The land is unusable or difficult to access after being acquired due to social problems with local residents	Construction		
Access to ecosystem services	Loss of community access to important places such as natural resources	Pre-construction & construction	Assess the accessibility to certain ecosystem services during pre-construction Stage to determine if design changes can be accommodated to reduce the impacts	
Sexual Exploitation, Abuse, and Harassment (SEAH)	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household	Pre-construction & construction	Include a set of gender responsive clauses under the contract agreement with the project workers, which provides statements including: (i) anti-sexual harassment among workers and community members (ii) Community engagement plan, which contains the commitment of active public consultation to community members, including women and vulnerable groups	
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces	Pre-construction & construction		
	Remote locations where people have limited access to resources to report SEAH cases and receive support	Construction & operation		Form a specific team and mechanism for SEAH reports
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access	Construction & operation		Conduct gender awareness capacity building through public socialization to communities



Aspects	Potential Issues	Stage	Mitigation
	and control over economic resources		
Gender	Unequal employment opportunities for women due to the preference of male applicants, particularly in STEM (science, technology, engineering, and math) position.	Pre-construction	Set target for women employees and avoid preference in job vacancies. For women in the communities, use gender-sensitive communication channel.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving program's benefits, fair compensation, and information.	Pre-construction	Develop a gender-sensitive community consultation SOP. This includes several aspects such as women-only consultation in flexible time and place; childcare facility; give invitations under the women's name (not husband/or family); use sex-disaggregated attendance list; ensure meaningful participation of women through providing space and opportunity for women to speak.
	The absence of women's personal protective equipment, which can endanger female workers.	Construction & operation	Some projects are usually male-dominated, there may be unavailability of PPE for women. It is necessary to provide properly fitting PPE and personal protective clothing based on female anthropometric (body measurement) data.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & construction	Take specific measures to ensure women workers' rights such as the provision of a no discrimination policy, collecting sex-disaggregated employees data to measure equal promotion, pay raise, and training opportunities between men and women.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, child care, separate mess, and others.	Construction & operation	Provide specific and secure facilities for women
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	Include aspects in project design taking into account the needs of gender, disadvantaged people and people with disabilities.
	Lack of facilitation for people with disabilities in the public consultation.	Pre-construction	
	The absence of disability-friendly facilities that can endanger persons with disabilities to work in the related sector.	Construction & operation	
Indigenous people	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land	Construction & operation	<ul style="list-style-type: none"> • Carry out assessment on indigenous people • Require IBE to monitor and report indigenous people to GCA
Governance			
Business ethics and anti-corruption mechanisms	The unclear policies and mechanisms related to business ethics and anti-corruption make the funding process less transparent, making it difficult to detect violations of business ethics and corruption	Pre-construction - operation	Develop business ethics and anti corruption mechanisms and socialize them to all workers
Value for Money (VfM) assessment	Losses that lead to project termination due to VfM assessment not being carried out in a robust and comprehensive manner	Pre-construction - operation	The VfM should also identify potential risks that might cause the project to stop



Aspects	Potential Issues	Stage	Mitigation
Clear and legitimate project institutional arrangement and contractual agreements	No clear roles and responsibilities for each party involved as well as clear and transparent contractual agreements to minimize the risk of conflicts of interest, corruption, and unethical behavior	Pre-construction - operation	Include clear and legitimate project institutional arrangements and contractual agreement in the FBC and PPP agreement.
Transparent budgeting and spending process	Fiscal risk due to non-transparent budgeting and spending processes	Pre-construction - operation	Monitor and report all the budgeting and spending process to relevant stakeholders

4.2.1 Identified Issues in Pekanbaru Water Supply

The table below outlines the ESG issues pertaining to the Pekanbaru Water Supply PPP Project. It also includes relevant PPP preparation activities and project documents to develop or improve for similar projects, as reference for GCAs planning to develop water supply infrastructure projects.

Table 57 Identified Issues in Pekanbaru Water Supply

Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
Environmental				
GHG emissions	The energy use during the construction Stage causes direct GHG emissions, while the manufacture of building material causes indirect GHG emissions.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include costs and benefits, such as the Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report GHG emissions to GCA.
	GHG emissions might result from energy use during operations, as well as decay of organic matter in the sludge, but should be negligible compared to the construction Stage.	Operation	AMDAL Preparation, FBC Preparation	AMDAL should include GHG emission analysis. FBC's CBA should include costs and benefits such as Scope 1, Scope 2 and Scope 3 baseline GHG emissions and new GHG emissions throughout the project.
Energy use	Construction projects use a large amount of energy to operate the heavy equipment.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC to include analysis of carbon footprint throughout the project.
	Operation of water supply facilities is relatively less energy intensive (mostly due to water pump operations).	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC to include analysis of carbon footprint throughout the project.
Water use	Construction of the additional water treatment plant might use some water, though negligible compared to other infrastructure projects.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC to include analysis of depletion of natural resources throughout the project.
	Water supply facilities use a substantial amount of water that might compete with other uses and disturb aquatic life.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include analysis of depletion of natural resources throughout the project.
Raw material use	Construction projects use a large amount of raw material, such as sand, gravel, concrete, and steel. Furthermore, residual material from raw material will potentially be wasted without being reused or recycled.	Construction	AMDAL Preparation	AMDAL should include analysis of raw material use.



Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	Raw material use in water supply facilities is mainly limited to chemical materials.	Operation	AMDAL Preparation	AMDAL should include analysis of raw material use.
Waste and wastewater generation	<ul style="list-style-type: none"> The construction process generates specific waste, such as construction waste (e.g., soil and concrete debris) and hazardous waste, which need to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried in the ground, or burned. 	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC include the determination of waste management and wastewater treatment plan throughout the project.
	Operation of water supply facilities will produce dried sludge and processing waste that need to be disposed of properly.	Operation	AMDAL preparation	AMDAL should include the determination of a sludge treatment plan throughout the project.
Sanitation	Poor sanitation facilities that can contaminate groundwater, cause pooled stagnant water, unpleasant odors, and attract vectors for disease.	Construction and operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
Ground contamination & damage	Ground contamination due to waste materials (such as metal, plastic, wood, and bricks) and waste from workers that are not disposed of properly.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the determination of groundwater quality plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
	Risk of landslides due to facilities built on steep slopes.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the result of soil investigation throughout the project.
	Water treatment facilities use hazardous materials and generate hazardous waste, which may contaminate the ground if not properly managed.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of waste management and wastewater treatment plan throughout the project.
Surface water quality	Construction activities can cause increased sedimentation in groundwater due to runoff (especially during the rainy season), which can bring soil particles to the surface of the water around the project site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the surface water quality management and monitoring throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the surface water quality management to GCA.
	Water treatment facilities use hazardous materials and generate hazardous waste, which may contaminate the surface water if not properly managed.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include the surface water quality management and monitoring throughout the project. PPP Agreement should include obligations to



Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
				be put on the IBE to monitor and report the surface water quality management to GCA.
Groundwater quality	Groundwater can be polluted due to the site runoff that carries suspended solids into the soil and from poorly maintained temporary sanitation facilities on site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the determination of groundwater quality plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
	Water treatment facilities use hazardous materials and generate hazardous waste, which may contaminate the groundwater if not properly managed.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the determination of groundwater quality plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the groundwater quality management to GCA.
Air quality	Mobilization of heavy equipment and materials, as well as construction activities will generate dust and gas emissions, resulting in a decrease in air quality at and around the Project site.	Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the determination of air quality plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the air quality management to GCA
	Air pollution might result from chlorine gas leakage from the water treatment facility.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the determination of air quality plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the air quality management to GCA
Noise & vibration	The use of heavy equipment during the construction Stage will result in increased noise levels around the project site.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of noise level and vibration plan throughout the project.
	Vibration can occur due to the installation of water mains, which can cause cracks in the soil, roads, and walls of local residents' houses.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of noise level and vibration plan throughout the project.
	The operation of water supply facilities may produce disturbing noise or vibration.	Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the determination of noise level and vibration plan throughout the project.
Light pollution	Light pollution during the construction Stage is from illumination devices used at night. If light is directed towards adjacent residents' windows, it has the potential to disturb sleep.	Construction	AMDAL Preparation	AMDAL should include light pollution management and monitoring plan throughout the project. [The IBE stated they agreed not to conduct construction during the evening to prevent disturbing the residents.]



Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	The lights of water supply facilities can disturb the surrounding community.	Operation	AMDAL Preparation	AMDAL should include light pollution management and monitoring plan throughout the project
Flood	Risk of flooding during the construction and operation Stages caused by changes to the existing rainwater drainage system.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include assessment on land condition and potential remedy. PPP Agreement should include obligations to be put on the IBE to monitor and report the land condition to GCA.
Biodiversity	Aquatic life is disrupted due to construction waste contamination and operation activity.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include assessment on biodiversity conditions and land clearing plan. PPP Agreement should include obligations to be put on the IBE to monitor and report the biodiversity to GCA.
	Dumping of sludge to the Siak River may damage the aquatic and riparian ecosystems downstream.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement	AMDAL and FBC should include assessment on biodiversity conditions and land clearing plan. PPP Agreement should include obligations to be put on the IBE to monitor and report the biodiversity to GCA.
Social				
Labor and working conditions	Lack of competent workers resulting in the existing workers becoming overworked. This can lead to worker resignations and project delays.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	Pressures on construction schedule can cause forced labor in working time.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	Lack of information about job opportunities (especially for local worker hire).	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
Occupational health and safety	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction & Operation	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor and report OHS to GCA.
Community health and safety	Community health and safety risks associated with traffic accidents and increased dust, air and noise pollution during construction activities and project operations.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC: include community health and safety management plans throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report



Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
				community health and safety to GCA.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult negotiations with the landowners can shift the project's timeline or delay the project by looking for alternative land.	Pre-construction	Not applicable; no land needs to be acquired for the project.	Not applicable; no land needs to be acquired for the project.
	Request for increased compensation fees from affected communities.	Pre-construction	Not applicable; see above.	Not applicable; see above.
	The land is unusable or difficult to access after being acquired due to social problems with local residents.	Construction	Not applicable; see above.	Not applicable; see above.
Sexual Exploitation, Abuse, and Harassment (SEAH)	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction & Construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction & Construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to include gender responsive clauses on Cooperation Agreement, then monitor and report to GCA.
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction & Operation	PPP Agreement	PPP Agreement should include obligations to be put on the IBE to monitor and report SEAH to GCA.
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction & Operation	FBC Preparation	Public Consultation Report should include gender inclusion.
Gender	Unequal employment opportunities for women due to the preference for male applicants, particularly in STEM positions.	Pre-construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving the program's benefits,	Pre-construction	FBC Preparation, PPP Agreement Preparation	Public Consultation Report should include gender inclusion. PPP Agreement should include obligations to



Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	fair compensation, and information.			be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	The absence of women's personal protective equipment, which can endanger female workers.	Construction & Operation	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction & Construction	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction & Operation	PPP Agreement Preparation	PPP Agreement should include obligations to be put on the IBE to monitor based on gender-sensitive community SOP and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	FBC Preparation	FBC should include the disability considerations throughout the project.
	Lack of facilitation for persons with disabilities (sign language interpreters, physically accessible service points, accessible materials such as braille versions, audiotaped versions, etc) in the public consultation.	Pre-construction	FBC Preparation	FBC should include the disability considerations throughout the project.
	The absence of disability-friendly facilities that can obstruct or endanger persons with disabilities when working in the related sector.	Construction & Operation	FBC Preparation	FBC should include the disability considerations throughout the project.
Human Right	Gap between employees and non-employee workers.	Construction & Operation	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
	Disruption of road access and community safety for communities around project construction.	Construction	AMDAL Preparation, FBC Preparation	AMDAL and FBC should include the recruitment plan for local labor throughout the project.
Cultural Heritage	Changes in community access to cultural heritage or damage in the cultural heritage will result in community concerns.	Construction & Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL and FBC should include the assessment on existing cultural heritage and mitigation plans throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the cultural heritage to GCA.
Indigenous Peoples	Disturbance of indigenous groups with the existence of projects such as cultural activities	Construction & Operation	AMDAL Preparation, FBC Preparation,	AMDAL and FBC should include the assessment on indigenous people and



Issues	Potential impacts	Stage	Relevant PPP Preparation Activities	Project documents to develop or improve for similar projects
	and loss of customary land.		PPP Agreement Preparation	mitigation plan throughout the project. PPP Agreement should include obligations to be put on the IBE to monitor and report the indigenous people to GCA.
Community Concern	Lack of communication and coordination with the local community can lead to a lack of support or rejection of a project. (This includes the recruitment process).	Pre-construction & Construction	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising from the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.
	The emergence of social jealousy due to services from related sectors (water supply and waste management) not having been evenly distributed.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising from the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.
	Conflict with community about water resource.	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising from the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.
	An increase in negative concern/public protest from the community and the project being unable to manage the issue will disrupt project activities (e.g., dissatisfaction with the recruitment process).	Operation	AMDAL Preparation, FBC Preparation, PPP Agreement Preparation	AMDAL, FBC, and Public Consultation Report should include the assessment on social issues arising from the project. PPP Agreement should include obligations to be put on the IBE to monitor and report community concerns to GCA.

4.3. Sumatera Hazardous Waste Management

Project Background

The provision of hazardous waste facilities in Indonesia is essential to implement considering the environmental and social impacts caused by neglecting Hazardous waste management. Currently, there are no adequate Hazardous waste facilities across Indonesia. The distance from Hazardous waste producers, especially in Sumatra and Eastern Indonesia, to Hazardous waste processing locations in Java is far, so transportation costs are expensive. The high risk posed during the transportation and handling process of Hazardous waste on the way and the limited third-party integrated Hazardous waste management in Sumatra are obstacles. Thus, certain types of Hazardous waste that cannot be managed by third parties outside Java must be sent to a waste management facility in Java.

This has resulted in the efforts of the Ministry of Environment and Forestry in accelerating the provision of Hazardous waste management, in a comprehensive, integrated, and sustainable manner. Therefore, the Integrated Hazardous and Specific Waste Management Facility in Sumatra Area is developed.

Project Description

The Hazardous Waste and Specific Waste Treatment Facilities for Sumatra PPP project cover the construction, operation, and maintenance of treatment facilities for hazardous waste and specific waste generated in Sumatra. Infrastructure is from upstream to downstream businesses, from collection, transportation, utilization, treatment and landfilling. The location of Hazardous Waste Treatment Facilities has not been selected from the five alternative sites that were previously identified and proposed. However, it has been confirmed that this project will still be in the North Sumatra Province.

The PPP project details are summarized in Table 57 below, and the PPP arrangement scheme is shown in Figure 28.

Table 58 Hazardous Waste and Specific Waste Treatment Facilities for Sumatra Region PPP Project Details

Location	North Sumatra Province
Government Contracting Agency	Ministry of Environmental and Forestry
Implementing Business Entity	TBC
Type of PPP	Solicited
Total Capacity	Minimum 300,000 ton per year
Support from MoF	PDF
Capital Value	USD 67.9 Million
Revenue Model	User charge (to GCA)
Beneficiaries	Industries, Businesses
Concession Period	10 years
Project Status	Project Location Determination

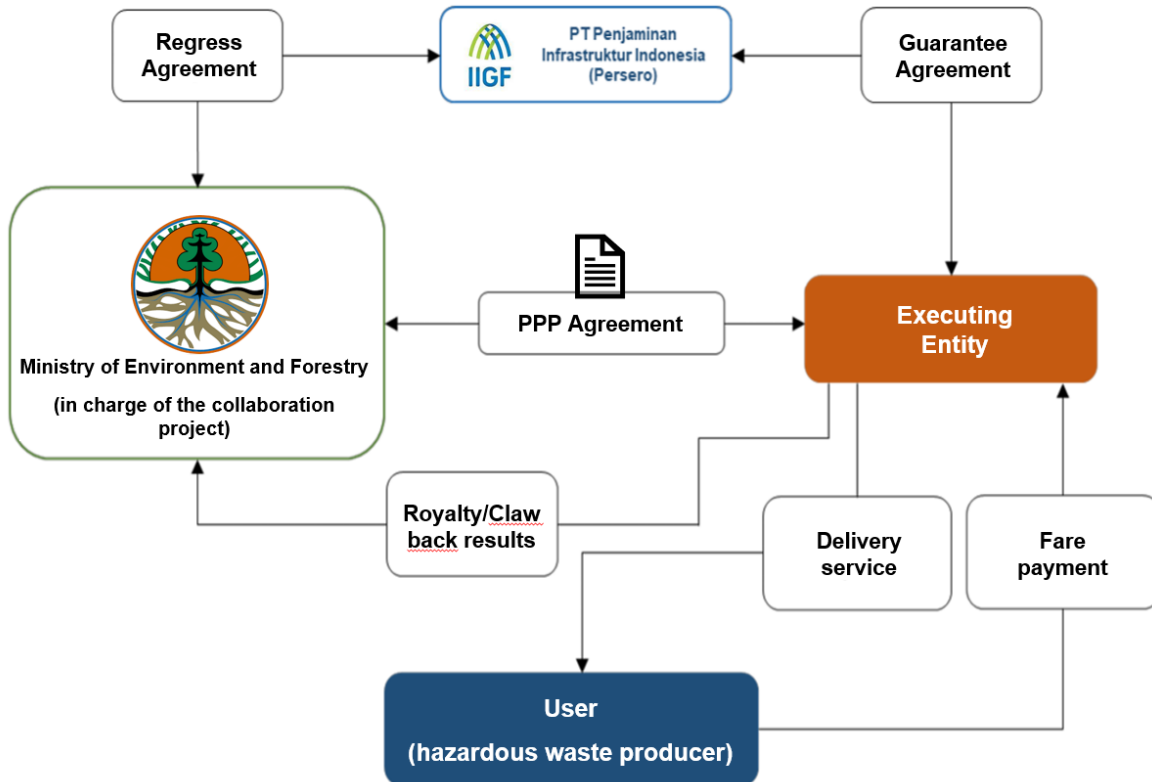


Figure 26 Hazardous Waste and Specific Waste Treatment Facilities for Sumatera Region PPP Scheme

Source: Laporan Akhir Kajian Prastudi Kelayakan Proyek KPBU Pengelolaan Limbah B3 dan Limbah Spesifik Wilayah Sumatera, 2019

Site Selection

Since the project location has not been confirmed, a site selection process must be carried out to ensure that the selected location will be the right location in accordance with applied regulations. The regulations referenced for this selection are Government Regulation No. 22 of 2021 on Implementation of Environmental Protection and Management and Minister of Environment & Forestry Regulation No. 6 of 2021 on Procedures and Requirements for Hazardous Waste Management. General criteria for the site selection are as follow:

1. Hazardous waste storage
 - free flood
 - not prone to natural disaster
 - soil permeability criteria of the location of hazardous waste storage should be met.
2. Hazardous waste treatment facility for thermal method (incineration process)
 - flood free areas or areas that can be engineered with technology for environmental protection and management;
 - located in an industrial area and/or area designated as an industrial area
 - have a safe distance from the public facilities, residential area, water source and protected areas (nature reserves and protected forests).
3. Hazardous waste treatment facility for stabilization and solidification
 - free from flooding or an area that can be engineered with technology for environmental protection and management.
4. Hazardous waste treatment facility for bioremediation process
 - soil permeability criteria of the location of hazardous waste facility should be met.



- not a waterlogged area all year round;
 - not an intermittent watershed;
 - not a protected area;
 - the distance from the residential location is more than 300 m (three hundred meters);
 - flat land and/or sloping land with the highest slope of 12% (twelve percent); and
 - hydrogeological criteria of the location of hazardous waste facility should be met
 - conduct an assessment of the initial condition of the land
 - land is concentrated in one area (not spread out); and
in the condition where the land is contaminated in a prohibited area, the waste must be removed and treated ex-situ.
5. Hazardous waste landfill
- in accordance with the regional spatial plan;
 - free of hundred years of flooding;
 - soil permeability criteria of the location of the hazardous waste landfill location should be met;
 - areas that are geologically safe, stable, not prone to disasters, and outside protected areas;
 - is not a groundwater catchment area;
 - surface hydrological requirements of the hazardous waste landfill location should be met

Project Benefits and Potential Issues

The planned hazardous waste treatment facilities will provide not only various socio-economic benefits but also will have some potential environmental and social issues as presented below:

Potential benefits

Benefits of the planned hazardous waste treatment facility are shown below:

- Increased capacity for processing hazardous waste and specific waste in the Sumatran region;
- Reduced risk of environmental pollution due to poor hazardous waste management or illegal dumping of hazardous waste directly into the environment;
- Reduced cost of transporting hazardous waste generated in Sumatra, which previously could only be sent to hazardous waste treatment facilities in Java; and
- Opening up job opportunities for the surrounding communities.

A high-level assessment²⁰ shows that the Hazardous Waste and Specific Waste Treatment Facilities could potentially support the achievement of the Sustainable Development Goals (SDG) in the region as shown in the table below. Further studies are needed to validate and monitor the assumed potential benefits.

²⁰ SDG includes 17 Goals, 169 Targets, and 241 Indicators in total; a more comprehensive assessment could be conducted by water utility companies alongside the regional government entities responsible for SDG monitoring and reporting, presumably the regional development planning agencies (*Badan Perencanaan Pembangunan Daerah*, Bappeda).



Table 59 Benefits from Sumatera Hazardous Waste Management

SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
Goal 1: No poverty	1.1 By 2030, eradicate extreme poverty for all those currently earning less than US\$1.25 per day.	1.1.1 Extreme poverty rate	The hazardous waste treatment facility project will absorb labor during construction and operation stage. This could contribute to the 'no poverty' goal if the IBE is committed to provide fair remuneration to the workforce (including its permanent staff, contractual employees, outsourced employees, and contractors' labor). The developed facilities could have trickle-down effect on surrounding communities, particularly small businesses that cater to the neighborhood, thus providing additional revenues and helping to reduce poverty
	1.2 By 2030, reduce by at least half the proportion of men, women and children of all ages living in poverty on all dimensions, in accordance with national definitions	1.2.1 Proportion of population living below the national poverty line 1.2.2 proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	
Goal 2: Zero hunger		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to the zero-hunger goal.
Goal 3: Good Health and Well-Being	3.9 By 2030, significantly reduce the number of deaths and illnesses from hazardous chemicals, as well as air, water and soil pollution and contamination	3.9.1 Mortality rate attributed to household and ambient air pollution	Provision of appropriate hazardous waste treatment facilities in Sumatera would not just take over waste being transported to Java but also absorb hazardous waste in Sumatera that was previously not treated properly due to the costs and hassle of cross-island transportation. This could help improve the quality of health, reducing pollution and contamination to the environment, thus reducing mortality rates and reduce household expenditures on health.
		3.9.2 Mortality rate attributed to unsafe water, sanitation, and lack of hygiene	
Goal 4: Quality Education		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to the quality education goal, which is targeted to ensure inclusive and equitable quality education and increase lifelong learning opportunities for all.
Goal 5: Gender Equality		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to achieve gender equality and empower women.
Goal 6: Clean Water and Sanitation	6.3 By 2030, improve water quality by reducing pollution, eliminating discharges and minimizing the release of hazardous materials and chemicals, halving the proportion of untreated wastewater, and significantly	6.3.1 Proportion of wastewater safely treated	The existence of this waste management facility will reduce the potential for contamination from waste generation, especially for hazardous waste, so that it can improve the quality of river water as raw water
		6.3.1(b) Proportion of households served by a faecal sludge treatment system	



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
	increasing recycling and safe reuse of recyclables globally		source
Goal 7: Affordable and Clean Energy		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to ensure access to affordable, reliable, sustainable and modern energy for all.
Goal 8: Decent work and economic growth	8.1 Maintain per capita economic growth in line with national conditions and, in particular, at least 7 percent annual gross domestic product growth in least developed countries	8.1.1 GDP per capita growth rate 8.1.1(a) GDP per capita	Waste management facilities will absorb labor during construction and operation stage. The Project will increase the Gross Regional Domestic Product (GRDP) directly and indirectly.
	8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro, small and medium enterprises, including through access to financial services	8.3.1 Proportion of informal employment in the non-agricultural sector, by sex	Availability of waste management facilities will support productive activities, creating decent jobs, entrepreneurship, creativity and innovation and increase in earnings
		8.3.1(a) Percentage of formal workforce	
	8.5 By 2030, achieve permanent and productive employment and decent work for all women and men, including for youth and persons with disabilities, and equal pay for work of equal value	8.5.1 Average hourly earnings of female and male employees, by occupation, age, and persons with disabilities	Waste management facilities will be developed in accordance with the regulations applied, therefore it will protect labor rights and promote a safe and secure work environment for all workers
		8.5.2 Unemployment rate, by sex, age, and persons with disabilities	
	8.8 Protect labor rights and promote a safe and secure working environment for all workers, including migrant workers, in particular women migrant workers, and those working in hazardous work	8.8.1 Frequency rates of fatal and non-fatal work accidents, by sex, occupation sector and migrant status	Waste management facilities will be developed in accordance with the regulations applied and international good practices, therefore it will increase number of companies that apply OHS norms
8.8.1(a) Number of companies implementing OSH norms			
Goal 9: Industry, Innovation, and Infrastructure		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to build resilient infrastructure, promote inclusive and sustainable industries and drive innovation
Goal 10:		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to reduce intra



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
Reduced Inequalities			and international disparities
Goal 11: Sustainable Cities and Communities		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to make cities and settlements inclusive, safe, resilient and sustainable
Goal 12: Responsible Consumption and Production	12.4 By 2020 achieve environmentally management of chemicals and all types of waste, throughout their life cycle, in accordance with agreed international frameworks and significantly reduce the pollution of these chemicals and wastes to air, water and soil to minimize adverse impacts on human health and environment	12.4.2 Hazardous waste generation per capita, proportion of managed hazardous waste by type of treatment.	The existence of integrated hazardous waste management facilities has the potential to significantly reduce waste pollution and contamination, especially for hazardous waste into the air, water, and soil so as to minimize adverse impacts on human health and the environment
		12.4.2(a) The amount of Hazardous waste that is managed and the proportion of Hazardous waste that is processed in accordance with statutory regulations (industrial sector).	The existence of an integrated hazardous waste management facilities can increase the amount of Hazardous waste that is well managed and the proportion of Hazardous waste that is processed according to the applicable laws and regulations
	12.5 By 2030, substantially reduce waste production through prevention, reduction, recycling and reuse	12.5.1 National recycling rate, tons of material recycled	Waste management facilities have the potential of contributing to this indicator as it will include hazardous waste utilization as one of scope of services
		12.5.1(a) Amount of recycled waste	
	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and integrate sustainability information in their reporting cycle	12.6.1 Number of companies publishing their sustainability reports.	Waste management facilities will be developed in accordance with the regulations and international good practices, this also includes sustainable practices and integrating sustainability information in their reporting cycle
		12.6.1(a) Number of companies applying SNI ISO 14001 certification.	
Goal 13: Climate Action	13.2 Integrating anticipatory climate change actions into national policies, strategies and plans	13.2.2 total greenhouse gas (GHG) emissions per year	The carbon footprint can be reduced by provision of waste management facilities, because it will provide integrated facilities for storage, collection, transportation, treatment, utilization, and landfill services. However, a more comprehensive assessment is needed to confirm whether the waste management facility results in a net reduction of GHG emissions and intensity
		13.2.2(a) Potential reduction in greenhouse gas (GHG) emissions	
		13.2.2(b) Potential reduction in GHG emission intensity	
Goal 14: Life below Water	14.1 By 2025, prevent and significantly reduce all types of marine pollution, in particular from	14.1.1 Index of coastal eutrophication and floating plastic debris density	The waste management facilities could contribute to reduction of marine pollution if well implemented



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
	land-based activities, including marine debris and nutrient pollution		
Goal 15: Life on Land	15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, to increase their capacity to provide benefits that are critical to sustainable development	15.4.1 Important sites of mountain biodiversity within protected areas	The existence of integrated hazardous waste management facilities can increase the amount of Hazardous waste that is well managed. This could significantly reduce waste pollution and contamination, especially for hazardous waste which occurs in mountain ecosystems so as to minimize adverse impacts on biodiversity
		15.4.2 Mountain green coverage index	
Goal 16: Peace, Justice, and Strong Institutions		No specifically relevant indicators	The hazardous waste treatment facility project would not directly or significantly contribute to the promotion of peaceful and inclusive societies for sustainable development, the provision of access to justice for all, and building effective, accountable institutions.
Goal 17: Partnership for the Goals	17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to increase local capacity for collection of taxes and other revenues	17.1.1 Total government revenue as a proportion of GDP by source.	The availability of integrated waste management facilities will provide business opportunities for many parties that can increase government revenues through local taxes and retributions
		17.1.1(a) Ratio of tax revenue to GDP	
		17.1.2 Proportion of domestic budget funded by domestic taxes.	
	17.17 Promote and enhance effective public-private and civil society collaboration, based on experience and based on a collaborative strategy	17.17.1 Total commitments to public-private partnerships and civil society (in US dollars).	As a PPP, this project could help increase the value of indicator 17.17.1.
		17.17.1(a) Number of projects offered for implementation under the Public Private Partnership (PPP) scheme.	
		17.17.1(b) Total government allocation for project preparation, project transactions, and government support in Public Private Partnership (PPP).	

**Potential issues**

There are some potential issues that need to be considered from the social and environmental aspects of this project, especially since hazardous waste treatment facilities have a high level of risk. Aspects that need to be considered from a social perspective are:

- Land ownership in the planned site needs to be identified to avoid land acquisition conflicts and to assess the impact of the project on asset ownership,
- Displacement or relocation of residents (physical displacement), and
- Potential loss of livelihoods for the relocated community (economic displacement)

Meanwhile, aspects that need to be considered from environmental perspective are:

- Potential for leaks from the hazardous waste infrastructure and facilities that can affect soil and water bodies in the surrounding areas
- Potential contamination from the treatment process that could decrease the quality of surface and groundwater
- Potential increase in runoff water and noise levels
- Decreased quality of ambient air and groundwater during the construction period, and
- Emerging vibrations, traffic impact and disturbances to public health and biodiversity.

Issues Identified and Mitigation Actions at Sumatera Hazardous Waste Facility

Various ESG issues were not identified or not linked to mitigation actions in the OBC and Preliminary study document. Issues that are not anticipated and mitigated appropriately may result in negative ESG outcomes for the project. Such issues have been captured in parallel in an ESG Risk Register that is based on the experience of previous projects and WB ESF standard (to be used as part of the ESG Manual).

Table 60 Issues Identified and Mitigation Actions at Sumatera Hazardous Waste – Environmental Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Environmental				
Waste Generation	The construction stage will generate specific waste such as construction waste (e.g. soil and concrete debris) which needs to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried on the ground, or burned. Wastewater from bathing and washing from toilets in construction areas, if not treated properly can contaminate soil and water bodies	Construction	Provide adequate TPS for construction waste and domestic waste and transporting out the waste regularly; provide adequate TPS B3 in accordance with the regulation; implement the mitigation from other aspect related domestic wastewater management; provide a specific area for vehicle maintenance activities include secondary containment for fuel storage tank; engage a third party for hazardous waste management (transport and operator); implement good housekeeping procedures.	Pre-feasibility study
	Hazardous solid waste generation during the operational activities of hazardous waste management facilities will	Operation	Follow applicable national regulations and internationally accepted standards for packaging, labeling, and transport of hazardous materials and wastes during waste	Pre-feasibility study



Aspects	Issues Identified	Stage	Mitigation	Source
	potentially contaminate the surrounding environment if not treated properly. The contamination can be sourced from mobilization (waste transportation) and from on site activities such as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfilling		collection and transportation; prevent, minimize, and control litter and solid waste during waste receipt, unloading, processing, and storage such as considering use of enclosed or covered areas for waste tipping, shredding, compacting, etc., separating incompatible wastes, installing catch fences and netting to trap windblown litter; design and operate the landfill in accordance with applicable national requirements and internationally recognized standards; implement the related mitigation plans related to the surface water, soil and groundwater; based on the waste residual's physical and chemical characteristics, solidify, vitrify, melt, or fuse wastes as required or necessary prior to landfill disposal; maintain records of the wastes received, including sources, analytical results, and quantity; implement a training program to the facility personnel regarding emergency procedures, emergency equipment, and emergency systems	
Surface Water Quantity	Land clearing and other construction activities will remove vegetation on the ground surface and cover the ground surface area with building structures, which can increase the run-off discharged into the recipient water body	Pre-construction Construction	Delineate the areas that will be cleared; control the quality of run-off water prior to discharging into waterbody; provide a temporary embankment, provide a temporary channel; schedule to avoid heavy rainfall periods; consider a phasing plan to minimize the period of exposure for cleared areas	Pre-feasibility study
Surface Water Quality	Land clearing activities will expose soil and increase the potential for erosion during rainfall periods. This run-off will bring sedimentation materials flowing into the recipient water body. Generally, during the construction stage will potentially generate domestic wastewater from the workers domestic activity (workers camp and on project site). This includes wastewater from the canteen and temporary office. This activity will impact the surface water if the effluent will be discharge to the waterbody.	Pre-construction Construction	Delineate the areas that will be cleared; control the quality of run-off water prior to discharging into waterbody; covering the soil heap using tarpaulin, and undertaking soil compaction prior it gets eroded by the rain; provide a domestic wastewater management facility such as portable toilets with adequate capacity and regularly empty the portable toilets	Pre-feasibility study
	The wastewater from the operational activities of hazardous waste	Operation	Provide a proper WWTP for industrial wastewater treatment; provide domestic wastewater	Pre-feasibility



Aspects	Issues Identified	Stage	Mitigation	Source
	management facilities will potentially contaminate the surface water if not treated well. The contamination can be sourced from on-site activities such as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfilling		management facility with adequate capacity, regularly emptying the sludge from wastewater management facility and ensure that the effluent parameters meet the standards	study
Air Quality	Mobilization of heavy equipment and materials will generate dust from exposed soil surface, unpaved roads and emissions from the vehicles/equipment used include CO, NOx, SO2, PM and VOCs	Construction	Use of dust control methods, such as covers, dust suppression controls on the access road; minimise activity during dry, windy conditions, implementing speed limit controlling; implement a regular vehicle maintenance and repair program; implement PPE for workers	Pre-feasibility study
	Land preparation prior to construction activities will generate dust from exposed soil surface and emissions from the vehicles/equipment used include CO, NOx, SO2, PM and VOCs during land preparation activities	Pre-construction Construction	Use of dust-control methods, such as dust suppression controls on site; implement a regular vehicle maintenance and repair program; implement PPE for workers	Pre-feasibility study
	Development of main facilities will generate dust from exposed soil surface and emissions from the vehicles and equipment used including CO, NOx, SO2, PM and VOCs during construction of supporting facilities and infrastructure, structural works, facilities and utilities works, finishing and revegetation works	Construction	Use of dust control methods, such as dust suppression controls within the site; implement green buffer; implement a regular vehicle maintenance and repair program; implement PPE for workers	Pre-feasibility study
	Air pollution can be sourced from each activity (transportation, collection, treatment, and landfill) from the operational activities of hazardous waste management facilities. Polluting emissions from the incinerator may include CO, NOx, SO2, PM and VOCs, ammonia, amines, acids (HCL, HF), dioxins/furans, PCBs,PAHs, metals (Hg), and sulfides, etc., depending on the waste content and combustion conditions. In addition there will be potential odor from biological treatment process	Operation	Implement speed limit controlling; implement a regular vehicle maintenance and repair program.	Pre-feasibility study



Aspects	Issues Identified	Stage	Mitigation	Source
	and landfill activities			
Noise	Mobilization of heavy equipment and materials will generate noise disturbance along the access road, particularly the area closed to the sensitive receptors	Construction	Use of noise control methods, such as muffler for vehicles; reduce project traffic routing through community areas wherever possible; implement a regular vehicle maintenance and repair program; implement a Community Grievance Mechanism	Pre-feasibility study
	Land preparation prior to construction activities will generate noise from the machinery and equipment used during land clearing and land compaction	Pre-construction Construction	Use of noise control methods, such as muffler for vehicles; implement a noise barrier; implement a regular vehicle maintenance and repair program; limit the hours of operation for specific loud pieces of equipment or operations; implement PPE for workers	Pre-feasibility study
	Development of main facilities will generate noisy during construction of supporting facilities and infrastructure, structural works, facilities and utilities works, finishing and revegetation works	Construction	Use of noise control methods, such as muffler for vehicles; implement noise barrier; implement a regular vehicle maintenance and repair program; implement PPE for workers	Pre-feasibility study
	Noise disturbances can be generated from each activity (transportation and on-site treatment) from the operational activities of hazardous waste management facilities.	Operation	Select equipment that has low noise emission levels; implement silencers in the generator room and other waste treatment equipment; implement a regular vehicle maintenance and repair program; Construct a buffer zone between the facility and the external environment or locate facilities away from sensitive receptors	Pre-feasibility study
Biodiversity	Displacement of local native flora and fauna due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within a Protected Area, Natural Habitat or Critical Habitat to accommodate the project footprint and any other associated facilities.	Construction	Maintain or prevent the existing trees for open space area in the future development; revegetate the area outside in the project footprint affected by construction activities	Pre-feasibility study
Traffic	Increase of traffic on some road segments during construction will potentially emerge due to mobilization of equipment and material.	Construction	Inform the community regarding the ongoing project or activities regarding project duration; install road warning signs, project vehicle entrance and exit warning signs, bottleneck road warning signs, etc. according to the needs;	Pre-feasibility study
	Traffic disturbance due to waste transportation activity	Operation	Install road warning signs, project vehicle entrance and exit warning	Pre-feasibility



Aspects	Issues Identified	Stage	Mitigation	Source
	will potentially increase.		signs, bottleneck road warning signs, etc according to the needs; implement traffic management and transportation plan for hazardous waste; complete suitable training and certification of drivers	study

Table 61 Issues Identified and Mitigation Actions at Sumatera Hazardous Waste - Social Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Social				
Socio-Economic Benefits	Increasing in job opportunities, business opportunities, and community income	Construction	These positive impacts need to be disclosed to the community through project socialization or public disclosure. The development of grievance mechanisms and stakeholder engagement can support the achievement of the project's positive impacts.	Pre-feasibility study
Community health and safety	Increasing in household waste and a decrease in community sanitation due to the operation of the basecamp	Construction	Same as above	Pre-feasibility study
	Increased dust, air, water and noise pollution during construction activities and project operations	Construction and operation	Same as above	Preliminary Study, Pre-feasibility study
	Decrease in the quality of public health due to waste pollution.	Operation	Same as above	Preliminary study, Pre-feasibility study
Community Concern	Lack of communication and coordination with local community can lead to rejection of related project.	Construction and operation	<ul style="list-style-type: none"> Community concerns about decreasing health quality due to waste need to be an important concern for the project. In addition, to conduct periodic environmental monitoring, the project also needs to prepare an emergency response plan in case of environmental pollution. The project construction might disrupt community access to important locations such as livelihoods, ecosystem services, and cultural heritage. It is important to have a grievance mechanism prepared from the pre-construction stage. A grievance mechanism officer is also important. Mapping stakeholders related 	Preliminary study



Aspects	Issues Identified	Stage	Mitigation	Source
			<p>to the power and interest is also a step in managing community concerns.</p> <ul style="list-style-type: none"> It is also necessary to consider SDG point 6. water and sanitation for the community, especially for those who are close to the project. Conduct public disclosure for each stage of the project. 	
	Lack of the stakeholder identification and mapping, which lead to an unknown level of influence and interest of stakeholders and leads to improper and engagement strategy	Pre-construction, construction and operation	Same as above	Pre-feasibility study
	increasing in negative concern/public protest from the community and the project can't manage the issue will impact disruption on project activities	Pre-construction, construction and operation	Same as above	Pre-feasibility study

Table 62 Issues Identified and Mitigation Actions at Sumatera Hazardous Waste – More Environmental Issues that Should also be Identified

Aspects	Issues Identified	Stage	Mitigation
Green-house Gas (GHG)	GHG emissions as a derivative impact from air quality impact. GHG emissions are associated with off-road and on-road equipment as well as worker vehicle trips.	Construction	Implement a regular vehicle maintenance and repair program; Use of best available technologies wherever possible in plant design, maintenance and operation of the plant within design specifications
	GHG Emission as derivative impact from air quality impact. GHG emissions during the operational activities of hazardous waste management facilities are associated with on-road equipment as well as emission from the plants	Operation	Implement a regular vehicle maintenance and repair program; optimize the function of green open space (RTH)
Waste Generation	Vegetation waste during land preparation potentially arising from cuttings of trees, shrubs and grass from land cover clearing	Construction	Maintain or prevent the existing trees for open space area in the future development; provide specific areas for temporary vegetation waste dumping and transporting out the waste regularly; maximize the use of



Aspects	Issues Identified	Stage	Mitigation
			vegetation waste for composting.
	Non-hazardous solid and liquid waste from the office activities if not managed, can cause problems if it is disposed of carelessly into water bodies, buried on the ground, or burned.	Operation	Provide adequate TPS domestic waste and transport out the waste regularly; implement good housekeeping procedure; implement the mitigation from other aspect related domestic wastewater management
Ground-water Quality	All construction stages will potentially generate domestic wastewater from the workers domestic activity (workers camp & on project site). This includes wastewater from canteen and temporary office. This activity will impact the groundwater if the effluent will be stored in the retention well	Construction	Provide a domestic wastewater management facility such as portable toilets with adequate capacity, regularly emptying the portable toilets
	The operational activities of hazardous waste management facilities will potentially contaminate the soil and groundwater if not treated well. The contamination can be sourced from on-site activities such as waste receipt, unloading, processing, and storage, biological treatment, incineration facilities and landfilling	Operation	<ul style="list-style-type: none"> • Use impermeable materials for roads, waste processing and storage areas, and vehicle washing areas, and install curbs to prevent runoff to permeable areas • Design and operate the facilities and landfill in accordance with applicable national requirements and internationally recognized standards • Install groundwater monitoring wells inside and outside the facilities area in accordance with applicable national and international requirements
Vibration	Activities for construction of the main facilities will generate vibration from drilling, boring and piling activities during civil works (foundation) activities	Pre-construction Construction	Maintain site roads in good condition to reduce noise and vibration from vehicle movements; implement noise and vibration considerations during design, including use of models to predict noise levels at specified noise-sensitive locations; install vibration dampening pads or devices, and limit the duration of exposure
	Sources of vibration can be sourced from waste receipt, unloading, processing include truck traffic, loading equipment (e.g., cranes, wheeled loaders), stationary compactors, balers, grinders,	Operation	Delineate the areas that will be cleared; control the quality of run-off water prior to discharging into waterbody; provide a temporary embankment, provide a temporary channel; schedule



Aspects	Issues Identified	Stage	Mitigation
	and other treatment and conveyance systems		to avoid heavy rainfall periods; consider a phasing plan to minimize the period of exposure for cleared areas

Table 63 Issues Identified and Mitigation Actions at Sumatera Hazardous Waste - More Social Issues that should also be Identified

Aspects	Potential Issues	Stage	Mitigation
Social			
Labor And Working Conditions	Lack of competent workers so that the existing workers become overworked or work in positions for which they do not hold core competencies. This can lead to worker resignations, project delays, quality control concerns and health and safety incidents.	Construction	<ul style="list-style-type: none"> • Conduct public information disclosure • Develop a grievance mechanism for workers • Understand the local labor force prior to construction commencing, particularly with regards to resourcing for semi-skilled positions that may be required • Conduct labor training before working, including employee and contractors, subcons, and suppliers
	A number of job opportunities are not fulfilled by the local labor	construction and operation	<ul style="list-style-type: none"> • Conduct public information disclosure • Develop a grievance mechanism • Understand the local labor force prior to construction commencing, particularly with regards to resourcing for semi-skilled positions that may be required • Conduct labor training before working, including employee and contractor/subcons/supplier
	Lack of information about job opportunities (especially for local worker hire)	construction and operation	<ul style="list-style-type: none"> • Conduct public information disclosure • Develop a grievance mechanism • Understand the local labor force prior to construction commencing, particularly with regards to resourcing for semi-skilled positions that may be required
	No provision of Terms and conditions of employment, thus the workers do not have a clear understanding of their terms and conditions of employment (wage, working hours, off-day, benefit, etc.)	construction and operation	<ul style="list-style-type: none"> • Provide an employment contract to each employee • Develop grievance mechanism for workers • Conduct labor training and induction before working, including employee and contractor/subcons/supplier
	risk of violation on labor rights from contractors, subcons and suppliers	construction and operation	<ul style="list-style-type: none"> • Provide an employment contract to each employee • Develop a grievance mechanism for workers • Conduct labour training & induction before working, including employee and contractor/subcons/supplier
Socio-Economic Benefits	There are waste management facilities to reduce environmental pollution	operation	These positive impacts need to be disclosed to the community through project socialization or public disclosure. The development of grievance mechanisms and stakeholder



Aspects	Potential Issues	Stage	Mitigation
			engagement can support the achievement of the project's positive impacts.
Occupational health and safety	Construction work and operations involving heavy equipment, working with hazardous waste and dealing with electricity can pose several safety risks (fire and explosion) to workers.	Construction and operation	<p>The project needs to prepare an H&S plan for workers based on national regulations. The project must have a robust EHS & OHS plan in place along with regular staff training and clear SOPs. There also needs to be:</p> <ul style="list-style-type: none"> • A grievance mechanism for workers and a grievance officer • Project socialization and training for the workforce, particularly any non-skilled workers who are likely to be sourced locally • An H&S training plan
	The possibility workers will be exposed to hazardous waste can pose several safety risks to workers.	Operation	<p>The project needs to prepare H&S plan for workers based on national regulations. The project has to have a robust EHS & OHS plan in place along with regular staff training and clear SOPs. There also needs to be:</p> <ul style="list-style-type: none"> • A grievance mechanism for workers and a grievance officer • Socialization and training for the workforce, particularly any non-skilled workers who are likely to be sourced locally • An H&S training plan
Community health and safety	Community health and safety risks associated with traffic accidents and hazardous waste management during construction activities and project operations.	Construction and operation	<ul style="list-style-type: none"> • Develop a grievance mechanism for the community and • Prepare mitigation plans based on national and international regulations for all environmental component degradation and disruption that will have an impact on the community and also conduct public disclosure and stakeholder engagement • Prepared a waste management plan to minimize the impact on the community.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult to negotiate with the landowners which can shift the project's timeline or delay the project by looking for alternative land.	Pre-construction	<p>The LARAP document needs to be prepared before the construction stage when the project requires land acquisition. The document must ensure that:</p> <ul style="list-style-type: none"> • There is an inventory of land areas and PAPs (including non-titled land-users and economic displacement in the area) • There is a land value appraisal • There are a willing buyer and willing seller • There is a negotiations and compensation agreement • Resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected



Aspects	Potential Issues	Stage	Mitigation
	Involuntary resettlement (when affected persons do not have the right to refuse land acquisition or restrictions on land use that result in displacement)	Pre-construction	Same as above
	The land is unusable or difficult to access after being acquired due to social problems with local residents	Construction	Same as above
	Customary land or communal land affected by land acquisition	Construction	Same as above
	Physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood)	Construction	Same as above
	Economic displacement not only for landowners but also land users	Construction	Same as above
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction	Same as above
	The land status does not allow for waste management sites (protected forest, production forest, etc.)	Construction	Same as above
Access to Ecosystem Services	Loss of community access to important places such as livelihoods and natural resources	Pre-construction and construction	The project needs to conduct project socialization & public consultation including project impacts and schedule
Sexual Exploitation, Abuse, and Harassment (SEAH)	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction and construction	Include a set of gender responsive clauses under the contract agreement with the project workers, which provides statements including: <ul style="list-style-type: none"> • Anti-sexual harassment among workers and community members • Community engagement plan, which contains the commitment of active public consultation to community members, including women and vulnerable groups.
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction and construction	Same as above
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction and operation	The grievance redress mechanism for communities needs to have a specific team and mechanism for SEAH reports. Team members could include at least one person from the community, to ensure easy access and communication for the people from the remote locations. Team members should also be provided with training on how to carry out and process any SEAH reports
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over	Construction and operation	Conduct gender awareness capacity building through public socialization to communities. The socialization should address issues such as SEAH within the community as well as in the household



Aspects	Potential Issues	Stage	Mitigation
	economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal or household realm).		
Gender	Unequal employment opportunities for women due to the preference of male applicants, particularly in STEM (science, technology, engineering, and math) position.	Pre-construction	Set target for women employees and avoid preference in job vacancies. For women in the communities, use gender-sensitive communication channel such as personal outreach, group communication, local media, and community events.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving program's benefits, fair compensation, and information.	Pre-construction	Develop a gender-sensitive community engagement SOP. This includes several aspects such as <ul style="list-style-type: none"> • conduct women-only consultation, if possible; • conduct consultation in flexible time and place; • provide childcare facilities; • give invitations under the women's name (not husband/or family); • use sex-disaggregated attendance lists; and • ensure meaningful participation of women through providing space and opportunity for women to speak. The SOP may also include strategies on gender-responsive communication channel that is in accordance with the local culture
	The absence of women's personal protective equipment, which can endanger female workers.	Construction and operation	Personal protective equipment (PPE) must fit properly so that it can effectively protect the employees from the hazard for which it was designed. However, since some projects are usually male-dominated, there may be unavailability of PPE for women. It is necessary to provide properly fitting PPE and personal protective clothing based on female anthropometric (body measurement) data.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction and construction	Discrimination against women workers might occur both intentionally and unintentionally. Therefore, there is a need to take specific measures to ensure women workers' rights such as the provision of a no discrimination policy, collecting sex-disaggregated employee data to measure equal promotion, pay raises, and training opportunities between men and women.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, childcare, separate mess, and others.	Construction and operation	Constrained access to adequate separate toilets with doors and locks could result in stress, embarrassment, physical discomfort and gender-based violence for women. In addition, lack of childcare and breastfeeding facilities may prevent women employees from working, as they are traditionally responsible for domestic activities and a double burden between paid and unpaid care.



Aspects	Potential Issues	Stage	Mitigation
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	Constrained access to adequate separate toilets with doors and locks could result in stress, embarrassment, physical discomfort and gender-based violence for women. In addition, lack of childcare and breastfeeding facilities may prevent women employees from working, as they are traditionally responsible for domestic activities and a double burden between paid and unpaid care.
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc.) in the public consultation.	Pre-construction	Necessary to include aspects in project design taking into account the needs of gender, disadvantaged and disabled people.
	The absence of disability-friendly facilities that can endanger persons with disabilities to work in the related sector.	Construction and operation	Some as above
Human Rights	Forced purchase of land (e.g., through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction and operation	Land acquisition is carried out in accordance with national regulations and international standards. Any forcible evictions are only undertaken once all legal avenues and appeals have been exhausted, and carried out using appropriate levels of force
	Modern Slavery (Forced Labor/Human Trafficking) violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime, refusal of Collective Bargaining and Freedom of Association, and poor compliance with Job Security/Right to Work, non-discrimination, OHS and labor conditions (wage, OHS, working hours, etc.).	construction	Develop a grievance mechanism for workers, have in place appropriate human resources management system, and identify any construction contractors with a high risk profile for forced labour indicators
	Disruption of community access to important locations such as livelihoods, ecosystem services, and cultural heritage	Construction and operation	Prepare a grievance mechanism for the community in all of the project stages. Ensure that appropriate human rights screening and assessment is undertaken during project preparation stage.
Cultural Heritage	Disruption (damage or displacement) of tangible and intangible cultural heritage will impact to loss of community cultural identity	Construction and operation	The Project needs to conduct an assessment process: <ul style="list-style-type: none"> • Where potential items of cultural heritage are in proximity to the project a full assessment is undertaken. • There are community activities that will be affected (e.g., traditional ceremonies, disruption to funerals, and access to important community sites will be disrupted). • Identify the influence of cultural heritage on local communities • Conduct public consultation and information disclosure of the project to the affected community • Prepare a grievance mechanism for



Aspects	Potential Issues	Stage	Mitigation
			the community in all of the project stages. Ensure that appropriate human rights screening and assessment is undertaken during project preparation stage.
	Increase in community concern due to disruption of access to tangible and intangible cultural heritage	Construction and operation	Same as above
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land	Construction and operation	There needs to be a specific explanation or study on the presence of indigenous people around the project. This needs to be evaluated during the preparation stage to determine if there is going to be any future issues against ESS7
	Lack of consultation about the design or implementation of projects that affect Ips lives.	Construction and operation	Same as above
	Difficulty to engage with the relevant Indigenous Peoples to ensure their ownership and participation in project design, implementation, monitoring and evaluation and consult with them as to the cultural appropriateness of proposed services or facilities, and failure to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in the project	Construction and operation	Same as above
	The project has impacts on indigenous people, and the FPIC (Free, Prior Informed Consent) process results in rejection.	Construction and operation	Same as above

4.4. Sei Mangkei Public Housing

Project Background

The Sei Mangkei Special Economic Zone (SEZ) was built with the aim of developing economic activities in the Sei Mangkei area which are strategic for the development of the national economy.

Sei Mangkei industrial area has several companies that are actively operating. The number of companies each year is still growing. Therefore, the development has an impact on the needs for housing for workers along with infrastructure and supporting facilities because the workers mainly come from outside the area.

The government initiates the construction of flats for workers and other supporting (integrated) facilities, workers are expected to be able to occupy a decent house, and fulfill other basic and secondary needs in a location not far from their place of work and residence, and the cost of renting for affordable housing.

Project Description

The planned development of Sei Mangkei Integrated Housing will focus on providing three buildings to provide decent housing, especially for factory employees in the Sei Mangkei special economic zone (SEZ) industrial area. Figure 29 illustrates the site plan for the Sei Mangkei Integrated Housing. The project location is show on Figure 30.



Figure 27 Sei Mangkei Integrated Housing Site Plan

Source: Draft DPP Sei Mangke (Setara OBC), 2020

Of the planned Sei Mangkei Integrated Housing, the PPP project covers:

- Construction of housing units for factory employees in the Sei Mangkei industrial area;
- Operation and maintenance during the concession period; and
- Obtaining funding for project development and management.

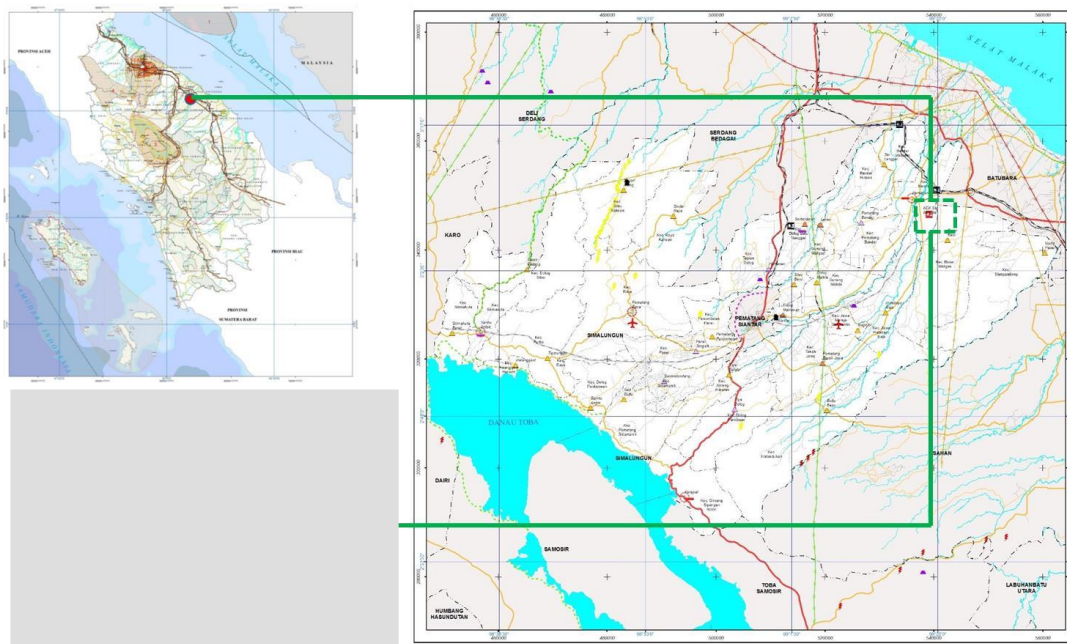


Figure 28 Project Location of Sei Mangkei Integrated Housing

Source: Dokumen Studi Pendahuluan Rusunawa Terintegrasi di KEK Sei Mangkei, 2020

The PPP project details are summarized in Table 63 below, while the PPP arrangement scheme is shown in Figure 31.

Table 64 Sei Mangkei Integrated Housing PPP Project Details

Location	Sei Mangkei, Simalungun Regency, North Sumatera Province
Government Contracting Agency	Provincial Government of North Sumatera (Housing and Settlement Area Agency)
Type of PPP	Solicited
Land Area	±2.60 Ha
Support from MoF	PDF support and Guarantee
Capital Value	USD 76.76 million
Revenue Model	User Payment
Beneficiaries	Residents, industries in the SEZ
Estimated Concession Period	20 years
Project Status	Project Preparation Stage

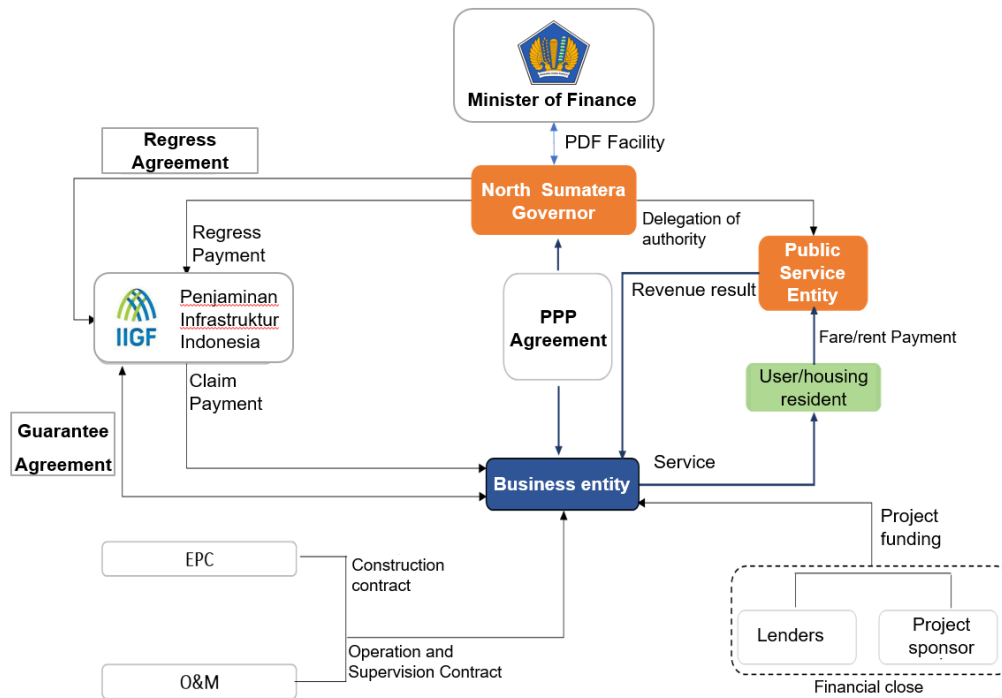


Figure 29 Sei Mangkei Integrated Housing PPP Scheme

Source: Update Progress Sei Mangkei - ESG, 2022

Project Benefits and Potential Issues

The planned integrated housing will provide not only various socio-economic benefits, but also entail potential environmental and social issues as presented below.

Potential benefits

The housing will be occupied by workers in the Sei Mangkei SEZ, which is projected to absorb a workforce of 83,304 employees. The existence of the housing can provide socio-economic and environmental benefits.

The housing complex can provide socio-economic benefits such as:

- Providing adequate, affordable housing for workers of the Sei Mangkei SEZ,
- Reducing transport network pressure and commuting time for workers,
- Supporting the development of industrial activities in the area, and
- Opening up job opportunities for the surrounding community.

The housing complex also has environmental benefits as follows:

- Reducing the potential for slum areas and informal settlements,
- Reducing the pressure on forest, protected areas and biodiversity from informal settlements,
- Reducing waste and wastewater pollution through planned infrastructure, and
- Reducing GHG emissions by reducing the distance of workers to their work location in the SEZ.

A high-level assessment²¹ shows that the housing complex could potentially support the achievement of the Sustainable Development Goals in the region as shown in the table below. Further studies are needed to validate and monitor the assumed potential benefits.

²¹ SDG includes 17 Goals, 169 Targets, and 241 Indicators in total; a more comprehensive assessment could be conducted by water utility companies alongside the regional government entities responsible for SDG monitoring and reporting, presumably the regional development planning agencies (*Badan Perencanaan Pembangunan Daerah, Bappeda*).

Table 65 Benefits from Sei Mangkei Public Housing

SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
Goal 1: No poverty	1.1 By 2030, eradicate extreme poverty for all those currently earning less than US\$1.25 per day.	1.1.1 Extreme poverty rate	Availability of housing facilities close to the SEZ could help reduce household expenses on transportation to and from work in the SEZ. Furthermore, electricity, clean water, sanitation, and domestic waste treatment services might be available to tenants at lower costs than outside the housing facility. The housing facility could have trickle-down effect on surrounding communities, particularly small businesses that cater to the neighbourhood, thus providing additional revenues and helping to reduce poverty
	1.2 By 2030, reduce by at least half the proportion of men, women and children of all ages living in poverty on all dimensions, in accordance with national definitions	1.2.1 Proportion of population living below the national poverty line	
		1.2.2 proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	
	1.4 By 2030, ensure that all men and women, in particular the poor and vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, new technologies and appropriate financial services, including microfinance	1.4.1 Proportion of population living in households with access to basic services	Provision of a housing facility will increase the proportion of population living in households with access to basic services such as electricity, clean cooking fuels, safe sanitation, and clean water
		1.4.1(d) Percentage of households with access to proper and sustainable drinking water service	
		1.4.1(e) Percentage of households with access to proper and sustainable sanitation service	
		1.4.1(k) Percentage of poor and vulnerable households with electricity as the main lighting source	
	1.4.1(f) Percentage of urban slum households	The housing facility could reduce the number of slum households in the region, defined as households lacking one or more of the following: access to improved water, access to improved sanitation, sufficient living area, and durability of housing. See also Indicator 11.1 below	
Goal 2: Zero hunger	2.1 By 2030, eliminate hunger and ensure access for all, in particular the poor and those in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1 Prevalence of undernourishment	Similar to Indicator 1.2.1, cost savings could be used by households to spend more on nutritious food. However, this consumption shift might require behavioral changes
		2.1.1(a) Prevalence of underweight among children under five	
		2.1.2 Prevalence of food insecurity	
	2.2 By 2030, eliminate all forms of malnutrition, including by 2025 achieving the internationally agreed	2.2.1 Prevalence of stunting among children under five	Aside of potential improved nutrition mentioned under Indicators 2.1 above, provision of clean water in the housing complex could help prevent stunting and wasting
		2.2.1(a) Prevalence of stunting among children	



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
	targets for stunted and underweight children under 5 years of age, and meeting the nutritional needs of adolescent girls, pregnant and lactating women, and the elderly.	under two	by reducing the incidence of diarrhea, which hinders absorption of nutrition from consumed food and beverages.
		2.2.2 Prevalence of malnutrition among children under five	
		2.2.2(c) Quality of food consumption indicated by the achievement of Desirable Dietary Pattern (DDP) and fish consumption rate	See Indicators 2.1 above
Goal 3: Good Health and Well-Being	3.1 By 2030, reduce the maternal mortality ratio to less than 70 per 100,000 live births.	3.1.1 Maternal mortality rate	Provision of clean cooking fuels, safe sanitation, and clean water in the housing complex could help improve the health of the tenants, thus reducing mortality rates and reduce household expenditures on health.
	3.2 By 2030, end newborn and under-five mortality preventable, with all countries trying to reduce the Neonatal Mortality Rate to at least 12 per 1000 KH (Live Births) and the Toddler Mortality Rate to 25 per 1000	3.2.2(a) Under-5 mortality rate	
		3.2.2(b) Neonatal mortality rate	
	3.8 Achieve universal health coverage, including financial risk protection, access to good basic health services, and access to safe, effective, quality and affordable basic medicines and vaccines for all	3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income	
	3.9 By 2030, significantly reduce the number of deaths and illnesses from hazardous chemicals, as well as air, water and soil pollution and contamination	3.9.1 Mortality rate attributed to household and ambient air pollution	
3.9.2 Mortality rate attributed to unsafe water, sanitation, and lack of hygiene			
Goal 4: Quality Education	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education, leading to relevant and effective learning outcomes	4.1.2 Completion rates of primary, lower secondary, and higher secondary education	Provision of safe sanitation and clean water could help improve children's health, and as a result improve concentration, reduce absences, and improve overall educational performance. Furthermore, the housing facility could provide an environment conducive to learning and studying.
Goal 5: Gender Equality		No specifically relevant indicator	Female workers might normally face more difficulties in finding accommodation due to safety considerations. Providing an equal opportunity to women to rent a unit in the housing facilities could help improve their situation,



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
			thus promoting gender equality.
Goal 6: Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1 Proportion of population using safely managed drinking water services	The housing complex will increase performance under the indicator due to provision of clean water to tenants.
		6.1.1(a) Percentage of households with access to proper drinking water	
		6.1.1(c) Proportion of population using safe and sustainable drinking water	
	6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and vulnerable groups	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	The housing facility will increase performance under the indicators due to provision of sanitation services to tenants.
		6.2.1(a) Proportion of population with a hand-washing facility with soap and water	
		6.2.1(b) Percentage of households with access to proper sanitation service	
		6.2.1(f) Proportion of households served by an integrated wastewater treatment system	
	6.3 By 2030, improve water quality by reducing pollution, eliminating discharges and minimizing the release of hazardous materials and chemicals, halving the proportion of untreated wastewater, and significantly increasing recycling and safe reuse of recyclables globally	6.3.1 Proportion of wastewater safely treated	
		6.3.1(b) Proportion of households served by a faecal sludge treatment system	
Goal 7: Affordable and Clean Energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1 Electrification ratio	The housing complex will increase performance under the indicator due to provision of electricity to tenants.
		7.1.1(a) Electricity consumption per capita	
		7.1.2 Proportion of population with primary reliance on clean fuels and technology	Tenants in the housing complex will use gas as a cooking fuel, while some of them might previously have used wood.
		7.1.2(b) Gas household use ratio	
Goal 8: Decent work and economic	8.1 Maintain per capita economic growth in line with national conditions and, in particular, at least 7 percent annual gross domestic product growth	8.1.1(a) GDP per capita	Construction of the housing complex will temporarily absorb labor, but operations and maintenance will not be labor intensive. However, the provision of the housing



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
growth	in least developed countries		facilities will attract workers to the SEZ. The Project will increase the Gross Regional Domestic Product (GRDP) directly (through rent) and indirectly (because the water supply is directed to household consumption instead of productive activities).
	8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro, small and medium enterprises, including through access to financial services	8.3.1(a) Percentage of formal workforce	Availability of the housing facility will attract workers to the SEZ to work in the SEZ tenants, with potential increase in earnings.
	8.5 By 2030, achieve permanent and productive employment and decent work for all women and men, including for youth and persons with disabilities, and equal pay for equal value work	8.5.1 Average hourly earnings of female and male employees, by occupation, age, and persons with disabilities 8.5.2. Unemployment rate, by sex, age, and persons with disabilities	
Goal 9: Industry, Innovation, and Infrastructure	9.2 Promote inclusive and sustainable industrialization, and by 2030, significantly increase the share of industry in employment and gross domestic product, in line with national conditions, and double its share in least developed countries	9.2.1 Manufacturing value added as a proportion of GDP and per capita	Availability of the housing facility will attract workers to the SEZ to work in the SEZ tenants, thus facilitating the companies to recruit employees with necessary skills and experience. This might contribute to the companies' overall performance.
		9.2.1(a) Manufacturing industry GDP growth rate	
		9.2.2 Manufacturing employment as a proportion of total employment	
	9.3 Improve access of small-scale industry and enterprises, particularly in developing countries, to financial services, including affordable credit, and integrate them into value chains and markets	9.3.1 Proportion of population covered by a mobile network, by technology	Tenants of the housing facilities should be able to enjoy mobile network coverage, while some of them might not have the same level of service in their previous domicile.
Goal 10: Reduced Inequalities	10.1 By 2030, progressively achieve and sustain income growth of people below 40% of the population at a rate higher than the national average	10.1.1(a) Proportion of people living under the national poverty line	Household spending on housing, clean water, and other services could be substantial for low-income families. Provision of the housing facilities could help reduce the costs.
	10.2 By 2030, empower and promote social, economic and political inclusion	10.2.1 Proportion of people living below 50 per	



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
	for all, regardless of age, gender, disability, race, ethnicity, origin, religion or economic ability or other status	cent of median income	
Goal 11: Sustainable Cities and Communities	11.1 By 2030, ensure access for all to adequate, safe, affordable housing and basic services, and manage slum areas	11.1 Proportion of urban population living in slums, informal settlements or inadequate housing	The housing facilities could reduce the number of slum households in the region, defined as households lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, and durability of housing. See also Indicator 1.4.1(f) above.
		11.1.1(a) Proportion of households with access to proper, affordable housing	The housing facilities could help increase the number households with access to proper, affordable housing.
	11.3 By 2030, strengthen inclusive and sustainable urbanization and capacity for participatory, sustainable and integrated settlement management planning in all countries	11.3.1 Ratio of land consumption rate to population growth rate	The vertical housing facilities would help reduce land consumption in the region.
	11.6 By 2030, reduce per capita adverse urban environmental impacts, including by paying special attention to air quality, including municipal waste management.	11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	The housing facilities should include household waste management service, thus increasing the share of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated in the region.
		11.6.1(a) Percentage of managed urban waste	
	11.7. By 2030, provide public spaces and green open spaces that are safe, inclusive and easily accessible, especially for women and children, the elderly and persons with disabilities	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	The housing facilities should include open space for public use.
11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months		The housing facilities should include security measures to reduce the prevalence of physical or sexual harassment.	
Goal 12: Responsible Consumption and Production	12.5 By 2030, substantially reduce waste production through prevention, reduction, recycling and reuse	12.5.1 National recycling rate, tons of material recycled	The housing facilities have the potential of contributing to this indicator if it provides or supports recycling activities.
		12.5.1(a) Amount of recycled waste	
Goal 13:	13.2 Integrating anticipatory climate change actions into national policies,	13.2.2(a) Potential reduction in greenhouse gas (GHG) emissions	Tenants might reduce their carbon footprint by relocating to the Sei Mangkei housing facilities, due to shorter



SDG #	Targets	Indicator	Potential benefits of the project in achieving the SDG indicator targets
Climate Action	strategies and plans.	13.2.2(b) Potential reduction in GHG emission intensity	commuting distance, shifting from jet pumps at home to water subscription at the housing facility, proper household waste management, etc. However a more comprehensive assessment is needed to confirm whether the housing facility results in a net reduction of GHG emissions.
Goal 14: Life below Water	14.1 By 2025, prevent and significantly reduce all types of marine pollution, in particular from land-based activities, including marine debris and nutrient pollution	14.1.1 Index of coastal eutrophication and floating plastic debris density	The housing facilities could contribute to reduction of marine pollution if they include proper waste treatment.
Goal 15: Life on Land		No specifically relevant indicators	The housing facilities project would not directly or significantly contribute to the effort of sustainably managing forests, combatting desertification, halting and reversing land degradation, or halting biodiversity loss.
Goal 16: Peace, Justice, and Strong Institutions		No specifically relevant indicators	The housing facility project would not directly or significantly contribute to the promotion of peaceful and inclusive societies for sustainable development, the provision of access to justice for all, and building effective, accountable institutions.
Goal 17: Partnership for the Goals	17.17 Promote and enhance effective public-private and civil society collaboration, based on experience and based on a collaborative strategy	17.17.1 Amount of United States dollars committed to (a) public-private partnerships and (b) civil society partnerships	As a PPP, this project could help increase the value of indicator 17.17.1.

Potential issues

There might be some social and environmental disturbances due to the location of the planned housing. Some social and environmental aspects that need to be considered are presented below.

Potential issues from the social perspective are:

- Disruption of activities at the Sacred Dome site, which is located close to the planned housing project,
- Potential loss of livelihoods for the relocated community (economical displacement),
- Potential for behavioral adjustment from the landed housing community to become vertical house, and
- Community segregation.

Potential issues from the environmental perspective are:

- Decreasing quality of ambient air, surface and groundwater during the construction period,
- Decreasing quality of surface water especially the Bah Bolon River, which is located behind the project site (± 500 meters),
- Emerging vibration, traffic impact and disturbance to biodiversity, and
- Increasing runoff water, noise levels, waste generation, and hazardous waste which can pollute the environment if not managed properly.

Issues Identified and Mitigation Actions at Sei Mangkei Public Housing

Various important ESG issues were not identified or were not linked to mitigation actions in the Outline Business Case (OBC) and Preliminary Study documents. Issues that are not anticipated and mitigated appropriately may result in negative ESG outcomes for the project. Such issues have been captured in parallel in an ESG Risk Register that is based on the experience of previous projects and WB ESF standard (to be used as part of the ESG Manual).

Table 66 Issues Identified and Mitigation Actions at Sei Mangkei Public Housing – Environmental Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Environmental				
Greenhouse Gas (GHG)	GHG emissions as a derivative impact from air quality impact. GHG emissions are associated with off-road and on-road equipment as well as worker vehicle trips.	Construction	Implement a regular vehicle maintenance and repair program; use of best available technologies wherever possible in plant design, maintenance and operation of the plant within design specifications	Preliminary Study
	GHG emissions as a derivative impact from the air quality impact. GHG emissions during Sei Mangkei operation are associated with on-road equipment as well as residents vehicle trips.	Operation	Implement a regular vehicle maintenance and repair program; optimize the function of green open space (RTH)	Preliminary Study
Waste Generation	The construction stage will generate specific waste such as construction waste (e.g. soil and concrete debris) which needs to be managed in accordance with national regulations. Waste such as household waste from the daily activities of workers at construction sites, if not managed, can cause problems if it is disposed of carelessly into water bodies, buried on the ground, or burned.	Construction	Provide adequate TPS for construction waste and domestic waste and transporting out the waste regularly; implement good housekeeping procedure; implement the mitigation from other aspect related domestic wastewater management	Preliminary Study



Aspects	Issues Identified	Stage	Mitigation	Source
	Wastewater from bathing and washing from toilets in construction areas, if not treated properly can contaminate soil and water bodies			
	Hazardous solid waste generation during the construction stage that has the potential to cause land contamination includes the use of solid or powdered chemicals, metal scraps, plastic from waste storage facilities,	Construction	Provide adequate TPS B3 in accordance with the regulation; provide specific area for vehicle maintenance activities include secondary containment for fuel storage tank; engage third party for hazardous waste management (transport and operator); implement good housekeeping procedure.	Preliminary Study
	Household waste from the daily activities of residents at Sei Mangkei if not managed, can cause problems if it is disposed of carelessly into water bodies, buried on the ground, or burned. Wastewater from bathing and washing from toilets iat Sei Mangkei if not treated properly can contaminate soil and water bodies	Operation	Provide adequate TPS domestic waste and transporting out the waste regularly; implement good housekeeping procedure; implement the mitigation from other aspect related domestic wastewater management	Preliminary Study
	Hazardous solid waste generation during the operational of Sei Mangkei that has the potential to cause land contamination includes the used lamp, used oils, fuel and oil filters and caustic cleaning materials from vehicle maintenance, used ink or cartridges, and contaminated containers (paints, solvent etc)	Operation	Provide adequate TPS B3 in accordance with the regulation; engage third party for hazardous waste management (transport and operator); implement good housekeeping procedure.	Preliminary Study
	Displacement of local native flora and fauna due to the associated land being used as a project development area. This includes direct clearing of any vegetation defined as within a protected area, natural habitat or critical habitat to accommodate the project footprint and any other associated facilities. Aquatic life is disrupted as a derivative impact due to construction waste contamination to the surface water	Construction	Maintain the existing trees for open space area in the future development; revegetation of the area outside in the project footprint affected by construction activities	Preliminary Study
Surface Water Quantity	Land clearing activities will remove vegetation on the ground surface, this can increase the run-off discharged into the recipient water body	Pre-Construction and Construction	Delineate the areas that will be cleared; control the quality of run-off water prior to discharging into waterbody; provide a temporary embankment, provide a temporary channel; schedule to avoid heavy rainfall periods; consider a phasing plan to minimize the period of exposure for cleared areas	Preliminary Study
Surface Water Quality	Land clearing activities will expose soil and increase the potential for erosion during rainfall periods. This	Construction	Delineate the areas that will be cleared; control the quality of run-off water prior to discharging into	Preliminary Study



Aspects	Issues Identified	Stage	Mitigation	Source
	run-off will bring sedimentation materials flowing into the recipient water body		waterbodies; covering the soil heap using tarpaulin, and undertaking soil compaction prior it gets eroded by the rain	
	The construction stage will potentially generate domestic wastewater from the workers domestic activity (workers camp and on project site). This includes wastewater from canteen and temporary office. This activity will impact the surface water if the effluent will be discharge to the waterbody.	Construction	Provide domestic wastewater management facilities such as portable toilets with adequate capacity, regularly emptying the portable toilets	Preliminary Study
	Operational activities of Sei Mangkei will generate domestic wastewater from each sanitary facility in the Rusunawa (kitchen, toilet). The wastewater from domestic WWTP will potentially contain domestic pollutants if not treated well.	Operation	Provide domestic wastewater management facilities with adequate capacity, regularly emptying the sludge from the wastewater management facility and ensure that the effluent parameters meet the standards	Preliminary Study
Groundwater quality	The use of water during the construction stage, including for concrete production, is typically sourced from groundwater. This can result in a decrease in the groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localised hazards such as land subsidence.	Construction	Reconsider the use of groundwater with alternative water sources such as PDAM water or river water; any groundwater abstraction must be undertaken in accordance with relevant permits; maximize reduction, reuse and recycling of groundwater for other project uses	Preliminary Study
Groundwater Quantity	The clean water use during operational of Sei Mangkei can be sourced from groundwater. This can result in a decrease in the groundwater level, leading to conflicts with other groundwater users in the surrounding area, typically the local community. Unchecked, excessive groundwater use can cause localized hazards such as land subsidence.	Operation	Reconsider the use of groundwater with alternative water sources such as PDAM water or river water; any groundwater abstraction must be undertaken in accordance with relevant permits; maximize the reduction, reuse and recycling of groundwater for other project uses	Preliminary Study
	Vegetation waste during land preparation potentially arise from cuttings of trees, shrubs and grass from land cover clearing	Construction	Maintain the existing trees for open space area in the future development; provide specific areas for temporary vegetation waste dumping and transporting out the waste regularly; maximize the use of vegetation waste for composting.	Preliminary Study
Air Quality	Land preparation prior to construction activities will generate dust from exposed soil surface and emissions from the vehicles and equipment used, which include CO, NOx, SO2, PM and VOCs during land preparation activities	Pre-Construction and Construction	Use of dust control methods, such as dust suppression controls on site; implement a regular vehicle maintenance and repair program; implement PPE for workers	Preliminary Study



Aspects	Issues Identified	Stage	Mitigation	Source
	Mobilization of heavy equipment and materials will generate dust from exposed soil surface, unpaved roads and emissions from the vehicles and equipment used, which include CO, NOx, SO2, PM and VOCs	Construction	Use of dust control methods, such as covers, dust suppression controls on the access road; minimize activity during dry, windy conditions, implementing speed limit controlling; implement a regular vehicle maintenance and repair program; implement PPE for workers	Preliminary Study
	Development of the main facilities will generate dust from exposed soil surface and emissions from the vehicles and equipment used, which include CO, NOx, SO2, PM and VOCs during civil works & building construction activities	Construction	Use of dust control methods, such as dust suppression controls within the site; implement a green buffer; implement a regular vehicle maintenance and repair program; implement PPE for workers	Preliminary Study
	Air pollution can be caused due to gas from the combustion of fuel from generator and activity from urban transport surrounding the Sei Mangkei	Operation	Implement speed limit controlling; implement a regular vehicle maintenance and repair program.	Preliminary Study
Noise	Land preparation prior to construction activities will generate noise from the machinery and equipment used during land clearing and land compaction	Pre-Construction and Construction	Use of noise control methods, such as mufflers for vehicles; implement a noise barrier; implement a regular vehicle maintenance and repair program; limit the hours of operation for specific loud pieces of equipment or operations; implement PPE for workers	Preliminary Study
	Mobilization of heavy equipment and materials will generate noise disturbance along the access road, particularly the area closed to the sensitive receptors	Construction	Use of noise control methods, such as mufflers for vehicles; reduce project traffic routing through community areas wherever possible; implement a regular vehicle maintenance and repair program; implement community grievance mechanism	Preliminary Study
	Development of the main facilities development will generate noise during civil works and building construction activities	Construction	Use of noise control methods, such as muffler for vehicles; implement a noise barrier; implement a regular vehicle maintenance and repair program; implement PPE for workers	Preliminary Study
	Noise disturbance can be generated due to generator operations and activity from urban transport surrounding the housing complex	Operation	Recommendation for mitigation: implement silencers in the generator room; implement a regular vehicle maintenance and repair program.	Preliminary Study
Vibration	Construction of the main facilities will generate vibration from drilling, boring and piling activities during civil works (foundation) activities	Construction	Installing vibration isolation for mechanical equipment; use vibratory drilling equipment in a mode which minimizes the incident vibration; implement a regular vehicle maintenance and repair program; implement PPE for workers	Preliminary Study
Biodiversity	Increase of traffic on some road segments during construction will potentially emerge due to mobilization of equipment and	Construction	Inform the community regarding the ongoing project and activities regarding the project duration; install road warning signs, project	Preliminary Study



Aspects	Issues Identified	Stage	Mitigation	Source
	material.		vehicle entrance and exit warning signs, bottleneck road warning signs, etc according to the needs;	
Traffic	Traffic activity due to urban transport and mobilization surrounding the Sei Mangkei will potentially increase.	Operation	Install road warning signs, project vehicle entrance and exit warning signs, bottleneck road warning signs, etc according to the needs; complete suitable training and certification of drivers	Preliminary Study

Table 67 Issues Identified and Mitigation Actions at Sei Mangkei Public Housing - Social Aspects

Aspects	Issues Identified	Stage	Mitigation	Source
Social				
Labour and working conditions	Increasing in job opportunities, business opportunities, and community income	construction	These positive impacts need to be disclosed to the community through project socialization or public disclosure. The development of grievance mechanisms and stakeholder engagement can support the achievement of the project's positive impacts	Preliminary Study
Social economic benefits	Construction work and operations involving heavy equipment, working at heights and dealing with electricity can pose several safety risks to workers.	Construction and operation	Construction will be a critical stage for the project as there will be issues of safety for staff and contract workers. Strong EHS and OHS systems need to be in operation. Site security and access control are critical to prevent outsiders, particularly children entering a dangerous construction site. After having an HSE plan, the Project also needs to implement: <ul style="list-style-type: none"> • Develop a grievance mechanism for workers • Project socialization and training for the workforce, particularly any non-skilled workers who are likely to be sourced locally • Develop and implement H&S training plan 	Preliminary Study
Occupational health and safety	Community health and safety risks associated with traffic accidents and increased dust, air and noise pollution during construction activities and project operations.	Construction and operation	<ul style="list-style-type: none"> • Develop a grievance mechanism for the community • Prepare mitigation plans based on national and international regulations for all environmental component degradation and disruption that will have an impact on the community and also conduct public disclosure and stakeholder engagement • Prepared a waste management plan to minimize the impact on the community. 	Preliminary Study
Community health and safety	An increase in household waste and a decrease in community sanitation due to the construction and operation of housing.	Construction	<ul style="list-style-type: none"> • Develop grievance mechanism for community • Prepare mitigation plans based on national and international regulations for all environmental component degradation/disruption that will have an impact on the community and also conduct public disclosure and stakeholder engagement • Prepared a waste management plan to minimize the impact on the community. 	Preliminary Study



Aspects	Issues Identified	Stage	Mitigation	Source
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Loss of community access to important places such as livelihoods and natural resources	Pre-construction and construction	The project needs to conduct project socialization and public consultation including project impacts and schedule	Preliminary Study

Table 68 Issues Identified and Mitigation Actions at Sei Mangkei Public Housing – More Environmental Issues that Should also be Identified

Aspects	Potential Issues	Stage	Mitigation
Environmental			
Surface Water Quality	All construction stages will potentially generate domestic wastewater from the workers' domestic activity (workers' camp and on project site). This includes wastewater from the canteen and temporary office. These activities will impact the groundwater if the effluent will be stored in the retention well	Construction	Provide domestic wastewater management facility such as portable toilets with adequate capacity, regularly emptying the portable toilets
Groundwater Quality	Groundwater pollution during the operation stage can be sourced from onsite domestic wastewater treatment facility. This possibility could occur due to contamination from leaks or a non-standard waste treatment system.	Operation	Provide a proper sewerage system to facilitate domestic wastewater from the housing; regularly empty the sludge from wastewater management facility and ensure that the effluent parameters meet the standards

Table 69 Issues Identified and Mitigation Actions at Sei Mangkei Public Housing – More Social Issues that Should also be Identified

Aspects	Potential Issues	Stage	Mitigation
Social			
Labor And Working Conditions	Lack of competent workers so that the existing workers become overworked or they do not hold core competencies. This can lead to worker resignations, project delays, quality control concerns and health and safety incidents.	Construction	<ul style="list-style-type: none"> • Conduct public information disclosure • Develop a grievance mechanism for workers • Understand the local labor force prior to construction commencing, particularly with regards to resourcing for semi-skilled positions that may be required • Conduct labor training before working, including employees and contractors, subcons and suppliers
	A number of job opportunities are not fulfilled by the local labor (based on company commitment and stated in the RKL-RPL)	construction and operation	<ul style="list-style-type: none"> • Conduct public information disclosure • Develop a grievance mechanism • Understand the local labour force prior to construction commencing, particularly with regards to resourcing for semi-skilled positions that may be required • Conduct labor training before working, including employees and contractors, subcons and suppliers



Aspects	Potential Issues	Stage	Mitigation
	Lack of information about job opportunities (especially for local worker hire)	construction and operation	<ul style="list-style-type: none"> • Conduct public information disclosure • Develop grievance mechanism • Understand the local labor force prior to construction commencing, particularly with regards to resourcing for semi-skilled positions that may be required
	No provision of terms and conditions of employment, thus the workers do not have a clear understanding of their terms and conditions of employment (wages, working hours, off-days, benefits, etc.)	construction and operation	<ul style="list-style-type: none"> • Provide employment contract to each employee • Develop grievance mechanism for worker • Conduct labor training and induction before working, including employee and contractors, subcons and suppliers
	Risk of violation on labor rights by contractors, subcons and suppliers (including hiring child labor, and using force labour, etc.)	construction and operation	Same as above
Socio-Economic Benefits	Time efficiency for travel and easy access to public facilities (integrated residential area)	operation	These positive impacts need to be disclosed to the community through project socialization or public disclosure. The development of grievance mechanisms and stakeholder engagement can support the achievement of the project's positive impacts.
Occupational health and safety	Integrated housing and close distance to the workplace will improve the safety and health of workers.	operation	These positive impacts need to be disclosed to the community through project socialization or public disclosure. The development of grievance mechanisms and stakeholder engagement can support the achievement of the project's positive impacts.
Community health and safety	Open access to the project site will increase the risk of crime	Construction and operation	<p>Construction will be a critical stage for the project as there will be issues of safety for staff and contract workers. Strong EHS and OHS systems need to be in operation. Site security and access control are critical to prevent outsiders, particularly children entering a dangerous construction site.</p> <p>After having an HSE plan, the Project also needs to:</p> <ul style="list-style-type: none"> • Develop a grievance mechanism for workers • Provide project socialization and training for the workforce, particularly any non-skilled workers who are likely to be sourced locally • Develop and implement an H&S training plan
	The increasing number of immigrants (job seeker, those who seek for opportunity) will impact community exposure to disease.	Construction	<ul style="list-style-type: none"> • Develop a grievance mechanism for the community • Prepare mitigation plans based on national and international regulations for all environmental component degradation and



Aspects	Potential Issues	Stage	Mitigation
			<p>disruption that will have an impact on the community and also conduct public disclosure and stakeholder engagement</p> <ul style="list-style-type: none"> • Prepare a waste management plan to minimize the impact on the community.
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Difficult to negotiate with the landowners which can shift the project's timeline or delay the project by looking for alternative land.	Pre-construction	Based on information in DPP document, the local government will provide the land and there is no need for land acquisition. We also need to see if there are land users in the project land. However, the project needs to include non-titled land-users and economic displacement in the documentation process as these are often the important stakeholders that are often overlooked during the initial land acquisition and this is very important to lenders
	Involuntary resettlement (when affected persons do not have the right to refuse land acquisition or restrictions on land use that result in displacement)	Pre-construction	Same as above
	The land is unusable or difficult to access after being acquired due to social problems with local residents	Construction	Same as above
	Customary land or communal land affected by land acquisition	Construction	Same as above
	Physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood)	Construction	Same as above
	Insufficient compensation for economic displacement of the non-titled land users, squatters and illegal occupants	Construction	Same as above
	Lack of appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	Construction	Same as above
Sexual Exploitation, Abuse, and Harassment (SEAH)	Physical contact between project workers, including those in charge of land acquisition, and community members can increase the risk of exploitation, violence or sexual harassment. The exclusion of affected community members from public consultations or decision-making processes can also increase their vulnerability to SEAH, for example women or the spouse of the head of the household.	Pre-construction and construction	<p>Include a set of gender-responsive clauses under the contract agreement with the project workers, which provides statements including:</p> <ul style="list-style-type: none"> • Anti-sexual harassment among workers and community members • A community engagement plan, which contains the commitment of active public consultation to community members, including women and vulnerable groups
	Increase of SEAH risk for female workers in traditionally male-dominated workplaces.	Pre-construction and construction	Same as above
	Remote locations where people have limited access to resources to report SEAH cases and receive support.	Construction and operation	Grievance redress mechanism for communities needs to have a specific team and mechanism for SEAH



Aspects	Potential Issues	Stage	Mitigation
			reports. Team members could include at least one person from the community, to ensure easy access and communication for the people from the remote locations. Team members should also be provided with training on how to carry out and process any SEAH reports
	Changes in the dynamics of life in the community and household related to work or business opportunities around the project site can affect the system of division of labor, access and control over economic resources (for example, the opening of women's opportunities to earn income can trigger violence in the personal/household realm).	Construction and operation	Conduct gender awareness capacity-building through public socialization to communities. The socialization should address issues such as SEAH within the community as well as in the household
Gender	Unequal employment opportunities for women due to the preference of male applicants, particularly in STEM (science, technology, engineering, and math) position.	Pre-construction	<ul style="list-style-type: none"> The Public Consultation Report should include gender inclusion. In the PPP Agreement there should be: obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP as well as gender-responsive HRD plans, and report it to the GCA.
	Lack of women's participation in community consultations and meetings that can prevent women from receiving program's benefits, fair compensation, and information.	Pre-construction	<ul style="list-style-type: none"> The Public Consultation Report should include gender inclusion. In PPP Agreement: Obligations to be put on the IBE to ensure and monitor the implementation of gender-sensitive community engagement SOP and report it to the GCA.
	The absence of women's personal protective equipment, which can endanger female workers.	Construction and operation	In the PPP Agreement there should be: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive PPE and report it to the GCA.
	Discrimination against women workers such as gender pay and benefits gaps and unequal access to promotions.	Pre-construction and construction	In the PPP Agreement there should be: obligations to be put on the IBE to ensure and monitor the implementation of gender-responsive HRD plans and report it to the GCA.
	Unavailability of specific facilities for women such as women's toilets, breastfeeding rooms, child care, separate mess, and others.	Construction and operation	In the PPP Agreement there should be: obligations to be put on the IBE to ensure and monitor the provision of gender-responsive facilities and report it to GCA.
Disability	Unequal employment opportunities for persons with disabilities due to stigma and inadequate facilities.	Pre-construction	<ul style="list-style-type: none"> FBC should include the disability considerations throughout the project. ESIA and ESMP Grievance mechanism Stakeholders engagement plan.
	Lack of facilitation for people with disabilities (sign language interpreters, physically accessible service points, lack of accessible materials such as braille versions, audiotaped versions, etc) in the public consultation.	Pre-construction	Same as above



Aspects	Potential Issues	Stage	Mitigation
	The absence of disability-friendly facilities that can endanger persons with disabilities to work in the related sector.	Construction and operation	Same as above
Human Right	Forced purchase of land (e.g., through forcible eviction without payment or due process, or not undertaking fair or transparent negotiation process).	Construction and operation	<ul style="list-style-type: none"> ESIA and ESMP Grievance mechanism. Stakeholders engagement plan. Develop Human Right Impact Assessment (HRIA).
	Modern Slavery (Forced Labor/Human Trafficking) violation, including withholding of wages, confiscating identification documents, and use of threats to work excessive overtime, refusal of Collective Bargaining and Freedom of Association, and poor compliance with Job Security/Right to Work, non-discrimination, OHS and labor conditions (wage, OHS, working hours, etc.).	construction	<ul style="list-style-type: none"> ESIA and ESMP Worker grievance mechanism. Develop Human Right Impact Assessment (HRIA).
	Disruption of community access to important locations such as livelihoods, ecosystem services, and cultural heritage	Construction and operation	Same as above
Cultural Heritage	Disruption (damage or displacement) of tangible and intangible cultural heritage will impact to loss of community cultural identity	Construction and operation	<ul style="list-style-type: none"> FBC should include the initial assessment of existing cultural heritage and the mitigation plan through the project. AMDAL with RKL-RPL ESIA and ESMP Grievance mechanism Stakeholders engagement plan. Cultural heritage assessment Change finding procedures (if required)
	Increase in community concern due to disruption of access to tangible and intangible cultural heritage	Construction and operation	Same as above
Indigenous People	Disturbance of indigenous groups with the existence of projects such as cultural activities and loss of customary land	Construction and operation	<ul style="list-style-type: none"> FBC should include the initial assessment of indigenous people through the project. AMDAL with RKL-RPL ESIA and ESMP Grievance mechanism Stakeholders engagement plan Indigenous Peoples Screening IPDP (required if IPs present) Free Prior and Informed Consent Strategy (required if IPs present)
	The project has impacts on indigenous people, and the FPIC (Free, Prior Informed Consent) process results in rejection.	Construction and operation	Same as above
	Lack of consultation about the design or implementation of projects that affect IPs lives.	Construction and operation	Same as above
	Difficulty to engage with the relevant Indigenous Peoples to ensure their ownership and participation in project design, implementation, monitoring and evaluation, as well as difficulty to consult	Construction and operation	Same as above



Aspects	Potential Issues	Stage	Mitigation
	with them as to the cultural appropriateness of proposed services or facilities, failure to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in the project		
Community Concern	Lack of communication and coordination with local community can lead to rejection of related project.	Construction and operation	<ul style="list-style-type: none">• FBC should include the assessment on social issues arising from the project.• AMDAL with RKL-RPL• ESIA and ESMP• Grievance mechanism• Stakeholders engagement plan.• Public Consultation and Disclosure report
	Lack of the stakeholder identification and mapping, which lead unknown level of influence and interest of stakeholders and leads to improper and engagement strategy	Construction and operation	Same as above
	Increase in negative concern/public protests from the community which may disrupt the project	Pre-construction and construction	Same as above
	The social conflict between residents of flats and apartments or disturbing social interaction between existing housing community with the resident of flats and apartments.	Operation	Same as above



5. References

What You Will Find Inside This Chapter

This chapter contains a range of summarized ESG reference materials, including applicable laws and regulations, international standards, reporting standards, existing frameworks, PPP schemes, government support processes, and links to further references.

Purpose of This Section

This section aims to provide a brief introduction to various ESG materials that serve as references in the development of this Manual. It could be used as a starting point in independent capacity building by the users of this Manual. Users should use the provided links to further references to access the most updated materials online.



Reference 1. Key Applicable Laws and Regulations on ESG Issues

Indonesia's PPP in infrastructure provision is regulated under the Presidential Regulation No. 38/2015, supported by specific regulations on the implementing procedures. The overall PPP regulatory framework is shown in the table below. How each of the following regulations create ESG obligations is discussed in more detail later in the report.

This list of regulations contains the commonly referred regulations in implementing and managing ESG in Indonesia, which are valid at the date of this manual. This list is not exhaustive.

Infrastructure Development/Private Public Partnership

Regulation	Brief Description
Presidential Regulation No. 38 Year 2015 on Cooperation Between Government and Business Entities in Infrastructure Provision	<p>This regulation is the primary regulation for the development and implementation of public-private partnerships in Indonesia. The provision of infrastructure through the public-private partnership scheme is characterized by the risk sharing between the parties.</p> <p>This regulation mandated the relevant authority to issue the implementing regulations for PPP implementation, including the general guidelines for PPP implementation, procurement regulations, regulations relating to government supports.</p>
Presidential Regulation No. 3 Year 2016 on Acceleration of National Strategic Project Implementation, Amended by: <ul style="list-style-type: none"> • Presidential Regulation No. 58 of 2017 • Presidential Regulation No. 56 of 2018 • Presidential Regulation No. 109 of 2020 	<p>This regulation stipulates the policy objectives for the acceleration of the national strategic projects to be implemented by various project owners: the Central Government, Regional Governments, and/or business entities that have a strategic nature to increase growth and equitable development in the context of improving community welfare and regional development. This regulation also provides the list of national strategic projects.</p> <p>In the framework of implementing the National Strategic Project, the Minister, head of institution, governor, regent or mayor shall issue the required Licensing and Non-licensing in accordance with their respective authorities. The regulation also covers aspects on the provision of land, the notion to use goods and/or services available domestically and the creation of working opportunities in a widespread and intensive manner for the purposes of the National Strategic Project.</p>
Presidential Regulation no. 78 Year 2010 on Infrastructure Guarantee in Projects with Public-Private Partnership Scheme by an Infrastructure Guarantee Business Entity	<p>This regulation regulates the Infrastructure Guarantee which is the provision of guarantees for the Financial Liability of the GCA to be carried out based on the Guarantee Agreement.</p> <p>An Infrastructure Guarantee is provided throughout the period of the PPP Agreement in the context of implementing the PPP contains at least provisions regarding:</p> <ol style="list-style-type: none"> a. infrastructure risk-sharing between the two parties in accordance with the Risk Allocation; b. relevant mitigation efforts from both parties to prevent risks from occurring and reduce their impacts if they occur; c. the amount of the Financial Liability in the event that the infrastructure risk that is the responsibility of the GCA

Regulation	Brief Description
	<p>occurs, or the method of calculation to determine the amount of the GCA's Financial Liability in the event that the amount cannot be determined at the time the PPP Agreement is signed;</p> <ul style="list-style-type: none"> d. the sufficient period of time to carry out the Financial Liability, including a grace period; e. a reasonable procedure to determine when the GCA is in a state of inability to carry out the Financial Liability; f. procedures for resolving disputes that may arise between the GCA and the Business Entity in relation to the implementation of the prioritized Financial Liability through alternative dispute resolution mechanisms and/or arbitration institutions; g. the applicable law is Indonesian law. <p>There are two types of guarantee provided for PPP projects:</p> <ul style="list-style-type: none"> a. guarantee provided by the Infrastructure Guarantee Business Entity; and b. guarantee provided by the Infrastructure Guarantee Business Entity in cooperation with multilateral financial institutions or other parties having the same objectives. The Ministry of Finance can provide counter guarantee to the multilateral financial institutions or other parties in cooperation <p>The Infrastructure Guarantee is carried out based on the Guarantee Proposal submitted by the GCA to the Guaranteeing Entity before the commencement of the procurement by the IBE. This is then followed up by the issuance of a Statement of Willingness after the Guaranteeing Entity receives the Guarantee Proposal. Finally, the Guarantee Agreement is signed by the Guaranteeing Entity and the IBE as the guarantee beneficiary, together with the signing of the Cooperation Agreement.</p>
Ministry of Finance Regulation No. 260/PMK.08 Year 2016 on Procedures for Viability Gap Fund in PPP for Infrastructure Provision	<p>This regulation stipulates the procedures for Viability Gap Funding (VGF) in PPP which is carried out with the State Budget mechanism.</p> <p>VGF is used for PPP projects that meet the following criteria:</p> <ul style="list-style-type: none"> a. Economic and social infrastructure projects that have great benefits for the community as users of the Service; b. A project whose return on investment does not come from payments by users for the service tariff, the amount of which is determined by the government; c. In the event that the PPP project receives income from payments by users of the Service tariff, then the PJPK cannot calculate the amount of income from payments by users of the Service to carry out VGF to the Implementing Business Entity; and d. Projects whose business entities are procured through fair, open and transparent selection stages, and pay attention to the principles of fair business competition.
Ministry of Home Affairs Regulation No. 96 Year 2016 on Viability Gap Fund in PPP for	<p>This regulation stipulates the procedures for VGF in PPP for Infrastructure Provision in regions which is carried out with the</p>



Regulation	Brief Description
Infrastructure Provision in Regions	<p>Regional Budget mechanism.</p> <p>VGF in regions to Implementing Business Entities is made with the following criteria:</p> <p>provision of infrastructure that has economic and social benefits for the community; and</p> <p>Return on investment in the context of providing infrastructure that is not obtained from payments by Business Entities or service users through tariffs.</p>
<p>Regulation of the Minister of National Development Planning/The Head of National Development Planning Agency No. 4 Year 2015 on Procedures for Cooperation Between Government and Business Entities in the Provision of Infrastructure ("MNDP Regulation"), amended by MNDP/Bappenas Regulation No. 2 of 2020</p>	<p>Based on the regulation, a preliminary study will be conducted to determine the government authority that will be the GCA for the project. The IBE must then go through the following stages:</p> <ul style="list-style-type: none"> a) Planning stage <p>This stage includes the preparation of the PPP fund budget plan; identification and determination of PPP; PPP planning stage fund budgeting; decision-making to continue or stop the PPP plan; preparation of the list of PPP Plans; and PPP categorization</p> b) Preparation stage <p>In the preparation stage, there will be a preparation of the pre-feasibility study (which is a study conducted to assess the feasibility of a PPP considering legal, technical, economic, financial, risk, environmental and social management aspects); Government support and/or Government Guarantee plans; stipulation of procedures for return on investment of the IBE; and land acquisition for the PPP.</p> c) Transaction stage <p>The transaction stage includes market consultation; determination of PPP Location; Procurement of IBE which includes preparation and implementation of Procurement of IBE; the signing of the PPP agreement; and the fulfillment of infrastructure provision financing by the IBE.</p> d) PPP Agreement Management stage <p>This stage includes the preparation for controlling the implementation of the PPP Agreement; and controlling the implementation of the PPP agreement.</p>
<p>Ministry of Finance Regulation No. 260/PMK.011/2010 Year 2010 on Guidance for Implementation of Infrastructure Guarantee in Public Private Partnership Projects, Amended by MoF Regulation No. 8/PMK.08/2016</p>	<p>This regulation provides the policy objectives and key principles for the provision of infrastructure guarantee for PPP projects.</p>



Regulation	Brief Description
<p>Ministry of Finance Regulation No. 223/PMK.011/2012 Year 2012 on Provision of Viability Gap Fund for Part of Construction Cost In Public-Private Partnership Projects In Infrastructure Provision, Amended by MoF Regulation No. 170/PMK.08/2018 of 2018</p>	<p>This regulation regulates provision of Viability Gap Funding (VGF) which is the Government's fiscal policy to support provision of infrastructure through PPP schemes.</p> <p>VGF is a State Expenditure that is given in cash to the Implementing Business Entity of a PPP project for a certain portion of its Construction Expenses.</p> <p>Construction Costs for PPP include construction costs, equipment costs, installation costs, interest costs on loans applicable during the construction period, and other costs related to construction but excluding costs related to land acquisition and tax incentives.</p>
<p>Ministry of Finance Regulation No. 143/PMK.011/2013 Year 2012 Guidance for the Granting of Viability Gap Funding for Public Private Partnership Projects for Infrastructure Provision, Amended by MoF Regulation No. 170/PMK.08/2015 of 2015</p>	<p>This regulation provides guidance and procedure for the process for the granting of VGF to PPP projects. This regulation must be read together with MOF Regulation 223/PMK.011/2012.</p>
<p>Ministry of Finance Regulation No. 95/PMK.08/2017 Year 2017 on the Scope and Procedure of Infrastructure Guarantee Provision by the Infrastructure Guarantee Business Entity</p>	<p>This regulation provides the key principles for the provision of an infrastructure guarantee for infrastructure projects, among others including for PPP projects.</p>
<p>Ministry of Finance Regulation No. 180/PMK.08/2020 Year 2020 on Facility for the Preparation and Transaction of Public Private Partnership Projects for Infrastructure Provision</p>	<p>This regulation regulates the provision of project development facilities for the preparation and transaction of PPP projects provided by the Ministry of Finance and implemented by an assigned facility implementer.</p>
<p>National Public Procurement Agency Regulation No. 19 Year 2015 on Procedures for Procurement of Implementing Business Entity Procurement in Infrastructure Provision through PPP, Revoked partly by National Public Procurement Agency No. 29 of 2018</p>	<p>This regulation provides procedures for procurement of the Implementing Business Entity for PPP projects initiated by private sector players (unsolicited) and Preparatory Agencies.</p>



Regulation	Brief Description
National Public Procurement Agency Regulation No. 29 Year 2018 on Procedures for Implementing Business Entity Procurement in Infrastructure Provision through PPP Initiated by Ministers/Heads of Agencies/ Heads of Regions	This regulation provides procedures and guidance for procurement of the Implementing Business Entity for PPP projects initiated by the governments (solicited).
Presidential Regulation No. 59 Year 2017 regarding the Implementation of Achieving Sustainable Development Goals	Regulations that explain the implementation of the SDGs which are the national targets in the 2015-2019 National Mid-Term Development Plan. The purpose of implementing the SDGs is to improve the economic welfare of the community, the sustainability of the social life of the community, maintaining the quality of the environment, inclusive development, and implementing good governance that is able to maintain quality improvements to the next generation. This regulation serves as a guideline for the government, mass organizations, philanthropy, business actors, academics, and other stakeholders.

Environment

Regulation	Brief Description
Law No. 32 Year 2009 on Environmental Protection and Management, Amended by Law No. 11 of 2020 on Job Creation	<p>The IBE is under the obligation to ensure that the environment is properly protected and maintained throughout its business activity, the regulation requires planning, utilization, maintenance to be conducted by the IBE throughout, and also bring about obligations by the authorized officials to control, supervise and enforce the applicable regulations.</p> <p>In terms of control, the authorized official should make sure that there is a control of the environmental pollution and/or damage in order to preserve the environmental functions. The control shall be done through applying prevention, coping and recovery measures.</p> <p>The maintenance over the environment shall be done through the (a) conservation of natural resources; (b) reserves of natural resources; and/or (c) the preservation of the function of the atmosphere.</p>
Law Number 16 of 2016 regarding the Ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change	This regulation ratifies the Paris Agreement to the United Nations Framework Convention on Climate Change which causes it to be applicable in Indonesia.



Regulation	Brief Description
Government Regulation No. 22 Year 2021 on Implementation of Environmental Protection and Management	<p>Environmental studies conducted on IBE itself include the obligation to have an Environmental Permit or what is currently known as an Environmental Approval.</p> <p>Environmental Approval is regulated under GR 22/2021. Based on this regulation, the IBE is under obligation to obtain Environmental Approval in carrying out Business and/or Activities that have significant or insignificant impacts on the environment.</p> <p>(Article 3 (3)) Environmental Approval is a prerequisite for the issuance of Business License or Government Approval.</p> <p>(Article 3 (4)) Environmental Approval is carried out through: (a) Amdal preparation and feasibility test; or (b) preparation and examination of UKL-UPL Form.</p> <p>(Article 26) AMDAL consists of:</p> <ol style="list-style-type: none">Frame of ReferenceAndalRKL-RPL <p>(Article 43 and Article 53) Submission of Andal/RKL-RPL or UKL-UPL documents must be accompanied by a Technical Approval consisting of:</p> <ol style="list-style-type: none">fulfillment of Wastewater Quality Standards;fulfillment of Emission Quality Standards;Hazardous Waste Management; and/ortraffic impact analysis.
Presidential Regulation Number 112 of 2022 on the Acceleration of the Development of Renewable Energy for the Supply of Electrical Power	<p>This regulation aims to increase investment and accelerate the achievement of the target on the renewable energy mix target in the national energy mix in accordance with the National Energy Policy as well as the reduction of greenhouse gas emissions.</p>
Ministry of Environment and Forestry Regulation No. 1 Year 2021 on Corporate Performance Rating Assessment Program in Environmental Management	<p>This regulation regulates the Company Performance Rating Assessment Program in Environmental Management (PROPER), which is an evaluation of the performance of the person in charge of a business and/or activity in the field of environmental management.</p> <p>If the IBE is selected as a PROPER participant determined by the Head of the PROPER Technical Team based on the results of the screening, then the IBE is under the obligation to go through a PROPER assessment.</p> <p>The PROPER assessment is conducted on the following topics:</p> <ol style="list-style-type: none">Performance of the Business and/or Activity in complying with the provisions of laws and regulations in the



Regulation	Brief Description
	<p>following fields:</p> <ul style="list-style-type: none"> i. Water Pollution Control; ii. Maintenance of Water sources; iii. Air Pollution Control; iv. Hazardous Waste Management; v. Non-Hazardous waste management; vi. Hazardous waste Management; vii. Land Damage Control; and/or viii. Waste Management <p>b. Performance of the Business and/or Activity which exceeds the compliance required by the applicable laws and regulations, which includes:</p> <ul style="list-style-type: none"> i. Implementation of life cycle assessment ii. Environmental Management System iii. Implementation of Environmental Management System for utilization of resources in the following field: <ul style="list-style-type: none"> 1. Energy Efficiency; 2. Emission reduction 3. Water efficiency and water load waste reduction 4. Waste reduction and utilization of Non-Hazardous waste; amd 5. Protection of biodiversity. iv. Community empowerment; v. Disaster response; and vi. Social Innovation. <p>The assessment is conducted through three stages, and the candidates who pass the stage will be grouped to those who comply with the applicable laws and regulations and those who go beyond compliance with the applicable laws and regulations.</p> <p>The results of the assessment will determine the rank, namely: Gold rank; Green Rank; Blue Rank; Red Rank; and Blank Rank. Based on the ranks, the Business and/or Activities will be provided with rewards or punished by sanctions depending on their ranks and results of the assessment.</p>
<p>Ministry of Environment and Forestry Regulation No. 4 Year 2021 on List of Business and/or Activities that must have Amdal, Environmental Management Effort and Environmental Monitoring Effort (UKL-</p>	<p>The appendix of this regulation stipulates the list of business and/or activities that must have AMDAL, UKL-UPL, or Statement of Ability for Environmental Management and Monitoring.</p>



Regulation	Brief Description
UPL) or Statement of Ability for Environmental Management and Monitoring	
Ministry of Environment and Forestry Regulation No. 17 Year 2012 on the Guidelines for Community Engagement in Amdal and Environmental Permit Processes	This regulation is a guideline that contains procedures for community participation in the AMDAL process and the environmental permit process. This regulation is made so that the community obtains information about the Project and is expected to provide feedback, suggestions, opinions on the Project.
Ministry of Environment and Forestry Regulation No. 5 Year 2021 on Procedure for Issuance of Technical Approval and Operational Feasibility Letter for Environmental Pollution Control	<p>This regulation regulates the procedure for issuing Technical Approval and SLO for IBEs that carry out activities for the disposal and/or utilization of Wastewater and disposal of emissions.</p> <p>To obtain the Technical Approval for the Disposal and/or Utilization of Wastewater, the Business and/or Activity shall conduct the following things:</p> <ul style="list-style-type: none">a. Independent Screening<ul style="list-style-type: none">i. Technical Studyii. Technical Standards provided by the Governmentb. Technical Approval Application<ul style="list-style-type: none">i. Requires Amdal<ul style="list-style-type: none">1. Apply for the Technical Approval (a) together with the application for Environmental Approval or (b) before the application for Environmental Approval.2. And also provide (a) a Technical Study or fulfillment of Technical Standards and (b) an Environment Management Systemii. Requires UKL-UPL<ul style="list-style-type: none">1. Apply for the Technical Approval before the application for Environmental Approval.2. And also provide (a) a Technical Study or fulfillment of Technical Standards and (b) an Environment Management System <p>The Business and/or Activity may obtain the Operational Feasibility Certificate (SLO or OFC) by providing a report to the Minister, Governor, Regent or Mayor for the completion of the (a) building of the Wastewater treatment system and/or the injection facilities; and (b) Wastewater trial runs.</p> <p>Following this, the Minister, Governor or Regent or Mayor will conduct a verification to (a) see the conformity between the technical standards of compliance on the Wastewater Quality Standards with the construction of the facilities and Waste-water treatment infrastructure; and (b) ensure the function of the facilities and the Wastewater treatment, as well</p>



Regulation	Brief Description
	<p>as the fulfillment of Quality Standards of Wastewater as specified in the Technical Approval.</p> <p>To obtain the Technical Approval for the Disposal of Emissions, the Business and/or Activity shall conduct the following things:</p> <ol style="list-style-type: none"> a. Independent Screening <ol style="list-style-type: none"> i. Technical Study ii. Technical standards for compliance with Emission Quality Standards b. Technical Approval Application <ol style="list-style-type: none"> i. Requires Amdal <ol style="list-style-type: none"> 1. Apply for the Technical Approval (a) together with the application for Environmental Approval or (b) before the application for Environmental Approval. 2. And also provide the (a) Technical Study or fulfillment of Technical Standards and (b) Environment Management System ii. Requires UKL-UPL <ol style="list-style-type: none"> 1. Apply for the Technical Approval before the application for Environmental Approval. 2. And also provide (a) a Technical Study or fulfillment of Technical Standards and (b) an Environment Management System <p>The Business and/or Activity may obtain an Operational Feasibility Certificate (SLO or OFC) by providing a report to the Minister, Governor, Regent or Mayor for the completion of the (a) building of the Wastewater treatment system and/or the injection facilities; and (b) Wastewater trial runs.</p> <p>Following this, the Minister, Governor, Regent or Mayor will conduct a verification to (a) ensure the conformity between technical standards fulfillment of Emission Quality Standards with the development of facilities and infrastructure; and (b) ensure the function of the facilities and infrastructure of the air pollution control and the fulfillment of Emission Quality Standards specified in the Technical Approval.</p>
<p>Ministry of Environment and Forestry Regulation No. 6 Year 2021 on Procedures and Requirements for Management of Hazardous and Toxic Waste</p>	<p>This regulation regulates the procedure for:</p> <ol style="list-style-type: none"> a. determination of Hazardous and Toxic Waste (Hazardous Waste) status; b. Hazardous Waste Reduction; c. Hazardous Waste Storage; d. Hazardous Waste Collection; e. Hazardous Waste Transportation;



Regulation	Brief Description
	<p>f. Hazardous Waste Utilization; g. Hazardous Waste Treatment; h. Hazardous Waste Stockpiling; i. Dumping (Disposal) of Waste; j. Hazardous Waste cross-border movement; and k. issuing Technical Approval and SLO for IBEs that carry out activities related to Management of Hazardous Waste.</p> <p>To obtain the Technical Approval, the Business and/or Activity shall submit a Technical Approval Application to:</p> <p>a. The Minister, for activities such as:</p> <ul style="list-style-type: none"> i. National scale Hazardous Waste collection; ii. Utilization of Hazardous Waste; iii. Hazardous Waste Treatment; iv. Hazardous Waste Stockpiling; and v. Dumping (disposal) of Hazardous Waste; <p>b. The governor, for provincial-scale Hazardous Waste collection activities; or</p> <p>c. Regents or mayors, for district/city-scale Hazardous Waste collection activities.</p> <p>For businesses or activities that require Amdal, Application for Technical Approval is carried out:</p> <ul style="list-style-type: none"> a. Together with the application for Environment Approval; or b. By a separate application. <p>For businesses or activities that require UKL-UPL, Application for Technical Approval is carried out before submitting application for Environmental Approval.</p> <p>The Business and/or Activity may obtain the SLO by providing a report to the Minister, Governor, Regent or Mayor for the completion of the (a) construction of Hazardous waste Management facilities and (b) a trial report for Hazardous waste Management.</p> <p>Following this, the Minister, Governor, Regent or Mayor will conduct a verification on the suitability of Hazardous waste Management facilities and/or the results of the trial run.</p>
<p>Ministry of Environment and Forestry Regulation No. 13 Year 2021 on Continuous Industrial Emission Monitoring Information System</p>	<p>This regulations requires that every business and/or activity carry out emissions monitoring using the Continuous Emission Monitoring System (CEMS) and must integrate the Emission monitoring into the Continuous Industrial Emission Monitoring Information System (<i>Sistem Informasi Pemantauan Emisi Industri secara terus menerus</i>) (SISPEK).</p>



Regulation	Brief Description
<p>Ministry of Environment and Forestry Regulation No. 19 Year 2021 on Procedures for the Management of Non-Hazardous and Toxic Waste</p>	<p>This regulation stipulates the obligations of IBE that produces Non-Hazardous and Toxic Waste (Non-hazardous waste) to manage the Non-Hazardous waste.</p> <p>Non-hazardous waste Management that may be carried out by IBE includes:</p> <ol style="list-style-type: none"> a. Non-hazardous waste Reduction; b. Non-hazardous waste Storage; c. Utilization of non-hazardous waste; d. Non-Hazardous waste Stockpiling; e. Transportation of non-hazardous waste; f. Cross-border movement of non-hazardous waste; and g. Monitoring and reporting. <p>In carrying out the Non-Hazardous waste activities, the IBE must make sure that they do not conduct:</p> <ul style="list-style-type: none"> - Non-hazardous waste dumping without the prior approval from the central government; - open burning; - mixing Non-Hazardous waste and Hazardous waste; and - stockpiling of Non-Hazardous waste in final processing facilities. <p>In addition, the Minister, governor, regent or mayor, depending on their authority, shall conduct monitoring at least once a year.</p>
<p>Ministry of Environment and Forestry Regulation No. 27 Year 2021 on Environment Quality Index</p>	<p>This regulation regulates the Environmental Quality Index which is a value that describes environmental quality in an area at a certain time, which is the composite value of the Water Quality Index, Air Quality Index, Land Quality Index, and Seawater Quality Index.</p> <p>The implementation is done through the (a) calculation of the initial index, (b) the exposure, and (c) the calculation of the final index.</p>
<p>Forestry</p>	
<p>Law No. 18 Year 2013 on Prevention and Eradication Forest Destruction, Amended by Law No 11 of 2020</p>	<p>This regulation focuses on forest destruction carried out in an organized manner through the activities of a group that acts to carry out the destruction through illegal logging and/or illegal use of forest areas. This regulation provides stricter laws for law enforcement officers to eradicate forest destruction and ensure the existence of forests in a sustainable through maintaining the forest sustainability</p>
<p>Government Regulation No. 23 Year 2021 on the</p>	<p>This Government Regulation regulates:</p>



Regulation	Brief Description
Organization of Forestry	<ul style="list-style-type: none"> a. Forestry Planning; b. Changes in Forest Area Designation and Changes Function of Forest Area; c. Use of Forest Areas; d. Forest Management and Formulation of Forest Management Plans and Forest Utilization; e. Social Forestry Management; f. Forest Protection; g. Supervision; and h. Administrative Sanctions <p>This regulation invalidates Government Regulations No. 105 Year 2015, No. 104 Year 2015, No. 61 Year 2012, No. 24 Year 2010, No. 3 Year 2008, No. 6 Year 2007, NO. 58 Year 2007, No. 44 Year 2004, No. 35 Year 2002, No. 51 Year 1998. It amends Government Regulations No. 72 Year 2010, No. 60 Year 2009, and No. 45 Tahun 2004.</p>
Ministry of Environment and Forestry Regulation No. 7 Year 2021 on Forestry Planning, Forest Area Allocation Conversion and the Change of Forest Area Function, and the Use of Forest Areas	<p>This regulation regulates:</p> <ul style="list-style-type: none"> a. Forestry Planning; b. Change of Forest Area Designation and Change of Forest Area Function; and <p>Use of Forest Area for both individual and non-individual business entities and provides an attachment to forest inventory criteria and standards.</p>
Ministry of Environment and Forestry Regulation No. 8 Year 2021 on Forest Management, Planning and Utilization in Protected and Production Forests	<p>This regulation covers the forest management and preparation of management plans; Forest Utilization Business Licensing; Forest Utilization Businesses; Forest Product Processing; the Guarantee of the legality of Forest Products; Forest Product Administration; Non-Tax State Revenue for Forest Utilization; Coaching, Control and Supervision of Forest Utilization and Forest Product Processing; and Procedures for imposing Administrative Sanctions for Forest Utilizations and Forest Product Processing.</p>
Ministry of Environment and Forestry Regulation No. 9 Year 2021 on Social Forest Management	<p>The scope of this regulations consists of Approval of Social Forestry Management; Social Forestry Management Activities Social Forestry in Peat Ecosystems; the period required to achieve the desired forest structure and ecosystem function according to management objectives; guiding, supervision and control; hastening of Social Forestry Management.</p>
Ministry of Environment and Forestry Regulation No. 28 Year 2021 on Firebreaks	<p>In order to control forest and land fires, it is necessary to make efforts to reduce the potential and length of forest and land fires by constructing firebreaks. Each holder of a business license for forest utilization has the obligation to construct firebreaks.</p>



Social

Regulation	Brief Description
Labor and Working Conditions	
Law No. 11 Year 2005 on Ratification of International Covenant on Economic, Social, and Cultural Rights (ICESCR)	This Convention recognizes the human rights of every person in the economic, social and cultural fields, namely the right to work, the right to have fair working conditions, the right to form and join trade unions.
Law No. 12 Year 2005 on Ratification of International Covenant on Civil and Political Rights	This convention states that no one can be enslaved, that slavery and the slave trade are prohibited, and that no one can be required to perform forced or compulsory labor. This regulation provides information that every human being has the right to life, that this right is protected by law, and that no one can be deprived of his right to life arbitrarily.
Law No. 13 Year 2003 on Manpower, Amended by Law No. 11 of 2020	This regulation stipulates the obligation of IBE to provide protection that includes welfare, safety, and mental and physical health of the workers. This regulation also requires IBE to implement an occupational safety and health management system that is integrated with the company's management system, which includes the organizational structure, planning, implementation, responsibilities, procedures, processes and resources needed for development, achievement, assessment, and maintenance of occupational safety and health policies in the context of controlling risks related to work activities in order to create a safe, efficient, and productive workplace.
Law No. 23 Year 2002 on Child Protection, Amended by Law No. 35 of 2014	<p>Child protection in this law aims to guarantee and fulfill children's rights so that they can live, grow, develop, and participate optimally in accordance with human dignity, and receive protection from violence and discrimination.</p> <p>This regulation also provides special protection for children who are exploited economically and/or sexually.</p> <p>Special protection for exploited children is carried out through:</p> <ol style="list-style-type: none"> dissemination and/or socialization of the provisions of laws and regulations relating to the protection of economically and/or sexually exploited children; monitoring, reporting, and imposing sanctions; and involvement of various government agencies, companies, trade unions, non-governmental organizations, and the community in the elimination of economic and/or sexual exploitation of children
Law No. 21 Year 2000 on Trade Unions	Based on this regulation, the IBE is under the obligation to uphold the rights of workers to establish and develop a trade union. A trade union is an organization that comes from, is established by and for either enterprise-bound or enterprise-



Regulation	Brief Description
	<p>free workers, which is free, open, independent, democratic and responsible to fight for, defend and protect the rights and interests of workers and improve the welfare of workers and their families.</p> <p>Article 28 stipulates that the IBE is prohibited from obstructing or forcing workers to form or not to form, become a manager or nor become a manager, become a member or not become a member and/or carry pit or not carry out trade union activities by:</p> <ul style="list-style-type: none"> - Terminating employment, temporarily laying off, demote or make mutations; - Not paying or reducing the wages of workers; - Intimidation in any form; - Conducting campaigns against the formation of trade unions. <p>IF the IBE does not comply with this article, Article 43 stipulates that they may be subject to a minimum imprisonment of 1 year and a maximum of 5 years and/or a minimum fine of Rp. 100,000,000.00 and a maximum of Rp. 500,000,000.00</p>
<p>Law No. 19 Year 1999 on Ratification of the International Labor Organization (“ILO”) Convention No. 105 Concerning Abolition of Forced Labor</p>	<p>Based on this convention, the IBE must prohibit forced labor to be used as:</p> <ol style="list-style-type: none"> a. A means of political coercion or education or as a punishment for having or expressing political views or views ideologically opposed to the applicable political, social or economic systems; b. a method to mobilize and use labor for the purpose of economic development; c. a means to ensure labor discipline; d. a punishment for participation in strikes; e. a means to practice racial, social, national or religious discrimination.
<p>Law No. 20 Year 1999 on Ratification of the ILO Convention No. 138 Concerning Minimum Age for Admission to Employment</p>	<p>This Convention obligates every country as a member of ILO to ratify the minimum age for admission to employment.</p> <p>Indonesia encloses a Declaration that stipulates that the minimum age for admission to employment applicable in the Republic of Indonesia shall be 15 (fifteen) years old. Thus, the IBE shall not employ anyone below 15 years old</p>
<p>Law No. 21 Year 1999 on Ratification of the ILO Convention No. 111 Concerning Discrimination in Respect of Employment and Occupation</p>	<p>This convention compels each State as member of ILO to ratify the eradication of all types of discrimination in employment and occupation based on race, skin color, gender, religion, political views, nationality and lineage or ethnicity. Therefore, the IBE must comply with this convention and not engage in any form of discrimination in employment.</p>



Regulation	Brief Description
Law No. 39 Year 1999 on Human Rights	<p>This law is the basis for the regulation of human rights. This regulation is divided into 10 rights, namely: Right to Life, Right to Marry and Bear Children, Right to Self-Development, Right to Justice, Right to Individual Freedom, Right to Security, Right to Welfare, Right to Participate in Government, Women's Rights, and Children's Rights.</p> <p>In the perspective of laborers and workers, the fulfillment of human rights should be given to all laborers and workers without discrimination. The right of economic, social and cultural rights are related with individual rights in the needs of life, which includes the right to work, the right to get health care, the right to a healthy environment, the right to social security, while civil and political rights have relevance to labor law, including the right of association for workers the right to strike, and the right not to be discriminated against in the workplace.</p>
Law No. 8 Year 2016 on Persons with Disabilities	<p>This regulation regulates and describes:</p> <ol style="list-style-type: none">Implementation and fulfillment of persons with disabilitiesVariety of persons with disabilitiesRights of persons with disabilitiesImplementation of respect, protection, and fulfillment of the rights of persons with disabilities
Law No. 1 Year 1970 on Work Safety	<p>Based on this regulation, the IBE is under the obligation to uphold the rights of workers to get protection for their safety in carrying out their work, for the welfare of their life, increase in productivity, as well as the national productivity. The main aim of the regulation is to ensure that the workers are properly protected from any potential work related dangers.</p> <p>The director of the IBE has the obligation to implement the regulations and the employees and safety specialists are assigned to carry out direct supervision of compliance to the law and assist in its implementation.</p> <p>Failure to comply with this regulation and other work-safety-related regulations may lead to a criminal sanction with a maximum imprisonment of three months or a maximum fine of Rp. 100.000</p>
Government Regulation No. 35 Year 2021 on Fixed-Term Employment Agreement, Outsourcing, Working Hours and Rest Hours, and Employment Relationship Termination	<p>This regulation is an implementing regulation of Law No. 13 of 2003 as amended by Law No. 11 of 2020, which regulates in more detail:</p> <ol style="list-style-type: none">fixed-term employment agreement;outsourcing;



Regulation	Brief Description
	<ul style="list-style-type: none"> c. working hours (which includes working hours in specific business sectors and specific work; overtime; overtime fees; and long leave) and rest hours; and d. employment relationship termination (which includes procedures for the termination of employment relationships; and Rights arising from the termination of employment relationships) <p>The regulation also stipulates sanctions in the event the IBE violates the stipulated articles in this regulation. The sanctions includes:</p> <ul style="list-style-type: none"> a. Written reprimands; b. Restriction of business activity; c. Temporary suspension of part or all of the production tools; and d. Suspension of business activities. <p>These sanctions are given gradually depending on the fulfillment of the obligations imposed onto the IBE. In addition, these sanctions shall be given based on the results of examinations conducted by the Manpower Supervisors that originates from (a) complaints; and/or (b) follow ups on manpower supervision results.</p>
Government Regulation No. 50 Year 2012 on Application of Occupational Safety and Health Management Systems	<p>This regulation is an implementing regulation of Law No. 13 of 2003, which regulates in more detail the national policy on the Occupational Health and Safety Management System (SMK3). This regulation stipulates that the IBE is obligated to implement SMK3 in their company.</p> <p>The obligation as above shall be applicable for the following companies:</p> <ul style="list-style-type: none"> a. Employing at least 100 workers or laborers; or b. having a high level of potential hazard in the work area.
Minister of Health Regulation No. 70 Year 2016 on Industrial Work Environment Health Standard And Requirements Standard	<p>This regulation aims to create a quality industrial work environment and prevents the emergence of health problems, occupational diseases, and work accidents in order to create a healthy and productive workforce. This regulation regulates the standards and requirements for the health of the industrial work environment, which consists of threshold values, indicators of biological exposure, and requirements of the industrial working environment.</p>
Minister of Manpower Regulation (PER-01/MEN/1998) Year 1998 on Organizing Health Care For Manpower With Better Benefits Than The Basic Health Care Insurance Of The Employee Social Security	<p>This regulation applies to companies that independently organize their health care for workers. Companies carrying out health care can cooperate with Health Service Organizer's facilities, the entity that organizes the health care, and in cooperation with several companies that organize a health care service.</p>



Regulation	Brief Description
Minister of Manpower Regulation (PER-02/MEN/1980) Year 1980 on Health Check-Up in Organizing Work Safety	<p>This regulation is intended to ensure the physical ability and health of the workforce through a medical check up by:</p> <ul style="list-style-type: none">- Medical Checkup before accepted to work- Periodic Medical Checkup- Special Medical Checkup
Community Health and Safety	
Law No. 2 Year 2017 on Construction Services, Amended by Law No. 11 of 2020	<p>This regulation regulates community participation in construction services. The Central Government has the authority to increase public participation through supervision of the implementation of construction services, increase the capacity of community institutions, facilitate construction service forums, administer work competency certification, and increase community participation in the construction industry.</p> <p>Supervision of the implementation of construction services can be carried out by accessing information related to construction activities that have an impact on the interests of the community; make complaints, lawsuits, and seek compensation for the impacts caused by construction services.</p>
Presidential Regulation No. 34 Year 2014 on Ratification of The Convention Concerning The Promotional Framework For Occupational Safety And Health/Convention 187, 2006	<p>This ratification means that Indonesia takes active steps towards achieving progressively a safe and healthy working environment through a national system and national programmes on occupational safety and health by taking into account the principles set out in instruments of the International Labor Organization (ILO) relevant to the promotional framework for occupational safety and health. The national system for occupational safety and health shall include, where appropriate:</p> <ol style="list-style-type: none">a. a national tripartite advisory body, or bodies, addressing occupational safety and health issues;b. information and advisory services on occupational safety and health;c. the provision of occupational safety and health training;d. occupational health services in accordance with national law and practice;e. research on occupational safety and health;f. a mechanism for the collection and analysis of data on occupational injuries and diseases, taking into account relevant ILO instruments;g. provisions for collaboration with relevant insurance or social security schemes covering occupational injuries and diseases; andh. support mechanisms for a progressive improvement of occupational safety and health conditions in micro-enterprises, in small and medium-sized enterprises and in the informal economy.



Regulation	Brief Description
Minister of Manpower Regulation No. 9 Year 2016 on Occupational Safety And Health For Working at Height	<p>This regulation provides an obligation to the IBE and/or Supervisor to provide competent and authorized workers in the Occupational Safety and Health (K3) sector; in work at height. Workers at height shall consist of two groups, namely:</p> <ol style="list-style-type: none">a. Workers on high building;b. Workers at height
Land Acquisition	
Law No. 2 Year 2012 on Land Procurement for Development for the Public Interest, Amended by Law No. 11 of 2020	<p>This regulation regulates the activity of providing land through procedures for providing appropriate and fair compensation to the entitled party. The parties entitled in this regulation can be divided into two, namely those who control or own the object of land acquisition.</p> <p>Land acquisition activities for the public interest are carried out by the government, where the form of compensation given can be in the form of money, replacement land resettlement, share ownership or other agreed forms.</p> <p>This regulation also stipulates that the entitled party is obliged to relinquish their land after the award of compensation or based on a court decision that has obtained permanent legal force.</p> <p>Land Procurement for Public Interests shall be executed through the stages of:</p> <ol style="list-style-type: none">a. planning;b. preparation;c. execution; andd. delivery of results
Government Regulation No. 19 Year 2021 on Implementation of Land Procurement for Development for the Public Interest	<p>This regulation is an implementing regulation of Law No. 2 of 2012 as amended by Law No. 11 of 2020, which regulates in more detail regarding land procurement for:</p> <ol style="list-style-type: none">a. for the public interest;<ol style="list-style-type: none">i. starting from the land procurement planning (which includes basic of planning; Land Procurement Planning Documents)ii. Land Procurement Preparation (which includes development plan notification; initial data collection on the location of the development plan; public consultation of the development plan; determination of development locations; announcement of determination of development locations; and delegation of land procurement preparation)iii. Implementation of Land Procurement;iv. Handover of Land Procurement Results;b. the ease of nationally strategic projects For the purpose of the ease of Nationally Strategic Projects, facilitation of the completion of Land Procurement



Regulation	Brief Description
	<p>for Public Interest developments shall be carried out by the Central Government.</p> <p>Land Procurement Activities for Public Interest development shall be conducted electronically.</p>
<p>Presidential Regulation No. 62 Year 2018 on Social Impact Management in Land Acquisition for National Development</p>	<p>This regulation provides the guidance and procedure for the management of social impact management in land acquisition for national development. The land acquisition purposes in this regulation include for national priority and non-national priority projects.</p>
<p>Minister of Agrarian Affairs and Spatial Planning Regulation/National Land Agency No. 19 Year 2021 on Implementing Provisions of Government Regulation Number 19 Year 2021 Regarding Implementation of Land Procurement for Development for the Public Interest</p>	<p>This regulation is an implementing regulation of Government Regulation No. 19 of 2021, which describes in detail the technical instructions for land procurement for the public interest. The institution that requires land shall prepare a Land Procurement plan. The plan shall be made in the form of a Land Procurement Planning Document (<i>Dokumen Perencanaan Pengadaan Tanah (DPPT or LPPD)</i>) The LPPD shall include the mandatory and additional contents as stipulated in articles 6 through 18 of the regulation</p>
Indigenous People	
<p>Law No. 6 Year 2014 on Villages, Amended by Law No. 11 of 2020</p>	<p>This regulation stipulates the definition of “Indigenous Villages”.</p> <p>Determination of Indigenous Villages must meet the following requirements:</p> <ol style="list-style-type: none"> a. indigenous people community units and their traditional rights are actually still alive, whether territorial, genealogical, or functional; b. indigenous people community units and their traditional rights are considered in accordance with community development; and c. indigenous people community units and their traditional rights in accordance with principles of the Unitary State of the Republic of Indonesia
<p>Government Regulation No. 43 Year 2014 on Implementing Regulation of the Law Number 6 Year 2014 Regarding Village, Amended by GR No. 47 of 2015, GR No. 11 of 2019, and GR No. 11 of 2021</p>	<p>This regulation provides opportunities for indigenous villages that can be converted into villages with the following conditions:</p> <ol style="list-style-type: none"> a. the territory must not change; b. the territory must have a minimum number of people or heads of families in a certain area regulated in this regulation; c. there must be government facilities and infrastructure for the implementation of village government; d. the territory must have growing economic potential; e. the socio-cultural conditions of the developing community; and



Regulation	Brief Description
	f. increasing the quantity and quality of services.
Government Regulation Number 43 Year 2014 Regarding Implementing Regulation of Law Number 6 Year 2014 Regarding Village, amended by GR No. 47 of 2015, GR No. 11 of 2019 and GR No. 11 of 2021	This regulation adds provisions regarding changes in village status, namely changes in village status to indigenous villages which are regulated in a ministerial regulation.
Minister of Home Affairs Regulation No. 1 Year 2017 on Arrangement of Villages	Changes in the status of a Village to an Indigenous Village are carried out on the initiative of the Indigenous Village government, which also considers suggestions and opinions from the community through village meetings. Village planning teams make studies related to the suggested change of Village status. The outcome of the study becomes input for the Regent or Mayor to approve or reject the change in the status of the village to an indigenous village.
Cultural Heritage	
Law No. 11 Year 2010 on Cultural Conservation	<p>Cultural Conservation Objects referred to in this regulation can be in the form of natural and/or man-made objects, can be movable or immovable, and can be a unit or group. The scope of cultural heritage preservation described in this regulation includes the protection, development, and utilization of cultural heritage.</p> <p>This regulation also stipulates that any planned development activities that may result in contamination, damage, alteration, destruction, or loss of historical value of cultural heritage objects as well as contamination and alteration of the site and its environment must be reported to the Minister.</p>
Government Regulation No. 1 Year 2022 on National Register and Cultural Heritage Preservation	<p>This regulation is an implementing regulation of Law No. 11 of 2010, which regulates in more detail about:</p> <ol style="list-style-type: none"> a. National Register; b. Cultural Conservation Preservation; c. Management of Cultural Conservation Areas; d. Incentives and Compensation; e. supervision; and f. funding.
Biodiversity Conservation and Ecosystems	
Law No. 5 Year 1990 on Conservation of Biological Natural Resources and Ecosystems	<p>This regulation is the legal basis for the conservation of living natural resources and their ecosystems which are carried out through the following activities:</p> <ol style="list-style-type: none"> a. life support system protection.



Regulation	Brief Description
	<ul style="list-style-type: none"> b. preservation of the diversity of plant species and their ecosystems. c. sustainable use of living natural resources and their ecosystems.
Government Regulation No. 7 Year 1999 on the Preservation of Plant and Animal Species	This regulation describes efforts to preserve plants and animals, both protected and unprotected. This preservation effort is explained further based on their habitat, namely in situ and ex situ. In addition, this regulation also explains the supervision and control of animals as well as the functions of conservation institutions.
Minister of Environment Regulation No. 3 Year 2012 on Biodiversity	This regulation is to ensure the existence of biodiversity through the preservation of rare species and local genetic resources through the reserve of natural resources by way of development of the Biodiversity Park. This regulation regulates the process of planning, establishing, implementing, monitoring and reporting, and also funding the development of a biodiversity park.
Consultation and Grievance Handling Mechanism	
Law No. 25 Year 2009 on Public Services	This regulation generally regulates the management of grievances in which each state administrative institutions, corporations, independent institutions established based on the law for public service activities, also legal entities that are formed solely for public service activities, are obliged to provide a means of complaint and assign competent implementers in complaint management.
Minister of Environment and Forestry Regulation (P.22/MENLHK/SETJEN/SET.1/3/2017) Year 2017 on Procedures for The Management of Complaints of Alleged Environmental Pollution and/or Damage and/or Forest Damage	<p>This regulation provides protection and management of the environment and forest and also gives the rights and roles of everyone to file complaints due to allegations of environmental pollution and/or destruction and/or forest destruction. Complaints may be submitted to Agencies-in-Charge either directly or indirectly.</p> <p>Complaint management shall comprise the following stages:</p> <ul style="list-style-type: none"> a. Receiving a complaint; b. Analysis; c. Verification; d. Formulation of report on the results of verification; and e. Follow-up to the results of complaint verification.
Minister of Health Regulation No. 13 Year 2017 on Integrated Community Grievance Handling in The Ministry of Health	<p>This regulation divides public grievance into two parts, namely:</p> <ul style="list-style-type: none"> - Public grievances with a level of supervision containing information or indications of irregularities or abuse of authority. - Public grievances that do not have the level of supervision are public grievances which contain constructive



Regulation	Brief Description
	<p>suggestions and criticism.</p> <p>This regulation also regulates how the public can submit a grievance.</p>
Pest Management	
<p>Minister of Health Regulation No. 50 Year 2017 on Environmental Health Quality Standard and Health Requirements for Disease Carrying Vectors and Animals as Well as The Control Thereof, Partially revoked by MoH No. 26 of 2018</p>	<p>This regulation regulates the control of vectors and disease-carrying animals to achieve and meet the Environmental Health Quality Standards and Health Requirements which can be carried out by business entities, individual businesses, community groups, or institutions that manage, organize, and/or are responsible for the residential environment, workplaces, recreation areas, as well as public places and facilities. This regulation allows for the above parties to cooperate with other parties in the implementation of this Control.</p>
<p>Minister of Health Regulation (1350/MENKES/SK/XII/2001) Year 2001 on Pesticide Management</p>	<p>This regulation regulates the classification of pesticides based on physical form and the route of entry into the body of the poison if inhaled is contaminated, into four classes of pesticides in this regulation attached in detail the pesticide classification criteria that can be used as a reference.</p>
Gender	
<p>Law No. 7 Year 1984 on the Ratification of the Convention on the Elimination of All Forms of Discrimination Against Women</p>	<p>This law is a ratification of The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). This convention is an international legal instrument that requires countries to eliminate discrimination against women and girls in all areas and promotes women's and girls' equal rights.</p> <p>Consequences of this ratification convention are that the participating countries provide a commitment, to guarantee through regulations legislation, policies, special programs and actions to provide equality between men and women and erase all forms discrimination against women, including in work environment where a women stands as workers/labors.</p>
<p>Presidential Instruction No. 9 Year 2000 on Gender Mainstreaming in National Development</p>	<p>The first legal basis that regulates gender mainstreaming in Indonesia. This instruction requires all ministries, agencies and local governments to carry out gender mainstreaming in order to carry out the planning, preparation, implementation, monitoring, and evaluation of national development policies and programs with a gender perspective in accordance with their respective duties and functions, as well as their respective authorities</p>
<p>Presidential Regulation No. 18 Year 2020 on National Medium Term Development Plan</p>	<p>The RPJMN highlights the importance of strengthening gender-responsive policies and regulations, the provision and use of sex-disaggregated data, and multi-stakeholder cooperation to support the implementation of gender</p>



Regulation	Brief Description
(RPJMN), 2020-2024	mainstreaming as part of strategies to accelerate the achievement of gender equality in various development sectors. The document also emphasizes the need to ensure women participate in and gain access and control over resources to ensure they benefit equally from development.
Ministry of Home Affairs Regulation No. 15 Year 2008 on Guideline for Implementation of Gender Mainstreaming at Sub-National Level, Amended by Ministry of Home Affairs Regulation No. 67 Year 2011	It provides specific guidance on institutionalizing gender mainstreaming efforts at the subnational level and regulates gender-responsive planning and budgeting through the Gender Analysis Pathway and Gender Budget Statement.
Ministry of Women's Empowerment and Child Protection Regulation No. 5 Year 2018 on Guideline for Implementation of Gender and Child Data System	The regulation urges ministries and local governments to collect and use sex-disaggregated data and gender-based analysis in the planning, implementation, and evaluation of development initiatives. The availability of sex-disaggregated and child data is mentioned as a prerequisite for understanding gender disparities between women and men, and girls and boys.
Ministry of Finance Regulation No. 807 Year 2018 on Guidelines for the Implementation of Gender Mainstreaming in the Ministry of Finance	Regulates the implementation of gender mainstreaming aspects within the Ministry of Finance. This regulation is also referred to as a guideline for the gender-responsive budgeting process in Indonesia
Other	
Presidential Instruction No. 3 Year 2010 on Equitable Development Program	It is an instruction for programs that aim to achieve equitable development. These programs include: <ul data-bbox="779 1054 1420 1142" style="list-style-type: none">• Pro people• Justice for all• Program to achieve the Millennium Development Goals



Good Corporate Governance

Regulation	Brief Description
Law No. 40 Year 2007 on Limited Liability Companies, Amended by Law No. 11 of 2020	<p>The enactment of this law, the articles of association of the Company, and the provisions of other laws and regulations, do not reduce the obligation of each company to comply with the principle of good faith, the principle of decency, the principle of propriety, and the principles of good corporate governance in running the Company.</p> <p>This regulation stipulates that the articles of association of the Company may regulate the existence of one or more Independent Commissioner and one delegated commissioner. The Independent Commissioner in the guidelines for good corporate governance (code of good corporate governance) is “commissioner from an external party”.</p>
<p>Minister of State-Owned Enterprises Regulation (PER-01/MBU/2011) Year 2011 on The Application of Good Corporate Governance Practices at State-Owned Enterprises, Amended by PER-09/MBU/2012</p> <p>Application of Good Corporate Governance at State-Owned Enterprises</p>	<p>This regulation provides arrangements for State Owned Enterprises (SOEs) to apply the principles of Good Corporate Governance consistently and sustainably. The GCG principles that needs to be applied are:</p> <ul style="list-style-type: none"> - Transparency, namely transparency in implementing a decision-making process and transparency in revealing material and relevant information on a company; - Accountability, namely the clarity of Organ functions, implementation and responsibility thus company management is implemented effectively; - Responsibility, namely conformity in company management with laws and regulations as well as sound corporate principles; - Independence, namely a situation in which a company is managed professionally without any conflict of interest and influence or pressure from any party which is not in accordance with laws and regulations and sound corporate principles; - Fairness, namely justice and equality in fulfilling Stakeholders' rights arising based on an agreement as well as laws and regulations.
Financial Services Authority Regulation (12/POJK.01/2017) Year 2017 on The Implementation of Anti-Money Laundering And Terrorism Financing Prevention Program In The Financial Services Sector, Amended by Regulation of The Financial Services Authority Number 23/POJK.01/2019	<p>This regulation stipulates obligations to Financial Services Providers who carry out activities in the financial services sector to implement Anti-Money Laundering and Counter-Terrorism Financing (AML/CTF) programs through an assessment of money laundering and funding terrorism offenses related to customers, countries or geographic areas, products, services, transactions, or delivery channel. There are Customer Due Diligence (CDD) and Enhanced Due Diligence (EDD) procedureds, and also Politically Exposed Person (PEP) for implementation of the Know Your Customer principle (KYC).</p>



Regulation	Brief Description
<p>Board of Commissioners of Financial Services Authority Regulation No. 21/POJK.04/2015 Year 2015 on Application of Guidelines on Good Listed Company Governance</p>	<p>If the IBE is a public company, it shall comply with the corporate governance guidelines issued by OJK to encourage the implementation of good governance practices in accordance with international practices. The Governance Guidelines contain aspects, principles, and recommendations of good corporate governance which will be further regulated in the Circular Letter of OJK.</p> <p>If the IBE is a public company, they shall disclose information related to the implementation of the recommendation within the Governance manual in its annual public report.</p> <p>The OJK has the authority to impose administrative sanctions on any party who violates the provisions of this OJK Regulation, including the parties who causes the violation, in the form of:</p> <ol style="list-style-type: none"> a. Written reprimand; and b. A fine, with an obligation to pay a certain amount of money <p>In addition to the administrative sanctions, the OJK may take certain actions against any parties who violate the provisions of the OJK regulations.</p>
<p>Circular Letter of Financial Services Authority No.32/SEOJK.04/2015 Year 2015 Guidelines on Corporate Management of Listed Companies</p>	<p>The Governance Guidelines cover five aspects, eight principles of good corporate governance, as well as twenty five recommendations for the implementation of aspects and principles of good corporate governance.</p> <p>The five aspects of Public Company Governance include:</p> <ol style="list-style-type: none"> a. Public Company Relations with Shareholders in Ensuring the Rights of Shareholders; b. Functions and Roles of the Board of Commissioners; c. Functions and Roles of the Board of Directors; d. Stakeholder Participation; and e. Information Disclosure. <p>The principles of good corporate governance in the Governance Guidelines are the basic concepts of governance, in accordance with exemplary international practice.</p> <p>Recommendations in the Governance Guidelines are standards for implementing aspects and principles of good corporate governance, which are expected to be applied by the IBE.</p>
<p>Financial Services Authority Regulation No. 12/POJK.01/2014 Year 2014 on The Implementation of Integrated Governance for Financial Conglomerates</p>	<p>Integrated Governance is governance that applies the principles of transparency, accountability, responsibility, independence, professional and fairness which is expected to encourage the stability of the financial system that grows in a sustainable manner.</p> <p>This regulation requires Financial Conglomerates to implement the Integrated Governance comprehensively and</p>



Regulation	Brief Description
	<p>effectively. Financial Conglomerates are divided into:</p> <ul style="list-style-type: none">- The Main Entity, namely subsidiary company and its subsidiary companies.- Financial Services Institutions, such as banks; insurance and reinsurance companies, securities companies, and/or finance companies.
Financial Services Authority Guidance Year 2014 on General Guidelines for Indonesian Corporate Governance	<p>This guideline was published by the National Committee on Governance Policy under the Indonesian Ministry of Economy. This guideline states that there are four pillars of corporate governance namely:</p> <ul style="list-style-type: none">- Transparency: to maintain objectivity in running the business by providing material and relevant information in an accessible way for stakeholders.- Accountability: to be accountable for acting in a transparent and fair manner. Therefore, corporations must be managed in a measurable manner and in accordance with corporate interests.- Ethical Behavior: in carrying out corporate activities, the corporation prioritizes honesty and treats all stakeholders with respect and pays attention to the interests of shareholders and other interests based on the principles of fairness and equality- Sustainability: corporations are required to comply with regulations and have a commitment to carry out responsibilities to society and the environment in order to contribute to sustainable development through collaboration with stakeholders.

**Sustainable Financing**

Regulation	Brief Description
Law No. 7 Year 2021 on Harmonization of Taxation Regulations	<p>This regulation includes stipulations on Carbon Taxation, which is a tax imposed on individuals or entities that purchase goods containing carbon and/or carry out activities that produce carbon emissions.</p> <p>In relation to a sustainable economy, the IBE may be subject to carbon tax which is currently set at a minimum rate of Rp. 30.00 (thirty rupiah) per kilogram of carbon dioxide equivalent (CO₂e) or its equivalent</p>
Law No. 1 Year 2016 on Guarantee	<p>This regulation was issued with the consideration that the national economy is organized based on economic democracy with the principles of togetherness, efficiency, justice, sustainability, environmental insight, independence and by maintaining a balance of progress and national economic unity. One of the scopes for this regulation includes a guarantee for credit and/or loans distributed by state-owned enterprises in the framework of partnership programs and environmental development.</p>
Financial Services Authority Regulation No. 40/POJK.03/2019 Year 2019 on Asset Quality Assessment of Commercial Banks	<p>This regulation requires banks to assess the quality of credit amongst others things through the business prospect. In assessing the business prospect, one of the assessments includes the attempts made by the debtors in maintaining the environment.</p>
Financial Services Authority Regulation No. 51/POJK.03/2017 Year 2017 on The Application of Sustainable Finance for Financial Service Providers, Issuers, and Publicly Listed Companies	<p>This regulation stipulates Sustainable Finance for Financial Service Providers (FSP), Issuers, and Publicly Listed Companies, which is a comprehensive support from the financial services sector to create sustainable economic growth by aligning economic, environmental and social interests.</p> <p>The implementation of Sustainable Finance is carried out using:</p> <ol style="list-style-type: none"> a. the principle of responsible investment; b. principles of sustainable business strategies and practices; c. principles of environmental and social risk management; d. governance principles; e. the principle of informative communication; f. inclusive principles; g. the principle of developing priority leading sectors; and h. principles of coordination and collaboration. <p>FSP is under the obligation to prepare a Sustainable Finance Action Plan. The Sustainable Finance Action Plan must be prepared based on the priorities of each FSP including:</p> <ol style="list-style-type: none"> a. the development of Sustainable Financial Products and/or Services including increasing the portfolio of



Regulation	Brief Description
	<p>financing, investment or placement in financial instruments or projects that are in line with the implementation of Sustainable Finance;</p> <ul style="list-style-type: none"> b. development of the internal capacity of the FSP; or c. adjustment of organization, risk management, governance, and/or standard operating procedures of FSP in accordance with the principles of implementing Sustainable Finance. <p>If an FSP or Issuer that is not an FSP or a Public Company that is not an FSP does not implement Sustainable Finance in its activities, it may be subject to administrative sanctions in the form of a warning or written warning</p>
<p>Financial Services Authority Regulation No. 52/POJK.04/2017 Year 2017 on Infrastructure Investment Funds in the Form of Collective Investment Contracts</p>	<p>This regulation stipulates Infrastructure Investment Funds in the Form of Collective Investment Contracts (DINFRA), which is a forum in the form of a collective investment contract that is used to raise funds from the investor community and then most of it is invested in infrastructure assets by investment managers.</p> <p>DINFRA Participation Units can be offered through a Public Offering or non-Public Offering. Public Offering of DINFRA Participation Units can only be made after the DINFRA Registration Statement has been submitted to the OJK and the Registration Statement has become effective. In the event that the DINFRA Participation Unit is not offered through a Public Offering, the Investment Manager managing the DINFRA is required to submit a registration request to OJK no later than ten working days from the date the Collective Investment Contract is signed.</p> <p>OJK has the authority to impose administrative sanctions on any party violating the provisions of this regulation.</p>
<p>Financial Services Authority Regulation No. 60/POJK.04/2017 Year 2017 on The Issuance and Requirements for The Issuance of Environment-Oriented Debt Securities (Green Bond)</p>	<p>This regulation regulates Green Bonds which are debt securities whose proceeds from the issuance are used to finance or refinance Environmentally Friendly Business Activities ("EFBA") in full or in part.</p> <p>EFBA that can be financed from the issuance of Green Bonds can be in the form of business activities and/or other activities related to:</p> <ul style="list-style-type: none"> a. renewable energy; b. energy efficiency; c. pollution prevention and control; d. sustainable management of living natural resources and land use; e. conservation of terrestrial and aquatic biodiversity; f. environmentally friendly transportation; g. sustainable water and wastewater management; h. climate change adaptation; i. products that can reduce the use of resources and produce less pollution (eco-efficient); j. environmentally friendly buildings that meet nationally, regionally or internationally recognized standards or certifications; and k. business activities and/or other environmentally sound activities.

In regulations and related policy documents, ESG is referred to as "LST" which stands for *Lingkungan, Sosial, dan Tata Kelola*. However, there is no explicit definition of this term in the regulations.

The following regulations allude to ESG:

- In the 1945 Constitution, it is stated that the implementation of the national economy needs to be carried out by taking into account the principles of sustainability and environmentally friendly practices.
- In positive law, Law 32 of 2009 states that it is necessary to develop an environmentally friendly financial system.
- Government Regulation No. 46 of 2017 concerning environmental instruments states that it is permissible to apply incentive schemes in environmental instruments with the criteria beyond compliance in the Environmental Management Framework. Means, environmental and social standards of international standards can be applied.
- According to Presidential Regulation No. 59 of 2017, there is no legitimacy to the belief that ESG is only directly related to the SDGs. However, in the literature it is widely stated that ESG aspects are the three most important indicators for implementing sustainable development and ethical decision-making.
- Presidential Instruction No. 9 Year 2000 on Gender Mainstreaming, in National Development aimed at reducing the gap between Indonesian women and men in accessing and obtaining development benefits, as well as to increase participation in and control over the development process.
- Presidential Regulation No. 62 of 2018, implementers of government projects for the provision of infrastructure is required to manage the social impact caused by the land acquisition process for national development.

Law No. 32 of 2009 mandates that the development of a more sustainable and eco-friendly financial institutions and capital market system. This law serves as the basis for the issuance of regulations by the Financial Services Authority (OJK) regarding sustainable finance. OJK issued the first roadmap for sustainable financing development in 2015 for the 2015-2019 period. The roadmap explains the targets and implementation of ESG for aspects of the sustainable financial process.

In 2017, OJK issued two relevant regulations:

- The first regulation requires the application of sustainable finance for financial service institutions, issuers, and public companies under OJK Regulation No. 51 of 2017. OJK further issue guidelines regarding preparation of sustainability report. However, it only defines guidelines that capture ESG aspects, particularly in sustainable finance and services or products of sustainable finance.
- In addition, OJK also issued regulations relating to green bonds, and guidelines on integrating business processes with ESG for financial service institutions, issuers, and public companies.

The second sustainable financing development roadmap was issued in 2021, which already uses the term "ESG" in it. Moreover, in January 2022, OJK and contributing ministers issued an Indonesian taxonomy document, a document currently in development, with the aim to set green standards for the transportation sector and public works and housing. OJK along with MoEF, MoIND, MPWH, MOT and MoFISH, MEMR, MoAgr and MoCET will develop and improve the Indonesia Green Taxonomy overtime. This policy potentially legitimizes the uses of ESG/LST terms although there has not been an agreed interpretation of what ESG is and how it stands in the current environmental permits and licenses framework.

PMK 180/2020 on PDF provision does not explicitly state the term "ESG"; although the regulation refers to Permen Bappenas 4/2015 regarding the preparation of transaction documents in which a review of the environmental and social aspects of the project is required in the Prefeasibility study, it does not elaborate further or refer to any internationally recognized ESG standards.

Recommended actions to strengthen the Indonesian ESG Framework

Below are the following suggested actions:

1. The publication of a policy paper that clarifies the interpretation of the term ESG and legitimizes the integration of ESG requirements into the process.
2. Legal instruments that are generally accepted for enforcement (e.g in the form of a ministerial regulation).
3. An ESG Manual that is published in the form of technical guidance, allowing flexibility for updates. The ESG Manual must provide tools to help evaluate the ESG aspects for projects granted with Government Supports (VGF, PDF) or guarantee to prevent further gaps in the evaluation process for ESG.

To formulate a case study of how ESG issues have been brought into PPP project development, we have reviewed the Mapare Project's Master Agreement. Key findings are summarized in the text box below.

Case study: Review of the Mapare Project's Master Agreement

- The Mapare Project's Master Agreement does not specifically regulate the ESG component within its scope. Therefore, it is difficult to measure the implementation of ESG aspects and principles in the project.
- Mapare Project only requires Environmental Documents obligations in accordance with applicable laws and regulations, no higher or specific ESG standards (i.e. IFC Performance Standards) is required to be implemented in the project.
- There is no indication that the financial model is inclusive of the costs for environmental and social obligations.
- There is no integration between environmental study in the pre-FS with the Amdal. We found that there are findings or points from the Amdal that are not reflected and properly studied under the pre-FS.
- The environmental and social obligations fulfillment is not included as performance indicators that links to payment.

To formulate a second case study of how ESG issues have been brought into PPP project development, we have reviewed the Pekanbaru SPAM Project's Documents. Key findings are summarized in the text box below.

Case study: Review of the Pekanbaru SPAM Project's Documents

- Overall, there are 12 aspects that we can summarize from the SMV internal guidelines for gap analysis based on the documents we received for the Pekanbaru SPAM project. At OBC and FBC, we found community health and safety in the legal study. However, given that the study was formatted as a review of the applicable regulations, we are yet to see any the ESG requirements included in the request for proposal documents and the PPP agreement framework.
- The contractual framework for the project includes the GCA monitoring team, independent certifiers, and joint monitoring team. The legal instruments that are executed in relation to the project consist of: PPP Agreement, Recourse agreement, Financing Agreement and Guarantee Agreement.
- In the financing agreement, there are adequate provisions regarding ESG. These documents can be utilized to implement ESG. The PPP agreement needs to provide more



comprehensive provisions, one of which is an environmental management system that requires further elaboration. In the financing agreement, there are provisions that are fairly adequate because IIF has a quite high standard.

- In the Recourse Agreement, there is a Risk Management Plan that has captured environmental-related risks, although within the limits of risk guaranteed by the IIGF.
- Bappenas Regulation No. 4 of 2015 as amended, requires the establishment of a Project Implementation Monitoring Team. We have not seen any PPP Agreement implementation management monitoring and guideline for this project, but the GCA may include the ESG indicators as one aspect to be monitored as part of the IBE's performance indicators.



Reference 1.A Key Applicable Laws and Regulations on ESG Issues for Water Supply Infrastructure Project

Type of Regulation	ESG Aspects
Environment	
Law No. 32 Year 2009 on Environmental Protection and Management, amended by Law No. 11 of 2020 on Job Creation	<p>This regulation stipulates the obligation to ensure that the environment is properly protected and maintained throughout any activities. The regulation also requires planning, utilization, maintenance to be conducted throughout, and also brings about obligations by the authorized officials to control, supervise and enforce the applicable regulations.</p> <p>In terms of control, the authorized official should make sure that there is a control of the environmental pollution and/or damage in order to preserve the environmental functions. The control shall be done through applying prevention, coping and recovery measures.</p> <p>The maintenance over the environment shall be done through the (a) conservation of natural resources; (b) reserves of natural resources; and/or (c) the preservation of the function of the atmosphere.</p>
Law No. 16 of 2016 on the Ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change	This regulation ratifies the Paris Agreement to the United Nations Framework Convention on Climate Change which causes it to be applicable in Indonesia.
Law No. 17 Year 2019 on Water Resources	General rulings for management and utilization of water resources, which includes provisions regarding water resources exploration and exploitation limit, and water sources preservation requirement.
Ministry of Environment and Forestry Regulation No. 5 Year 2021 on Procedure for Issuance of Technical Approval and Operational Feasibility Certificate for Environmental Pollution Control	This regulation regulates the procedure for issuing Technical Approval and Operational Feasibility Certificate/SLO for business actors that carry out activities for the disposal and/or utilization of Wastewater and disposal of emissions.
Labor and Working Conditions	
Government Regulation No. 50 Year 2012 on Application of Occupational Safety and Health Management System	This regulation is an implementing regulation of Law No. 13 of 2003, which regulates in more detail the national policy on the Occupational Health and Safety Management System (“ SMK3 ”). This regulation stipulates that the employer is obligated to implement SMK3 in their company.



Type of Regulation	ESG Aspects
	<p>The obligation as referred above shall be applicable for the following companies:</p> <ul style="list-style-type: none"> a. employing at least 100 workers/laborers; or b. having a high level of potential hazard in the work area.
SPAM infrastructure as a PPP Object	
Government Regulation No. 122 Year 2015 on Drinking Water Supply System	This regulation regulates the Drinking Water Supply System ("SPAM") which is held to provide drinking water services to the community to fulfill the people's right to drinking water.
Government Regulation No. 121 Year 2015 on Exploitation of Water Resources	This regulation regulates the exploitation of Water Resources which is carried out with due observance of the principles: [a] not interfering, overriding, and negating the people's right to water, [b] state protection of the people's right to water, [c] environmental sustainability. It also aims to increase the use of water resources for the welfare of the people.
Minister of Public Works and Housing Regulation No. 27/PRT/M/2016 Year 2016 on The Operation of Drinking Water Supply System	This regulation aims to provide drinking water services in order to guarantee the people's right to drinking water, to realize quality drinking water management and services at affordable prices, to achieve balanced interests between customers and providers, and to achieve effective and efficient drinking water operations.
Minister of Public Works and Housing Regulation No. 19/PRT/M/2016 Year 2016 on Provision of Supports by The Central Government and/or Regional Government in Cooperation on Drinking Water Supply System Administration	This regulation aims that the support by the central government/and/or local government in the implementation of SPAM can be carried out in an orderly, appropriate, effective, and for the sake of public interest.
Minister of Public Works and Housing Regulation No. 1/PRT/M/2016 on Procedures for Water Resources Concession and Water Resources Use Licenses	This regulation stipulates on the procedures for water resources concession and water resources use licenses.



Reference 1.B Key Applicable Laws and Regulations on ESG Issues for Urban Transportation Infrastructure Project

Type of Regulation	ESG Aspects
Law No. 23 Year 2007 on Railway, amended by Law No. 11 of 2020	This regulation stipulates that the railway is operated with the aim of facilitating the mass movement of people and/or goods in a safe, comfortable, fast, and efficient manner, as well as supporting national development.
Government Regulation No. 33 Year 2021 on Railway Implementation	General requirements for implementation of the railway sector.
Ministry of Transportation Regulation ("MoT Regulation") No. 7 Year 2022 on Implementation of High Speed Rails	As applicable
MOT Regulation No. 38 Year 2021 on Procurement of Business Entity for Railway Sector Implementation	As applicable
MOT Regulation No. 22 Year 2021 on Licensing for the Implementation of Public Railways	ESG requirements for railways company to obtain license for railways operation.



Reference 1.C Key Applicable Laws and Regulations on ESG Issues for Housing Infrastructure Project

Type of Regulation	ESG Aspects
Law No. 1 Year 2011 on Housing and Settlement Areas, amended by Law No. 11 of 2020	This regulation regulates the implementation of housing and settlement areas with the aim of realizing regional development with a proportional distribution of the population while still paying attention to the preservation of environmental functions.
Law No. 20 Year 2011 on Flats, amended by Law No. 11 of 2020	This regulation guarantees the realization of livable and affordable flats in a healthy, safe, harmonious and sustainable environment and creates integrated settlements to build economic, social and cultural resilience.
Government Regulation No. 14 Year 2016 on Implementation of Housing and Citizen Settlement, amended by Government Regulation No. 12 of 2021	General ruling on implementation of housing sectors.
Ministry of Public Works and Housing Regulation No. 12 Year 2020 on Public Roles on Implementation as Housing and Citizen Settlement	As applicable

Reference 1.D Key Applicable Laws and Regulations on ESG Issues for Waste Treatment Facilities Infrastructure Project

Type of Regulation	ESG Aspects
Law No. 30 Year 2009 on Electricity, amended by Law No. 11 Year 2020	This regulation stipulates that the electricity development adheres to the principles of benefit, efficiency, fairness, sustainability, and the preservation of environmental functions.
Law No. 18 Year 2008 on Waste Management	This regulation stipulates waste management aimed at improving public health and the quality of the environment, as well as making waste as a resource.
Law No. 30 Year 2007 on Energy	This regulation stipulates that the energy management adheres to the principles of benefit, efficiency, fairness, public welfare, sustainability, and the preservation of environmental functions.
Government Regulation No. 81 Year 2012 on Infrastructure for Domestic Waste Management	<p>This regulation stipulates waste management aimed at improving public health and the quality of the environment, as well as making waste as a resource.</p> <p>It also covers regulations on policies and strategies for waste management, implementation of waste management, compensation, development and application of technology, information systems, community roles, and guidance.</p>
Presidential Regulation No. 35 Year 2018 on Acceleration of The Development of Environment-Friendly Technology-Based Waste-To-Energy Installations	This regulation on waste management aims to improve public health and environmental quality, and to significantly reduce the volume of waste for the sake of cleanliness and beauty of the city and to make waste as a source of electrical energy.
Presidential Regulation No. 97 Year 2017 on National Policies and Strategies for The Management of Household Waste and Waste Similar to Household Waste	This regulation regulates the policy direction for reducing and handling household waste and waste similar to household waste.
Minister of Public Works and Housing Regulation No. 3/PRT/M/2013 Year 2013 on Implementation of Waste Infrastructure and Facilities in Handling Household Waste and Waste Similar to Household Waste	This regulation stipulates on the implementation of waste infrastructure and facilities in handling household waste and waste similar to household waste.
Minister of Home Affairs Regulation No. 96 Year 2016 on Availability Payment by the Regional Government in the Framework of Cooperation with Business Entities	This regulation stipulates the availability payment by the regional government for PPP, where this regulation ensures the availability of quality services to the public resulting from the provision of infrastructure carried out through PPP.



Type of Regulation	ESG Aspects
Minister of Mineral Resources and Energy Regulation No. 50 Year 2017 on The Use of Renewable Energy for The Provision of Electricity, amended by Minister of Mineral Resources Regulation No. 4 Year 2020	This regulation regulates the use of renewable energy sources as electrical energy, as well as the obligation of PT PLN (Persero) to purchase electricity from power plants that utilize Renewable Energy Sources.
Minister of Mineral Resources and Energy Regulation No. 35 Year 2013 on Procedures on Electric Power Business Licenses, amended by Minister of Mineral Resources and Energy Regulation No. 11 Year 2021	N/A
Minister of Industry Regulation No. 54/M-IND/PER/3/2012 Year 2012 on Guidelines on The Use of Domestic Products for The Construction of Electricity Infrastructure, amended by Minister of Industry Regulation No. 5/M-IND/PER/2/2017 Year 2017	This regulation stipulates the obligation for every electricity infrastructure development for the public interest to use domestically produced goods and/or services.



Reference 1.E Key Applicable Laws and Regulations on ESG Issues for Gas Distribution Infrastructure Project

Type of Regulation	ESG Aspects
Law No. 22 Year 2001 on Oil and Gas, amended by Law No. 11 of 2020 on Job Creation	This regulation stipulates that the operation of Oil and Gas business activities is based on mutual prosperity and the welfare of the people, and is environmentally friendly.
Government Regulation (GR) No. 79 Year 2014 on National Energy Policy	This regulation stipulates that the national energy policy is an Energy Management policy that is based on the principles of justice, sustainability, and environmental insight in order to create National Energy Independence and Energy Security.
Presidential Regulation (PR) No. 6 Year 2019 on Procurement and Distribution of Natural Gas Through Natural Gas Transmission and/or Distribution Network for Households and Small-Scale Customers	This regulation stipulates that the supply and distribution of Natural Gas through Jargas must use technology that meets the provisions of occupational safety and health as well as environmental protection and management, and prioritizes the use of domestic products.
PR No. 22 Year 2017 on National Energy Plan	N/A
Minister of Energy and Mineral Resources ("MEMR") No. 4 Year 2018 on Natural Gas Enterprises in Oil and Natural Gas in Downstream Business Activities, amended by MEMR Regulation No. 19 of 2021	This regulation regulates the business activities of Natural Gas Transportation, Natural Gas Trading business activities, and Natural Gas Storage business activities which are carried out in a transparent, accountable, competitive and fair manner.



Reference 1.F Key Applicable Laws and Regulations on ESG Issues for Health Infrastructure Project

Type of Regulation	ESG Aspects
Law No. 36 Year 2009 on Health Law, amended by Law No. 11 of 2020 on Job Creation	This regulation regulates health development, which aims to realize the highest degree of public health, as an investment for the development of socially and economically productive human resources.
Government Regulation No. 47 Year 2021 on Implementation on Hospital Sector	As applicable
Ministry of Health Regulation No. 3 Year 2020 on Classification and Hospital Licensing	As applicable
Minister of Health Regulation Number 40 of 2018 concerning Guidelines for Implementing Government Cooperation with Business Entities in the Provision of Health Infrastructure	This regulation encourages the participation of business entities in the implementation of health infrastructure, especially in the provision of infrastructure in the health sector, this regulation also provides guidelines for the implementation of cooperation between the government and business entities in the health sector.

In regulations and related policy documents, ESG is referred to as "LST" which stands for *Lingkungan, Sosial, dan Tata Kelola*. However, there is no explicit definition of this term in the regulations.

The following regulations allude to ESG:

- In the 1945 Constitution, it is stated that the implementation of the national economy needs to be carried out by taking into account the principles of sustainability and environmentally friendly practices.
- In positive law, Law 32 of 2009 states that it is necessary to develop an environmentally friendly financial system.
- Government Regulation No. 46 of 2017 concerning environmental instruments states that it is permissible to apply incentive schemes in environmental instruments with the criteria beyond compliance in the Environmental Management Framework. Means, environmental and social standards of international standards can be applied.
- According to Presidential Regulation No. 59 of 2017, there is no legitimacy to the belief that ESG is only directly related to the SDGs. However, in the literature it is widely stated that ESG aspects are the three most important indicators for implementing sustainable development and ethical decision-making.
- Presidential Instruction No. 9 Year 2000 on Gender Mainstreaming, in National Development aimed at reducing the gap between Indonesian women and men in accessing and obtaining development benefits, as well as to increase participation in and control over the development process.
- Presidential Regulation No. 62 of 2018, implementers of government projects for the provision of infrastructure is required to manage the social impact caused by the land acquisition process for national development.

Law No. 32 of 2009 mandates that the development of a more sustainable and eco-friendly financial institutions and capital market system. This law serves as the basis for the issuance of regulations by the Financial Services Authority (OJK) regarding sustainable finance. OJK issued the first roadmap for sustainable financing development in 2015 for the 2015-2019 period. The roadmap explains the targets and implementation of ESG for aspects of the sustainable financial process.

In 2017, OJK issued two relevant regulations:

- The first regulation requires the application of sustainable finance for financial service institutions, issuers, and public companies under OJK Regulation No. 51 of 2017. OJK further issue guidelines regarding preparation of sustainability report. However, it only defines guidelines that capture ESG aspects, particularly in sustainable finance and services or products of sustainable finance.
- In addition, OJK also issued regulations relating to green bonds, and guidelines on integrating business processes with ESG for financial service institutions, issuers, and public companies.

The second sustainable financing development roadmap was issued in 2021, which already uses the term "ESG" in it. Moreover, in January 2022, OJK and contributing ministers issued an Indonesian taxonomy document, a document currently in development, with the aim to set green standards for the transportation sector and public works and housing. OJK along with MoEF, MoIND, MPWH, MOT and MoFISH, MEMR, MoAgr and MoCET will develop and improve the Indonesia Green Taxonomy overtime. This policy potentially legitimizes the uses of ESG/LST terms although there has not been an agreed interpretation of what ESG is and how it stands in the current environmental permits and licenses framework.

PMK 180/2020 on PDF provision does not explicitly state the term "ESG"; although the regulation refers to Permen Bappenas 4/2015 regarding the preparation of transaction documents in which a review of the environmental and social aspects of the project is required in the Prefeasibility study, it does not elaborate further or refer to any internationally recognized ESG standards.

Recommended actions to strengthen the Indonesian ESG Framework

Below are the following suggested actions:

4. The publication of a policy paper that clarifies the interpretation of the term ESG and legitimizes the integration of ESG requirements into the process.
5. Legal instruments that are generally accepted for enforcement (e.g in the form of a ministerial regulation).
6. An ESG Manual that is published in the form of technical guidance, allowing flexibility for updates. The ESG Manual must provide tools to help evaluate the ESG aspects for projects granted with Government Supports (VGF, PDF) or guarantee to prevent further gaps in the evaluation process for ESG.

To formulate a case study of how ESG issues have been brought into PPP project development, we have reviewed the Mapare Project's Master Agreement. Key findings are summarized in the text box below.

Case study: Review of the Mapare Project's Master Agreement

- The Mapare Project's Master Agreement does not specifically regulate the ESG component within its scope. Therefore, it is difficult to measure the implementation of ESG aspects and principles in the project.
- Mapare Project only requires Environmental Documents obligations in accordance with applicable laws and regulations, no higher or specific ESG standards (i.e. IFC Performance Standards) is required to be implemented in the project.
- There is no indication that the financial model is inclusive of the costs for environmental and social obligations.
- There is no integration between environmental study in the pre-FS with the Amdal. We found that there are findings or points from the Amdal that are not reflected and properly studied under the pre-FS.
- The environmental and social obligations fulfillment is not included as performance indicators that links to payment.

To formulate a second case study of how ESG issues have been brought into PPP project development, we have reviewed the Pekanbaru SPAM Project's Documents. Key findings are summarized in the text box below.

Case study: Review of the Pekanbaru SPAM Project's Documents

- Overall, there are 12 aspects that we can summarize from the SMV internal guidelines for gap analysis based on the documents we received for the Pekanbaru SPAM project. At OBC and FBC, we found community health and safety in the legal study. However, given that the study was formatted as a review of the applicable regulations, we are yet to see any the ESG requirements included in the request for proposal documents and the PPP agreement framework.
 - The contractual framework for the project includes the GCA monitoring team, independent certifiers, and joint monitoring team. The legal instruments that are executed in relation to the project consist of: PPP Agreement, Recourse agreement, Financing Agreement and Guarantee Agreement.
- In the financing agreement, there are adequate provisions regarding ESG. These documents can be utilized to implement ESG. The PPP agreement needs to provide more comprehensive provisions, one of which is an environmental management system that



requires further elaboration. In the financing agreement, there are provisions that are fairly adequate because IIF has a quite high standard.

- In the Recourse Agreement, there is a Risk Management Plan that has captured environmental-related risks, although within the limits of risk guaranteed by the IIGF.
- Bappenas Regulation No. 4 of 2015 as amended, requires the establishment of a Project Implementation Monitoring Team. We have not seen any PPP Agreement implementation management monitoring and guideline for this project, but the GCA may include the ESG indicators as one aspect to be monitored as part of the IBE's performance indicators.

Reference 2. ESG Principles

ESG considerations could be mainstreamed in PPP infrastructure projects by adopting a set of ESG principles as shown in the table below. The table contents are adapted from WB, IFC, and IIGF. The table should help GCA understand the scope and depth of ESG aspects to consider throughout the project lifecycle. Some principles might not be applicable to some projects; however, the GCA needs to consider each of them carefully in the context of project's sphere of influence.

ESG Principles	Regulatory Basis	Relevant Activities (non-exhaustive)
Environmental and Social Assessment	<ul style="list-style-type: none"> • Law No. 32 Year 2009 on Environmental Protection and Management • Government Regulation No. 27 Year 2012 on Environmental Permits • Environmental Ministry Regulation No. 5 Year 2021 on Types of Business Plans and/or Activities Required to Have an Environmental Impact Analysis • Government Regulation No. 105 Year 2015 on the Second Amendment to Government Regulation No. 24 of 2010 on the Use of Forest Areas • LHK Ministerial Decree No. P.50/Menhut-II/2016 on Guidelines for Borrowing and Using Forest Areas • Minister of Forestry Regulations No. 85/Menhut-II/2014 on Procedures for Cooperation in the Implementation of Nature Reserve Areas and Nature Conservation Areas • Presidential Instruction No. 8 Year 2015 on the Moratorium of New Permits and Improving Governance of Primary Natural Forests and Peatlands 	<ul style="list-style-type: none"> • Assess and manage ESG risks • Set up an ESG management system (see elaboration below this table) • Develop organizational capacity • Conduct community engagement and consultation • Implement grievance redress mechanism • Conduct monitoring, reporting and continuous improvement
Labor and Working Condition	<ul style="list-style-type: none"> • Law No. 13 Year 2003 on Manpower • Government Regulation No. 50 Year 2012 on the Implementation of Occupational Health and Safety Management Systems 	<ul style="list-style-type: none"> • Implement policies and procedures on labor and working conditions in accordance with regulations in Indonesia, including avoiding child labor and forced labor • Promote safe and healthy labor and working conditions



ESG Principles	Regulatory Basis	Relevant Activities (non-exhaustive)
Resources Efficiency and Pollution Prevention	<ul style="list-style-type: none"> • Law No. 32 Year 2009 on Environmental Protection and Management • Government Regulation No. 41 Year 1999 on Air Pollution Control • Government Regulation No. 82 Year 2001 on Water Quality Management and Water Pollution Control • Government Regulation No. 19 Year 1999 on Marine Pollution and/or Destruction Control 	<ul style="list-style-type: none"> • Prevent pollution and manage the impact arising from the project • Support the alignment with international standards and best practices • Encourage sustainable use of resources
Community Health and Safety	<ul style="list-style-type: none"> • Law no. 32 Year 2009 on Environmental Protection and Management • Law no. 2 Year 2017 on Construction Services • Government Regulation No. 27 Year 2012 on Environmental Licensing 	<ul style="list-style-type: none"> • Prevent or minimize adverse impacts (e.g., health, safety, security issues) to Project Affected Persons (PAPs) • Minimize impact to ecosystem services that may negatively affect PAPs • Conduct security measures in alignment with human rights and preventing or minimizing conflicts with affected communities
Land Acquisition and Involuntary Resettlement	<ul style="list-style-type: none"> • Law No. 2 Year 2012 on Land Acquisition for Development in the Public Interest • Presidential Regulation No. 71 Year 2012 on the Implementation of Land Acquisition for Development in the Public Interest, amended by Presidential Regulations No. 40 of 2014, No. 99 of 2014, No. 30 of 2015, and No. 148 of 2015 • Regulation of the Head of BPN RI No. 5 of 2012 on Technical Guidelines for the Implementation of Land Acquisition • Law No. 41 Year 2004 on Waqf • Government Regulation No. 25 Year 2018 amending Government Regulation No. 42 Year 2006 on the Implementation of Law No. 41 Year 2004 on Waqf • Decree of the Director General of Islamic Community Guidance, Ministry of Religious Affairs, No. 659 Year 2018 on Technical 	<ul style="list-style-type: none"> • Avoid involuntary resettlement where feasible or minimize to the extent possible. • During project preparation, assess potential impacts of land acquisition and, where feasible, design alternatives to minimize adverse impacts as early as possible. • Provide people who lose land and/or other assets as a result of land acquisition with prompt and fair compensation. • Consult PAPs who must move to another location as a result of land acquisition about compensation and relocation options.



ESG Principles	Regulatory Basis	Relevant Activities (non-exhaustive)
	<p>Guidelines on Applying for Waqf Asset Exchange</p> <ul style="list-style-type: none"> Ministry of Home Affairs Regulation No. 1 Year 2016 on Village Asset Management Government Regulation No. 27 Year 2014 on State/Regional Asset Management Presidential Regulation No. 62 Year 2018 on Managing Community Social Impacts in the Context of Providing Land for Social Development 	
Biodiversity Conservation	<ul style="list-style-type: none"> Law No. 5 Year 1990 on the Conservation of Biological Natural Resources and Ecosystems Government Regulation No. 7 Year 1999 on the Preservation of Plant and Animal Species 	<ul style="list-style-type: none"> Support the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions Maintain existing ecosystem services
Cultural Heritage	<ul style="list-style-type: none"> Law No. 11 Year 2010 on Cultural Conservation Government Regulation No. 10 Year 1993 on the Implementation of Law no. 5 Year 1992 concerning Cultural Conservation 	<ul style="list-style-type: none"> Identify physical cultural resources, including archaeological, paleontological, historical, architectural, religious (including graveyards and burial sites), aesthetic, and other culturally significant sites Preserve physical cultural resources and avoid their destruction or damage
Indigenous People	<ul style="list-style-type: none"> Law No. 6 Year 2014 on Villages Law No. 32 Year 2009 on Environmental Protection and Management 	<ul style="list-style-type: none"> Preserve identified Indigenous People and avoid adverse impacts as early as possible Engage Indigenous People in planning and implementing projects



Related to the first Principle “Environmental and Social Assessment”, below is some guidance on setting up an ESG management system, adapted from SMI’s ESG Safeguards Guidelines.

The GCA and IBE should collaborate in establishing and maintain an environmental and social management system appropriate to the nature and scale of the project, and commensurate with the level of environmental and social risks and impacts.

The environmental and social management system should incorporate the following elements:

No	ESMS Component	Description
1	Policies	Establish an overarching policy that defines environmental and social objectives and principles that guide the project to achieve healthy environmental and social performance.
2	Identification of risks and impacts	Identify environmental, social, health, safety risks. This can be part of the environmental assessment document as required by the legislation, or if necessary other studies can be prepared in accordance with the risks and impacts of the project.
3	Management program	Establish management programs that describe performance improvement and mitigation measures and actions that address the identified environmental and social risks and impacts of the project.
4	Organizational capacity and competence	Establish, maintain, and strengthen as necessary the organizational structure, which defines the roles, responsibilities and authorities for implementing the environmental and social management system.
5	Environmental and social training	Train employees and contractors who have direct responsibility in activities related to environmental and social performance so that they will have the knowledge and skills necessary to carry out their work, including up-to-date knowledge of obligations under laws and regulations and the company's environmental and social standards. Training should also discuss specific efforts and actions required in the management programs, including action plans and measures.
6	Emergency preparedness and response	Establish and maintain an emergency response and preparedness mechanism, so that the GCA and IBE will be prepared to respond to accident and emergency situations related to the project in an appropriate manner to prevent and mitigate any damage to the community and/or the environment.
7	Stakeholder engagement	Identify stakeholders; provide access to affected communities with relevant information; and conduct consultation processes in a way that gives affected communities the opportunity to express their views.
8	Monitoring, evaluation, and reporting	Establish procedures to monitor and measure the effectiveness of the management programs, as well as compliance with related regulations; document monitoring results; identify and take corrective and preventive actions required in the program and management plans; follow up on these actions in future monitoring cycles to ensure their effectiveness; and conduct periodic performance reviews.

Reference 3. Relevant ESG International Standards

Conformity to international and regional ESG frameworks can minimize risks and increase opportunities for financing and for successful implementation. Parts of the standards attached below are adopted in the ESG Manual. Full conformity to the standards is not required. GCAs might like to refer to the standards to understand the expectations of international investors on the management of ESG risks.

A. World Bank Environmental and Social Framework (WB ESF)

The World Bank Environmental and Social Framework was implemented in 2018 to enhance the development effectiveness of projects through financing with greater scrutiny of compliance. It requires borrowers to assess and manage environmental and social issues to comply with the following Environmental and Social Standards (ESS):

ESS 1 Assessment and management of environmental and social risks and impacts	ESS 2 Labor and working conditions	ESS 3 Resource efficiency and pollution prevention and management	ESS 4 Community health and safety
ESS 5 Land acquisition restrictions on land use and involuntary resettlement	ESS 6 Biodiversity conservation and sustainable management of living natural resources	ESS 7 Indigenous peoples/sub-saharan African historically underserved traditional local communities	ESS 8 Cultural heritage
ESS 9 Financial intermediaries	ESS 10 Stakeholder engagement and information disclosure	World Bank Environmental and Social Framework (WB ESF)	

Source: World Bank, PwC Analysis.

This Framework is applied to all Investment Project Financing. In applying this performance standard, the Lenders will require several documents e.g. Environmental and Social Impact Assessment (ESIA), Environmental and Social Audit, Risk Assessment, Social and Conflict Analysis, Environmental and Social Management Plan, etc. This Framework also addresses cross-cutting issues, such as gender and the poor and vulnerable groups.

B. International Finance Corporation Performance Standards (IFC PS)

IFC Performance Standards (IFC PS) were developed in 2006 which aims for identifying and managing environmental and social risks. The IFC Performance Standards serve as international benchmarks for identifying and managing environmental and social risks as follows:

Performance Standard 1	Assessment and Management of Environmental & Social Risks and Impacts
Performance Standard 2	Labor and Working Conditions
Performance Standard 3	Resource Efficiency and Pollution Prevention
Performance Standard 4	Community Health, Safety, and Security
Performance Standard 5	Land Acquisition and Involuntary Resettlement
Performance Standard 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources
Performance Standard 7	Indigenous Peoples
Performance Standard 8	Cultural Heritage



IFC also provides General Environmental, Health and Safety (EHS) Guidelines which will be relevant for the construction, operation, and decommissioning stages of the project. In addition to the General EHS Guidelines covering environmental, occupational health and safety, public health and safety aspects, as well as construction and decommissioning, projects should also be reviewed in the context of relevant specific industry EHS Guidelines (e.g. infrastructure).

To meet the IFC Performance Standards requirements, companies will be required to develop an Environmental and Social Impact Assessment (ESIA) document as one of the requirements for financial close. AMDAL will include the results Project's potential environmental and social impacts analysis in accordance with the eight performance standards above, which will be carried out by an independent consultant. Based on the assessment results, the project can be categorized into low, medium, and high risk levels:

The level of project risk will affect the project funding decisions. The current applicable IFC Performance Standard is IFC Performance Standard 2012 version. It is widely used by banks or investors who are members of the World Bank for projects which are carried out by private parties.

C. Equator Principles

Equator Principles (EP) is a risk management framework, adopted by financial institutions, to determine, assess and manage environmental and social risks in project financing. They aim to provide a minimum standard of feasibility study to support decision making. By applying EP standard, the potential adverse environmental and social impacts of the project can be prevented, reduced, mitigated, and/or compensated appropriately. The currently valid EP is EP4 which was issued in July 2020. EP can be applied globally to various industry sectors for five financial products: 1) Project Finance Advisory Services, 2) Project Finance, 3) Project-Related Corporate Loans, 4) Bridge Loans, and 5) Project-Related Refinance, and Project-Related Acquisition Finance.

The Equator Principles consist of:

Principle 1	Review and Categorization	Principle 6	Grievance Mechanism
Principle 2	Labor and Working Conditions	Principle 7	Independent Review
Principle 3	Environmental and Social Assessment	Principle 8	Covenants
Principle 4	Environmental & Social Management System and Equator Principles Action Plan	Principle 9	Independent Monitoring and Reporting
Principle 5	Stakeholder Engagement	Principle 10	Reporting and Transparency

These standards also have stipulations relating to vulnerable groups and sensitive areas, as well as stakeholder engagement with vulnerable groups. While it is not considered as mandatory, EPs also listed gender and disproportionate gender impacts in the possible content of the Assessment Documentation.

D. United Nations Economic Commission for Europe (UNECE) People-First PPP Evaluation

UNECE People-first PPP Evaluation is an assessment platform that puts people and sustainable development front and center. It scores infrastructure projects against SDGs to ensure that projects create value for people and value for the planet, with a focus on the world's most vulnerable. Integrating considerations of resilience, sustainability, and circularity, the methodology brings together five people-first PPP outcomes:

Access and Equity	Economic effectiveness and fiscal sustainability	Environmental sustainability and resilience	Replicability	Stakeholder engagement
<ul style="list-style-type: none"> • Provide essential services • Advance affordability and universal access • Improve equity and social justice • Plan for long-term access and equity 	<ul style="list-style-type: none"> • Avoid corruption and encourage transparent procurement • Maximize economic viability and fiscal sustainability • Maximize long-term financial viability • Enhance employment and economic opportunities 	<ul style="list-style-type: none"> • Reduce GHG emissions and improve energy efficiency • Reduce waste and restore degraded land • Reduce water consumption and wastewater discharge • Protect biodiversity • Assess risk and resilience for disaster management • Advance community-driven development 	<ul style="list-style-type: none"> • Encourage replicability and scalability • Enhance government, industry, and community capacity • Support innovation and technology transfer 	<ul style="list-style-type: none"> • Plan for stakeholder engagement and public participation • Maximize stakeholder engagement and public participation • Provide transparent and quality project information • Manage public grievances and end-user feedback

E. Asian Development Bank Safeguard Policy Statement (ADB SPS)

The Asian Development Bank Safeguard Policy Statement (ADB SPS) aims to promote sustainability of project outcomes by protecting the environment and people from projects' potential adverse impacts by avoiding adverse impacts of projects on the environment and affected people, where possible; minimizing, mitigating, and/or compensating for adverse project impacts on the environment and affected people when avoidance is not possible; and helping borrowers and clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks. Furthermore, the ADB SPS also mentions the incorporation of gender issues in the key policy issues and considerations, as mandated under ADB's Policy on Gender and Development. However, it also recognized that gender considerations need to be reflected in the safeguard policies. The ADB SPS has been developed since June 2009.



**Safeguard Requirements 1:
Environment**

- Environmental Assessment
- Environmental Planning and Management
- Information Disclosure
- Consultation and Participation
- Grievance Redress Mechanism
- Monitoring and Reporting
- Unanticipated Environmental Impacts
- Biodiversity Conservation and Sustainable Natural Resource Management
- Pollution Prevention and Abatement
- Health and Safety
- Physical Cultural Resources

**Safeguard Requirements 2:
Involuntary Resettlement**

- Compensation, Assistance and Benefits for Displaced Persons
- Social Impact Assessment
- Resettlement Planning
- Negotiated Land Acquisition
- Information Disclosure
- Consultation and Participation
- Grievance Redress Mechanism
- Monitoring and Reporting
- Unanticipated Impacts
- Special Considerations for Indigenous Peoples

**Safeguard Requirements 3:
Indigenous People**

- General requirements:
- Consultation and Participation
 - Social Impact Assessment
 - Indigenous Peoples Planning
 - Grievance Redress Mechanism
 - Monitoring and Reporting
 - Unanticipated Impacts
- Special requirements:
- Ancestral Domains and Lands and Related Natural Resources
 - Consent of Affected Indigenous Peoples Communities
 - Indigenous Peoples and Development

**Safeguard Requirements 2:
Special Requirements for Different
Finance Modalities**

In addition to standard project loans, ADB provides a variety of investment instruments, including program loans, sector finance, multi-tranche financing facilities (MFFs), emergency assistance loans, financial intermediaries, and corporate finance. Safeguard Requirements 4 outlines the special requirements for different financial modalities that borrowers/clients are requested to meet.

F. Asian Infrastructure Investment Bank Environmental and Social Framework (AIIB ESF)

AIIB ESF is a system that supports the bank and its clients in achieving environmentally and socially sustainable development outcomes. It does so by integrating good international practice on environmental and social planning and management of risks and impacts into decision-making on, and preparation and implementation of, bank-supported projects.

Environmental and social screening, categorisation, and due diligence by the bank	Environmental and social assessment by the client	Disclosure, consultation, grievances, and project-affected people's mechanism
<ul style="list-style-type: none"> a. Screening and categorisation b. Environmental and social due diligence by the bank 	<ul style="list-style-type: none"> a. Scope and nature of the environmental and social assessment b. Environmental and social assessment documentation and instruments c. Environmental and social management plan d. Environmental and social management planning framework e. Special circumstances f. Use of country and corporate systems 	<ul style="list-style-type: none"> a. Disclosure of environmental and social information b. Consultation c. Grievances d. Project affected people's mechanism e. Retaliation

G. ASEAN Green Bond Standards

The ASEAN Capital Markets Forum (ACMF) developed the ASEAN Green Bond Standards (ASEAN GBS) to enhance transparency, consistency, and uniformity of ASEAN Green Bonds, which will also contribute to the development of a new asset class, reduce due diligence cost, and help investors to make informed investment decisions. ASEAN GBS is designed based on the International Capital Market Association (ICMA) Green Bond principles (GBP) as they are internationally accepted and widely used for the development of national green bond guidelines or standards issued globally.

While the GBP has provided broad principles on green bonds, the ASEAN GBS aims to provide more specific guidance on how the GBP is to be applied across ASEAN in order for green bonds to be labeled as ASEAN Green Bonds. In this respect, issuers who wish to issue and label green bonds as ASEAN Green Bonds must demonstrate compliance with the ASEAN GBS. Thus, the ASEAN GBS will provide certainty to investors that green bonds labeled as ASEAN Green Bonds have met uniformed standards while providing issuers with guide rails on best market practices for green bonds.

There are four core components of the ASEAN GBP:

Use of proceeds	Process for project evaluation and selection
<ul style="list-style-type: none"> • Utilization of proceeds from the ASEAN Green Bond • Categories of eligible green projects • Assessment of environmental benefits • Refinancing provisions • Broad categories of eligible green projects (e.g. Renewable energy, pollution prevention and control, clean transportation, sustainable water and wastewater management, green buildings) 	<ul style="list-style-type: none"> • List of information to be provided for the investors and to be made publicly available • Requirement to establish a process for project evaluation and selection • Recommendation to utilize external reviewer
Management of proceeds	Reporting
<ul style="list-style-type: none"> • Requirement to disclose to investors how the proceeds are managed • Requirement to allocate the proceeds into a formal sub-account • Requirement to adjust the balance of tracked proceeds periodically • Requirement to disclose temporary placement for unallocated proceeds to investors • Recommendation to utilize an external auditor to verify internal tracking of the proceeds • Requirement to make reports by external auditor publicly available 	<ul style="list-style-type: none"> • Requirement to report to investors on an annual basis (i.e. list of projects where proceeds have been allocated to, as well as brief description of the projects and the amounts allocated, and their expected impacts) • Subject to confidentiality, information can be presented in generic terms or on an aggregated portfolio basis • Recommendation to use both qualitative and quantitative performance indicators and to disclose the respective key underlying methodology • Recommendation of an external reviewer to validate use of proceeds

Reference 4. International ESG Reporting Standards Used by Financiers as Compliance Frameworks

Along with ESG management frameworks, there is increasing proliferation of global standards and initiatives on measurement and disclosure of sustainability aspects. There are significant moves towards a common set of standards. In November 2021, the IFRS Foundation Trustees announced the formation of the International Sustainability Standards Board (ISSB), consolidating the Value Reporting Foundation (SASB+IIRC) and the Carbon Disclosures Standards Board (CDSB). The goal is to develop, in the public interest, a single set of high quality, understandable, enforceable and globally accepted sustainability standards based upon clearly articulated principles.

Until that emerges, below are some examples of existing sustainability reporting standards, frameworks, alliances, ratings, rankings, principles and guidelines as references that were considered in the preparation of the Manual:

Sustainability reporting standards	Sustainability frameworks	Harmonising alliances
<p>& 20+ measurement protocols</p>		
Sustainability ratings & rankings	Sustainability principles & guidelines	

The following sustainability reporting standards are more commonly recognized by governments, investors and developers, and are fast becoming a driver for transparency on and measurement of ESG aspects. It is important to determine which aspects matter most to the Project, and different Projects may have different reporting challenges in addition to simple regulatory compliance. Understanding what Project needs and outcomes will help to find solutions for meaningful and sustained outcomes in reporting:

A. Global Reporting Initiative (GRI)

GRI is the independent, international organization that helps businesses and other organizations take responsibility for their impacts, by providing them with the global common language to communicate those impacts. They provide the world's most widely used standards for sustainability reporting - the GRI Standards.

The GRI standards enable any organization to understand and report on their impacts on the economy, environment, and people in a comparable and credible way, thereby increasing transparency on their contribution to sustainable development. In addition to reporting companies, the Standards are highly relevant to many stakeholders - including investors, policymakers, capital markets, and civil society.

Broadly speaking, the Standards can be distinguished into three groups, namely:

- GRI Universal Standards:** requirements and principles for using the GRI Standards, disclosures about the reporting organisation, disclosures and guidance about the organisation's material topics
- GRI Sector Standards:** list of topics that are likely to be material for most organisations in a given sector, with the respective relevant disclosures
- GRI Topic Standards:** disclosures for providing information on topics (e.g. waste, occupational health and safety, and tax), overview of the topic and disclosures specific to the topic and how an organisation manages its associated impacts.

B. Task Force on Climate-Related Financial Disclosures (TCFD)

The Financial Stability Board (FSB) established the TCFD to develop recommendations for more effective climate-related disclosures that could promote more informed investment, credit, and insurance-underwriting decisions and, in turn, enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system's exposure to climate-related risks

The TCFD is committed to market transparency and stability. They believe that better information will allow companies to incorporate climate-related risks and opportunities into their risk management and strategic planning processes. As this occurs, companies' and investors' understanding of the financial implications associated with climate change will grow, empowering the markets to channel investment to sustainable and resilient solutions, opportunities, and business models.

C. Sustainability Accounting Standards Board (SASB)

SASB Standards guide the disclosure of financially material sustainability information by companies to their investors. The standards identify the subset of environmental and social (ESG) issues most relevant to financial performance in each of 77 industries, with specific metrics for human capital-related topics and GHG emissions. They are designed to help companies disclose financially material sustainability information to investors.

SASB's rigorous and transparent standard-setting process includes evidence-based research, broad and balanced participation from companies, investors, and subject matter experts, and oversight and approval from an independent Standards Board.

In Indonesia, listed companies are required to publish Sustainability Reporting (Indonesia Financial Services Authority). Additional Sustainability Finance and Action Plans are required for financial institutions. The Indonesian Financial Services Authority (OJK) has led efforts around sustainable finance and a green bond framework. OJK has recently published Phase II (2021-2025) of their Sustainable Finance Roadmap, which highlights the importance of identifying and incorporating ESG risks in order to mitigate and manage them effectively and increase business resilience and sustainability. In 2017 OJK introduced regulation on the application of sustainable finance services institutions, issuers, and publicly listed companies, where the regulation mandates the stakeholders to begin publishing sustainability reports. OJK issued technical guidelines for the banking sector relating to:

1. Sustainable finance principles;
2. Sustainable finance programme priorities;
3. Strategic steps in implementing sustainable finance programmes;
4. Outlining the content of the sustainable finance action plan;
5. Outlining the content of sustainability reporting standards;
6. Outlining the criteria and categories of sustainable business activities; and
7. Determining the allocation and use of esg funds to support the implementation of sustainable finance.

OJK is drafting regulations to align sustainability reporting standards for publicly listed companies with international standards.

Reference 5. Existing ESG Assessment Frameworks Applied by Key Entities

A suite of existing ESG frameworks is currently used by various entities in their development of infrastructure projects across the country. This section provides a summary of existing ESG frameworks used by MOF (IIFD ESMF), SMI, IIF, and IIGF.

A. Ministry of Finance Environmental and Social Management Framework (ESMF)

The Ministry of Finance developed an Environmental and Social Management Framework (ESMF) under its Indonesia Infrastructure Finance Development Trust Fund (IIFD-TF). This ESMF lays out the procedures, roles, and responsibilities for the PPP unit and GCAs to identify, avoid, and or/mitigate the environmental and social risks associated with PPP development in accordance with the World Bank safeguard policies and applicable Indonesian law. The ESMF sets forth and details the procedures to be followed by the PPP Unit for screening feasibility studies proposal and decides the level of environmental and social analyses based on the likely magnitude of potential impacts (according to the World Bank safeguards categorization).

The document contains references to regulations, frameworks, and standard required content for reports, supported documents, and rapid decision-making tools with examples.

B. SMI Environmental and Social Safeguards (ESS) Guidelines

SMI developed ESS Guidelines to ensure that all of its activities that encompass financing and investment (including capital injection), project development, and consultant services for infrastructure projects fulfill environmental and social requirements both domestically and internationally.

The ESS guideline outlines SMI's environmental and social policies and standard protection, institutional arrangements, and SMI's workflow as a reference in implementing financing and investment activities, project development, and consulting services. It provides guidance for potential clients, debtors, or investees to identify, assess, and conduct environmental and social impacts and risk mitigations as early as possible, including considerations in choosing project locations, design, and engineering planning.

Requirements to comply with the ESS Guidelines are outlined along the Environmental and Social principles under Reference 1 of this Manual, and divided across project activities (e.g., preliminary study, assessment, site visits). Such requirements include legal compliance, an ESG management system, safe working conditions, etc. The Guidelines also include a blacklist of projects that SMI will not support, such as those that might damage critical habitats, coral reefs, primary forests, peatlands, and wetlands.

GCA could also refer to several tools provided in the ESS Guidelines, including preliminary assessment and site visit checklists and monitoring reports. Some of these tools have been adopted as appropriate in this Manual.

C. SMI Environmental and Social Management System (ESMS)

SMI has also developed an ESMS that is meant to be a guide for SMI in conducting its activities, in order to:

- a. Ensure that SMI manages and fulfill standards and requirements pertaining the environment, health and safety, and social that apply in Indonesia
- b. Provide clarity in roles and responsibilities, along with functions of each divisions related to managing SMI's ESMS
- c. Maintain consistency and performance in implementing and managing SMI's ESMS so that an effective and efficient workflow is created

D. IIF's Social and Environmental Management Systems (SEMS)

IIF developed an SEMS to ensure all environmental and social activities, products, and services are managed and implemented consistently and effectively. The purposes of this SEMS are to identify ESG impacts, risks and opportunities; to provide effective stakeholder's engagement through disclosure of project-related information, and consultation with Affected Communities on matters that directly and indirectly affect them; and to allow management of environmental and social performance throughout the project life cycle. This SEMS is mainly used by IIF staffs, but it can be useful to prospective IIF clients to get a better understanding of ESG requirements of IIF. In this SEMS, IIF also explains their eight principles, which are:

1. Principle 1: Social and Environmental Assessment and Management System (SEMS)
2. Principle 2: Labor and Working Conditions
3. Principle 3: Pollution Prevention and Abatement and Climate Change
4. Principle 4: Community Health, Safety and Security
5. Principle 5: Land Acquisition and Involuntary Resettlement
6. Principle 6: Biodiversity Conservation and Natural Resource Management
7. Principle 7: Indigenous Peoples
8. Principle 8: Cultural Property and Heritage

E. IIGF ESMF

IIGF developed an ESMF that details policies, implementing procedures, institutional arrangements, and workflow that function as a guide for IIGF in conducting its businesses and providing guarantees for projects with PPP schemes. This framework will be used by IIGF to ensure that risks that could arise from projects that are guaranteed and prepared are minimized and/or mitigated.

Reference 6. Sustainable Development Goals

The UN Sustainable Development Goals (“UNSDGs”) provide a shared blueprint for peace and prosperity for people and the planet. They consist of 17 goals that are identified in recognition that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth, all while tackling climate change and working to preserve our oceans and forests.



UNSDGs are becoming increasingly important for governments and financiers, as they are an articulation of the world’s most pressing environmental, social and economic issues. At the project identification stage, it is possible to identify the outcomes from well-planned social and economic infrastructure, and to align those benefits and outcomes with sustainability goals identified in the UNSDGs. Appraising projects for resilience against sustainability risks and planning to incorporate relevant UN SDG alignments and metrics into projects’ KPIs can incentivize project parties to fulfill long-term sustainability goals in a socio-economically and environmentally meaningful way, whilst also improving commercial resilience.

With these considerations in mind, the Ministry of Finance launched SDG Indonesia One in October 2018, as an integrated funding cooperation platform to support infrastructure development that is oriented towards achieving the SDGs in Indonesia. The funding would come from various sources, including the private sector, philanthropists, donor agencies, multilateral and bilateral financial institutions, banking, insurance, and investors. The Ministry of Finance has given a mandate to PT Sarana Multi Infrastruktur (SMI), to establish and manage the platform.

SDG Indonesia One provides a number of facilities, including a project development facility, de-risking facility, financing facility, and equity funds. These facilities would support the creation of wider benefits for Indonesia, such as mobilizing and coordinating relevant government ministries and agencies; increased access to funding sources; and reduced public fiscal burden in financing various SDG-oriented projects. On the other hand, the non-government partners would benefit by gaining access to market opportunities in Indonesia; mitigating and accelerating project implementation through a strategic partnership with PT SMI; the risk mitigation of the blended finance scheme; and obtaining leverage from the investments made while obtaining socio-economic benefits.

The table below provides the relevant UNSDGs and identifies overall outcomes for project planning. These outcomes can be carried forward throughout the project lifecycle into metrics and monitoring requirements to ensure sustainable benefits.



UN SDG Goals	UN SDG Targets	Indicators
SDG1: End poverty in all its forms everywhere	1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1* Extreme poverty levels.
	1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1* Proportion of population living below the national poverty line, by sex and age
		1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
	1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.3.1* Proportion of population receiving social protection programs, by gender, for all categories of children, unemployed, elderly, persons with disabilities, pregnant/delivery women, victims of work accidents, poor and vulnerable groups
		1.3.1.(a) Proportion of health insurance participants through SJSN in Health Sector
		1.3.1.(b) Proportion of participants of the Social Security Program in the Employment Sector
		1.3.1.(c) Percentage of poor and vulnerable persons with disabilities whose basic rights and inclusiveness are fulfilled
	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.3.1.(d) Number of households that received conditional cash transfers/ <i>Program Keluarga Harapan</i>
1.4.1* Proportion of population/households with access to basic services		
	1.4.1.(a) Percentage of ever-married women aged 15-49 years who last gave birth in a health facility	



UN SDG Goals	UN SDG Targets	Indicators
		1.4.1.(b) Percentage of children aged 12-23 months who received complete basic immunization
		1.4.1.(c) Prevalence of using all methods of contraception (CPR) among couples of childbearing age aged 15-49 years who are currently married
		1.4.1.(d) Percentage of households that have access to adequate and sustainable drinking water sources
		1.4.1.(e) Percentage of households that have access to proper and sustainable sanitation services
		1.4.1.(f) Percentage of urban slum households
		1.4.1.(g) Net Enrollment Rate (NER) elementary school/equivalent
		1.4.1.(h) Net Enrollment Rate (NER) for junior high school/equivalent
		1.4.1.(i) Net Enrollment Rate (NER) senior high school/equivalent
		1.4.1.(j) Percentage of population aged 0-17 years with a birth certificate



UN SDG Goals	UN SDG Targets	Indicators
		1.4.1.(k) Percentage of poor and vulnerable households whose main source of lighting is electricity, both from PLN and not PLN
		1.4.2* Proportion of adult population who have land rights based on legal documents and who have land rights based on gender and type of ownership
	1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	1.5.1* Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
		1.5.1.(a) Number of locations for strengthening regional disaster risk reduction
		1.5.1.(b) Meeting the basic needs of victims of social disasters
		1.5.1.(c) Psychosocial assistance for victims of social disasters
		1.5.1.(d) Number of natural disaster/social disaster areas receiving special service education
		1.5.1.(e) Disaster risk index in high-risk growth centers
	1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions	1.a.1* Proportion of resources allocated by the government directly for poverty eradication programs
		1.a.2*: Expenditures on basic services (education, health and social protection) as a percentage of total government spending
1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions	1.b.1 Proportion of routine and development expenditures in sectors that benefit women, the poor and vulnerable groups	
SDG2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1* Prevalence of undernourishment
		2.1.1.(a) Prevalence of underweight in children under five
		2.1.2: Prevalence of population with moderate or severe food insecurity, based on the Food Insecurity Experience Scale
		2.1.2.(a) Proportion of population with minimum calorie intake below 1400 kcal/capita/day.



UN SDG Goals	UN SDG Targets	Indicators
	<p>2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons</p>	<p>2.2.1* Prevalence of Stunting (short and very short) in children under five years old</p> <p>2.2.1.(a) Prevalence of stunting (short and very short) in children under two years old</p> <p>2.2.2* Prevalence of malnutrition (weight/height) of children under 5 years old, by type</p> <p>2.2.2.(a) Prevalence of anemia in pregnant women</p> <p>2.2.2.(b) Percentage of infants aged less than 6 months who are exclusively breastfed</p> <p>2.2.2.(c) The quality of food consumption indicated by the Expected Food Pattern score reached; and level of fish consumption</p>
	<p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment</p>	<p>2.3.1* Value Added Agriculture divided by the number of workers in the agricultural sector (rupiah per worker - metadata I). Production volume per worker by crop/animal husbandry/fishery/forestry business class - metadata II</p> <p>2.3.2* Average income of small-scale agricultural producers, by sub-sector</p>
	<p>2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality</p>	<p>2.4.1 Designation of sustainable food agriculture areas</p>
	<p>2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote</p>	<p>2.5.1 Number of high yielding varieties of plants and animals for food released</p> <p>2.5.2* Proportion of farm animals and the like, classified according to the level of risk of extinction: dangerous, not dangerous, and</p>



UN SDG Goals	UN SDG Targets	Indicators
	access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed	unknown risk
	2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries	2.a.1* Government spending index on agriculture 2.a.2* Total official development assistance and other assistance for the agricultural sector
	2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round	2.b.1 Estimated policy support to producers 2.b.2 Agricultural export subsidies
	2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility	2.c.1 Indicator of food price anomalies
SDG3: Ensure healthy lives and promote well-being for all at all ages	3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	3.1.1* Maternal mortality ratio
		3.1.2* Proportion of ever-married women aged 15-49 years whose last delivery was (a) assisted by trained health personnel; (b) in health facilities
		3.1.2.(a) Percentage of ever-married women aged 15-49 years who last gave birth in a health facility
	3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	3.2.1* Toddler Mortality Rate per 1000 live births
		3.2.2* Neonatal Mortality Rate per 1,000 live births
		3.2.2.(a) Infant Mortality Rate (IMR) per 1,000 live births



UN SDG Goals	UN SDG Targets	Indicators
		3.2.2.(b) Percentage of districts/cities that achieve 80% complete basic immunization for infants
	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.1 Rate of new HIV infections per 1000 population not infected with HIV 3.3.1.(a) HIV prevalence in the adult population 3.3.2 TB incidence per 1000 people 3.3.2.(a) Tuberculosis Incidence (ITB) per 100,000 population 3.3.3* Malaria incidence per 1000 people 3.3.3.(a) Number of districts/cities achieving malaria elimination 3.3.4* Hepatitis B incidence per 100,000 population 3.3.4.(a) Percentage of districts/cities that carry out early detection of hepatitis B infection 3.3.5* Number of people requiring intervention against neglected tropical diseases (Filariasis and Leprosy) 3.3.5.(a) Number of provinces with Leprosy Elimination 3.3.5.(b) Number of districts/cities with filariasis elimination (successfully passed the phase I transmission assessment survey)
	3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	3.4.1 Death from heart disease, cancer, diabetes, or chronic respiratory disease 3.4.1.(a) Percentage of smoking in population aged ≤ 18 years 3.4.1.(b) Prevalence of high blood pressure 3.4.1.(c) Prevalence of obesity in population age ≤ 18 years 3.4.2* Suicide mortality rate 3.4.2.(a) Number of regencies/cities that have <i>puskesmas</i> that carry out mental health efforts
	3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of	3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for



UN SDG Goals	UN SDG Targets	Indicators
	alcohol	substance use disorders 3.5.1.(a) Number of drug abusers and harmful alcohol users, who access medical rehabilitation services 3.5.1.(b) Number of people accessing post-rehabilitation services 3.5.1.(c) Number of victims of drug abuse who received social rehabilitation in institutions according to service standards 3.5.1.(d) Number of Social Rehabilitation Institutions for Victims of Drug Abuse that have been developed/assisted 3.5.1.(e) Prevalence of drug abuse 3.5.2* Alcohol (liter per capita) consumption (aged 15 years and older) within the last year
	3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1 Death rate due to road traffic injuries
	3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes	3.7.1* Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern contraception methods 3.7.1.(a) The prevalence rate of the use of contraceptive methods (CPR) by all means among couples of childbearing age aged 15-49 years who are currently married 3.7.1.(b) Number of use of modern long-term contraceptive methods 3.7.2* The birth rate for women aged 15-49 years (Age Specific Fertility Rate/ ASFR).
	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	3.8.1: Coverage of essential health services (defined as the average coverage of traceable interventions including reproductive, maternal, newborn, and child health, communicable diseases, non-communicable diseases, service capacity and access for the general population and disadvantaged populations) 3.8.1.(a) Unmet Need Health Services



UN SDG Goals	UN SDG Targets	Indicators
		3.8.2* Number of people covered by health insurance or the public health system per 1,000 population
		3.8.2.(a) National Health Coverage
	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.1 Mortality rate attributed to household and ambient air pollution
		3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
		3.9.3 Death rate due to poisoning
		3.9.3.(a) Proportion of Deaths Due to Poisoning
	3.a Strengthen the implementation of the World Health Organisation Framework Convention on Tobacco Control in all countries, as appropriate	3.a.1* Percentage of smoking population age above 15 years
	3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	3.b.1 Proportion of population with access to affordable drugs and vaccines in a sustainable manner
		3.b.1.(a) Percentage of availability of drugs and vaccines in <i>Puskemas</i>
		3.b.2* Total official development assistance (ODA) for medical research and basic health sector



UN SDG Goals	UN SDG Targets	Indicators
	3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States	3.c.1* Health worker density and distribution
SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1* Proportion of children and adolescents: (a) in grade 4, (b) final grade of elementary school/grade 6, (c) final grade of junior high school/grade 9 who attained minimum proficiency standards in: (i) reading, (ii) math
		4.1.1.(a) Percentage of elementary school/equivalent accredited at least B
		4.1.1.(b) Percentage of junior high school/equivalent accredited at least B
		4.1.1.(c) Percentage of senior high school/equivalent accredited at least B
		4.1.1.(d) Gross Enrollment Rate (GER) for elementary school/equivalent
		4.1.1.(e) Gross Enrollment Rate (GER) for junior high school/equivalent
		4.1.1.(f) Gross Enrollment Rate (GER) for senior high school/equivalent
		4.1.1.(g) Average length of schooling of population aged 15 years
	4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1 Proportion of well-developed children under 5 years of age in health, learning and psychosocial areas, by sex
		4.2.2* Participation rate in organized learning (one year before primary school age), /by gender
		4.2.2.(a) Gross Enrollment Rate (GER) for Early Childhood Education
	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1* Youth and adult participation rates in formal and non-formal education and training in the last 12 months, by gender
		4.3.1.(a) Gross Enrollment Rate (GER) for senior high school/equivalent
		4.3.1.(b) Gross Enrollment Rate (GER) of Higher Education
4.4 By 2030, substantially increase the number of youth	4.4.1* Proportion of youth and adults with information and	



UN SDG Goals	UN SDG Targets	Indicators
	and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	communication technology (ICT) skills.
	4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1* Female/male net enrollment ratio (NER) in (1) elementary school/equivalent; (2) junior high school/equivalent; (3) senior high school/equivalent; and Ratio of Female/Male Gross Enrollment Rate (GER) in (4) Universities
	4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	4.6.1 Percentage of adolescents/adults in a given age group, at least proficient/capable at a certain level in (i) reading and (ii) numeracy skills, by gender 4.6.1.(a) Percentage of literacy rate of population aged 15 years old 4.6.1.(b) Percentage of Literacy Rate of the population aged 15-24 years and aged 15-59 years
	4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	4.7.1 Mainstreaming at all levels of education, (i) world citizenship education, (ii) education for sustainable development including gender equality and human rights in (a) national education policies, (b) curriculum, (c) teacher education, (d) student assessment
	4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	4.a.1* Proportion of schools with access to: (a) electricity (b) internet for teaching purposes, (c) computers for teaching purposes, (d) adequate infrastructure and materials for students with disabilities, (e) safe drinking water, (f) basic sanitation facilities per gender, (g) hand washing facilities (consisting of water, sanitation and hygiene for all (WASH))
	4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other	4.b.1* Amount of official Indonesian Government assistance to foreign students receiving developing country partnership scholarships



UN SDG Goals	UN SDG Targets	Indicators
	developing countries	
	4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States	4.c.1* Percentage of TK, SD, SMP, SMA, SMK, and PLB teachers who are certified educators
SDG5: Achieve gender equality and empower all women and girls	5.1 End all forms of discrimination against all women and girls everywhere	5.1.1* Number of gender responsive policies supporting women's empowerment
	5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1.(a) Prevalence of violence against girls
		5.2.2* Proportion of women and girls (aged 15-64 years) experiencing sexual violence by someone other than their partner in the last 12 months
	5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.2.2.(a) Percentage of violence against women receiving comprehensive services
		5.3.1* Proportion of women aged 20-24 who were married or living together before the age of 15 and before the age of 18
		5.3.1.(a) The median age at first marriage for ever married women is 25-49 years old
		5.3.1.(b) Birth rate for women aged 15-19 years (Age Specific Fertility Rate/ASFR)
	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.3.1.(c) Gross Enrollment Rate (APK) for SMA/SMK/MA/ equivalent
5.3.2 Percentage of girls and women aged 15-49 years who have undergone FGM/C, by age group		
5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.4.1 Proportion of time spent on housework and care, by sex, age group and location	
	5.5.1* Proportion of seats held by women in (a) national parliaments, (b) local parliaments and (c) local governments	



UN SDG Goals	UN SDG Targets	Indicators
		5.5.2* Proportion of women in managerial positions
	5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1* Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care
		5.6.1.(a) Unmet need for family planning
		5.6.1.(b) Knowledge and understanding of couples of childbearing age about modern contraceptive methods
		5.6.2* Laws or Government Regulations that guarantee women to get services, information and education related to sexual and reproductive health
	5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.a.1* (1) Proportion of total agricultural population with ownership or secure rights over agricultural land; and (2) share of women among owners or rights-bearers of agricultural land, by type of tenure
		5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
	5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.b.1 Proportion of individuals who own a mobile telephone
	5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	5.c.1 Proportion of systems to track and make public allocations for gender equality and women's empowerment
SDG6: Ensure availability and sustainable management of water and sanitation for all	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1* Percentage of households that have access to drinking water services
		6.1.1.(a) Percentage of households that have access to adequate drinking water sources
		6.1.1.(b) Capacity of raw water infrastructure to serve households, cities and industries, as well as supply of raw water to islands
		6.1.1.(c) Proportion of population with access to safe and sustainable drinking water sources



UN SDG Goals	UN SDG Targets	Indicators
	<p>6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations</p>	<p>6.2.1 Proportion of population using safely managed sanitation services, including hand washing facilities with soap and water</p>
	<p>6.2.1.(a) Proportion of population with hand washing facilities with soap and water</p>	
	<p>6.2.1.(b) Percentage of households that have access to proper sanitation services</p>	
	<p>6.2.1.(c) Number of villages/kelurahan that implement Community Based Total Sanitation</p>	
	<p>6.2.1.(d) Number of villages/kelurahan that are Open Defecation Free (ODF) / Stop Open Defecation</p>	
	<p>6.2.1.(e) Number of districts/cities that have built wastewater infrastructure with a centralized system on a city, regional, and communal scale</p>	
	<p>6.2.1.(f) Proportion of households served by a centralized wastewater management system</p>	
	<p>6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally</p>	<p>6.3.1.(a) Number of districts/cities whose quality of urban sewage management has been improved and the construction of a Sludge Management Installation</p>
	<p>6.3.1.(b) Proportion of households served by a sewage treatment system</p>	
	<p>6.3.2 Proportion of water bodies with good ambient water quality</p>	
<p>6.3.2.(a) Lake water quality</p>		
<p>6.3.2.(b) River water quality as raw water source</p>		



UN SDG Goals	UN SDG Targets	Indicators
	<p>6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity</p>	<p>6.4.1 Change in water-use efficiency over time</p> <p>6.4.1.(a) Control and enforcement of groundwater use</p> <p>6.4.1.(b) Agricultural/plantation and industrial water saving incentives</p> <p>6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources</p>
	<p>6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate</p>	<p>6.5.1 Degree of integrated water resources management (0-100)</p> <p>6.5.1.(a) Number of Integrated Watershed Management Plans that are internalized into the Regional Spatial Planning (RTRW)</p> <p>6.5.1.(b) Number of hydrological and climatological stations that have been updated and revitalized</p> <p>6.5.1.(c) Number of water resources information networks established</p> <p>6.5.1.(d) Number of Watersheds with increasing number of springs and number of Cross-border Watersheds that have transnational Memorandums of Understanding (MoUs)</p> <p>6.5.1.(e) Area of forest development and improvement of Non-Timber Forest Products (NTFPs) to restore watershed health</p> <p>6.5.1.(f) Number of river areas that have community participation in river and lake catchment management</p> <p>6.5.1.(g) Institutional capacity of water resources management</p> <p>6.5.1.(h) Number of priority watersheds with increasing number of springs through conservation of water resources in upstream watersheds and infiltration wells</p> <p>6.5.1.(i) Number of priority watersheds whose health was restored through the construction of small and medium scale reservoirs,</p>



UN SDG Goals	UN SDG Targets	Indicators
		control dams, retaining dams
		6.5.2* Proportion of cross-border basin area with operational water resource cooperation arrangements
	6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	6.6.1* Changes in ecosystem-related water resource levels over time
		6.6.1.(a) Number of lakes whose water quality was improved
		6.6.1.(b) Number of lakes with less than 1% siltation
		6.6.1.(c) Number of lakes that have decreased erosion rates
		6.6.1.(d) Area of critical land in rehabilitated KPH
		6.6.1.(e) Number of priority watersheds whose springs are protected and their health is restored
	6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	6.a.1 Number of ODA related to water and sanitation that are part of government spending plans
	6.b Support and strengthen the participation of local communities in improving water and sanitation management	6.b.1 Proportion of local government units that issue and implement policies and procedures related to community participation in water and sanitation management
SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1* Electrification ratio
		7.1.1.(a) Electricity consumption per capita
		7.1.2 Proportion of population with primary energy sources on clean technologies and fuels
		7.1.2.(a) Number of gas network connections for households
	7.1.2.(b) Household gas use ratio	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1* Renewable energy shares
7.3 By 2030, double the global rate of improvement in energy efficiency	7.3.1* Primary energy intensity	



UN SDG Goals	UN SDG Targets	Indicators
	7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	7.a.1 Mobilized funds per year (US\$) starting in 2020 accountable towards a commitment of US\$ 100 Billion
	7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	7.b.1 The proportion of energy efficiency investment value to GDP and the amount of transfer of Foreign Direct Investment (FDI) funds for infrastructure and technology services for sustainable development
SDG8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries	8.1.1* GDP growth rate per capita
		8.1.1.(a) GDP per capita
	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors	8.2.1* GDP growth rate per worker/Real GDP growth rate per person employed per year
	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	8.3.1* Proportion of informal employment in total employment, by sector and sex
		8.3.1.(a) Percentage of formal workforce
		8.3.1.(b) Percentage of informal workers in the agricultural sector
8.3.1.(c) Percentage of access of MSMEs (Micro, Small and Medium Enterprises) to Financial Services		



UN SDG Goals	UN SDG Targets	Indicators
	8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead	8.4.1 Calculated material footprint during the year
		8.4.2 Domestic material consumption
	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	8.5.1* Average hourly earnings of employees
		8.5.2* Open unemployment rate, by sex and age
		8.5.2.(a) Half unemployment rate
	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	8.6.1* Proportion of youth (aged 15-24 years) not in education, employment or training
	8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	8.7.1 Percentage and number of children aged 5-17 years, who are working, disaggregated by sex and age group (disaggregated by worst forms of child labour)
	8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	8.8.1 Frequency rates of fatal and non-fatal work accidents, by sex, occupation sector and migrant status
		8.8.1.(a) Number of companies implementing OHS norms
		8.8.2 Improved compliance with workers' rights (freedom of association and collective bargaining) based on ILO textual sources and relevant country laws and regulations
	8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products	8.9.1* Proportion and growth rate of tourism contribution to GDP
		8.9.1.(a) Number of visits for foreign tourists
		8.9.1.(b) Number of visits for domestic tourists



UN SDG Goals	UN SDG Targets	Indicators
		8.9.1.(c) Total foreign exchange in the tourism sector
		8.9.2* Number of workers in the tourism industry in proportion to total workers
	8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	8.10.1* Number of commercial bank branches and automated teller machines (ATMs) per 100,000 adults
		8.10.1.(a): Average distance of financial institutions (Commercial Banks)
		8.10.1.(b) Proportion of MSME loans to total loans
		8.10.2 Proportion of holding bank accounts of adults (18 years and older) or other financial institutions or with mobile financial services
SDG9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries	8.a.1 Aid for Trade commitments and disbursements
	8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organisation	8.b.1 Total government spending on social protection and employment programs in proportion to the national budget and GDP
	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1* Population of villagers living within 2 km of an appropriate road
		9.1.1.(a) Steady condition of national roads
		9.1.1.(b) Length of toll road construction
		9.1.1.(c) Length of railway line



UN SDG Goals	UN SDG Targets	Indicators
		<p>9.1.2* Number of passengers and goods by mode of transportation</p> <p>9.1.2.(a) Number of airports</p> <p>9.1.2.(b) Number of ferry docks</p> <p>9.1.2.(c) Number of strategic ports</p>
	<p>9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries</p>	<p>9.2.1* Manufacturing value added as a proportion of GDP and per capita</p> <p>9.2.1.(a) Manufacturing industry GDP growth rate</p> <p>9.2.2* Proportion of labor in the manufacturing sector</p>
	<p>9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets</p>	<p>9.3.1* Proportion of value added of small industry to total value added of industry</p> <p>9.3.2* Proportion of small industries with loans or credit</p>
	<p>9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial</p>	<p>9.4.1* The ratio of CO2 emissions/greenhouse gas emissions to the added value of the manufacturing sector</p> <p>9.4.1.(a) Percentage Change in CO2 Emissions/ Greenhouse Gas Emissions</p>



UN SDG Goals	UN SDG Targets	Indicators
	processes, with all countries taking action in accordance with their respective capabilities	
	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	9.5.1* Research and development expenditure as a proportion of GDP 9.5.2 Researchers (in full-time equivalent) per million inhabitants
	9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States	9.a.1 Total official international support (official development assistance plus cost official aid flows) for infrastructure
	9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	9.b.1 Proportion of value added of medium and high technology to total value added
	9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	9.c.1* Proportion of population covered by mobile broadband 9.c.1.(a) Proportion of individuals who own a mobile phone 9.c.1.(b) Proportion of individuals using the internet
SDG10: Reduce inequality within and among countries	10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	10.1.1 GINI ratio 10.1.1.(a) Percentage of population living below the national poverty line, by gender and age groups 10.1.1.(b) Number of underdeveloped villages that were evacuated 10.1.1.(c) Number of left-behind villages 10.1.1.(d) Number of independent villages 10.1.1.(e) Average of economic growth in left-behind regions 10.1.1.(f) Percentage of poor population in left-behind areas



UN SDG Goals	UN SDG Targets	Indicators
	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	10.2.1* Proportion of population living below 50 percent of median income, by sex and persons with disabilities
	10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard	10.3.1 Proportion of population who reported feeling discriminated against or harassed in the past 12 months on the basis of the prohibition against discrimination under international human rights law 10.3.1.(a) Freedom index 10.3.1.(b) Number of human rights violation complaints handling 10.3.1.(c) Number of handling complaints of violations of women's human rights especially violence against women 10.3.1.(d) Number of discrimination policies in the past 12 months based on prohibition of discrimination under international human rights law
	10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	10.4.1 The proportion of wages and social protection subsidies from employers to GDP 10.4.1.(a) Percentage of budget plan for central government social protection function expenditure 10.4.1.(b) Proportion of participants of employment social security program
	10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations	10.5.1 Financial Soundness Indicator
	10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions	10.6.1 Proportion of members and voting rights of developing countries in international organizations
	10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies	10.7.1 Recruitment cost borne by employee as a proportion of monthly income earned in country of destination 10.7.2 Number of countries with migration policies that facilitate orderly, safe, regular and responsible migration and mobility of



UN SDG Goals	UN SDG Targets	Indicators
		people
		10.7.2(a) Number of documents on labor cooperation and protection of migrant workers between the Republic of Indonesia and the country of placement destination
		10.7.2(b) Number of facilitation services for TKLN placement based on occupation
	10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organisation agreements	10.a.1 Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff
	10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes	10.b.1 Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment and other flows)
	10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent	10.c.1 Remittance costs as a proportion of the amount remitted
SDG11: Make cities and human settlements inclusive, safe, resilient and sustainable	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1 Proportion of urban population living in slums, squatter settlements or inadequate housing
		11.1.1.(a) Percentage of households that have access to decent and affordable housing
		11.1.1.(b) Number of metropolitan urban areas that meet urban service standards
		11.1.1.c Number of medium cities and new cities that meet urban service standards
	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1 Proportion of population with convenient access to public transport, disaggregated by sex, age group and persons with disabilities
		11.2.1.(a) Percentage of users of public transportation modes in urban areas



UN SDG Goals	UN SDG Targets	Indicators
		11.2.1.(b) Number of rail transport systems developed in big cities
	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1 Ratio of land consumption rate to population growth rate 11.3.1.(a) Number of medium cities outside Java which are directed as buffers for urbanization flows and as main growth centers 11.3.1.(b) Number of new metropolitans outside Java as National Activity Centers 11.3.2 Proportion of cities with structures of direct civil society participation in urban planning and management that take place in an orderly and democratic manner 11.3.2.(a) Average institutions that play an active role in the Sustainable Urban Development Planning Dialogue Forum 11.3.2(b) Number of infrastructure financing institutions
	11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	11.4.1 Total spending (public and private) per capita devoted to the preservation, protection, conservation of all cultural and natural heritage, by type of heritage (cultural, natural, integrated, world heritage center destinations), government level (national and sub national), type of expenditure (operational and intervention expenditure), and type of private financing (non-cash donation, private non-profit, sponsorship)
	11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.5.1* Number of dead, missing and affected by disaster per 100,000 people 11.5.1.(a) Indonesian Disaster Risk Index 11.5.1.(b) Number of disaster-resilient cities formed 11.5.1.c Number of weather and climate early warning systems and disasters 11.5.2 Direct economic losses from disasters to GDP, including catastrophic damage to critical infrastructure and disruption to basic services



UN SDG Goals	UN SDG Targets	Indicators
		11.5.2.(a) Total direct economic loss due to disaster
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.1 The proportion of municipal solid waste collected regularly with good final treatment to the total urban solid waste generated by a city
		11.6.1.(a) Percentage of municipal solid waste handled
		11.6.1.(b) Number of green cities developing and implementing green waste in metropolitan urban areas
		11.6.2 Annual mean of fine particulate matter (PM 2.5 and PM 10) in Cities (weighted by population)
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1 Proportion of urban open space for all, by age group, gender and persons with disabilities
		11.7.1.(a) Number of green cities that provide green open areas in urban, metropolitan, and medium-sized cities
		11.7.2 Proportion of people who have been victims of sexual violence or harassment by gender, age, disability status and place of occurrence (last 12 months)
		11.7.2.(a) Proportion of victims of violence in the last 12 months who reported to the police
	11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning	11.a.1 Proportion of population living in cities implementing integrated regional and city planning with projected population and resource requirements
11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	11.b.1* Proportion of city governments that have disaster risk reduction strategy documents	
	11.b.2* Document of local-level disaster risk reduction (DRR) strategy	



UN SDG Goals	UN SDG Targets	Indicators
	11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	11.c.1 Proportion of financial support to least developed countries (LDCs) allocated to resource efficient, sustainable, and resilient construction and repair by utilizing local materials
SDG12: Ensure sustainable consumption and production patterns	12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	12.1.1* Number of quickwins program thematic collaborations
	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1 Material footprint
		12.2.2 Domestic material consumption
	12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	12.3.1 Food loss index
	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	12.4.1 Number of parties to international multilateral agreements on chemicals and hazardous wastes to fulfill their commitments and obligations in the transmission of information required by each
		12.4.1.(a) Number of proper participants who achieve a minimum blue rank
		12.4.2 Hazardous waste stockpile per capita, proportion of hazardous waste managed by type of treatment
	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.4.2.(a) The amount of B3 waste that is managed and the proportion of B3 waste that is processed according to the laws and regulations (industrial sector)
		12.5.1 National recycling rate, tons of recycled materials
	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	12.5.1.(a) Amount of generated waste recycled
12.6.1* Number of companies publishing sustainability reports		
12.7 Promote public procurement practices that are sustainable, in accordance with national policies and	12.6.1.(a) Number of companies implementing SNI ISO 14001 certification	
	12.7.1 Number of countries implementing sustainable public procurement policies and action plans	



UN SDG Goals	UN SDG Targets	Indicators
	priorities	12.7.1.(a) Number of environmentally friendly products registered and included in the procurement of government goods and services
	12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	12.8.1 To what extent (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies (b) curriculum (c) teacher education and (d) student assessment 12.8.1.(a) Number of public facilities that apply the Community Service Standards and are registered
	12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production	12.a.1* Total developing country support on research and development (R&D) for sustainable consumption and production (SCP) and environmentally friendly technologies
	12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	12.b.1 Number of sustainable tourism strategies or policies and implementation of action plans, with agreed monitoring and evaluation tools
	12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	12.c.1* Amount of fossil fuel subsidies per unit of GDP (production and consumption) as a proportion of total national spending on fossil fuels
SDG13: Take urgent action to combat climate change and its impacts	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	13.1.1* National and local level disaster risk reduction (DRR) strategy documents 13.1.2* Number of dead, missing and affected by disaster per 100,000 people
	13.2 Integrate climate change measures into national policies, strategies and planning	13.2.1* Indonesia Biennial Update Report (BUR) Document 13.2.1.(a) Reporting document on reducing greenhouse gas (GHG) emissions.
	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary school curricula



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		13.3.2 Number of countries that have communicated institutional capacity strengthening, individual systems for implementing mitigation adaptation and technology transfer, and development activities
	13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible	13.a.1 Mobilization of funds (USD) per year starting in 2010 in an accountable manner to reach a commitment of 100 billion USD
	13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	13.b.1 Number of least developed countries and small island developing States receiving specific support and a range of support, including financial, technological and capacity building, for capacity building mechanisms for effective planning and management of climate change, including a focus on women, youth and local and marginalized communities
SDG14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.1.1 Coastal eutrophication index and floating plastic waste density
	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	14.2.1 Proportion of national Exclusive Economic Zones managed using an ecosystem-based approach
		14.2.1.(a) Availability of policy frameworks, and instruments related to national marine spatial planning
		14.2.1.(b) The management of 11 fisheries management areas (WPP) in a sustainable manner
	14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	14.3.1 Average ocean acidity (pH) measured at a network of approved and adequate sampling stations
14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce	14.4.1* Proportion of fish stocks within biologically sustainable levels	



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	maximum sustainable yield as determined by their biological characteristics	
	14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information	14.5.1* Total area of marine protected areas
	14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organisation fisheries subsidies negotiation	14.6.1 Progress of countries in the implementation of international instruments aimed at combating illegal, unreported and unregulated (IUU) fishing
		14.6.1.(a) Percentage of business compliance
	14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	14.7.1 Sustainable fisheries as a percentage of GDP in small island developing countries, least developed countries and all countries
	14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries	14.a.1 Proportion of total research budget allocated for research in marine technology
	14.b Provide access for small-scale artisanal fishers to marine resources and markets	14.b.1* Availability of legal/regulatory/policy/institutional frameworks that recognize and protect access rights for small-scale fisheries
		14.b.1.(a) Number of provinces with increased access to financing for fishing businesses
		14.b.1.(b) Number of fishermen protected
	14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in United Nations Convention on the Law of	14.c.1* Availability of policy frameworks and instruments related to the implementation of the United Nations Convention on the Law of the Sea (UNCLOS).



UN SDG Goals	UN SDG Targets	Indicators
	the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want"	
SDG15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	15.1.1 Forest area as a proportion of total land area 15.1.1.(a) Proportion of forest cover to total land area 15.1.2 Proportion of important terrestrial and inland water biodiversity sites within protected areas, by ecosystem type
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	15.2.1 Proportion of degraded land to total land area 15.2.1.(a) Area of degraded conservation area whose ecosystem condition is restored 15.2.1.(b) Area of business for utilization of ecosystem restoration timber forest products 15.2.1.(c) Number of conservation areas with a minimum METT index value of 70%. 15.2.1.(d) Number of Forest Management Units
	15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	15.3.1 Proportion of land that is degraded over total land area 15.3.1.(a) Proportion of critical land area rehabilitated to total land area
	15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	15.4.1* Important sites of mountain biodiversity within conservation areas 15.4.2* Mountain green cover index



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	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	15.5.1* Population percentage of 25 priority endangered species
	15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed	15.6.1* A legislative, administrative and policy framework is in place to ensure fair and equitable sharing of benefits
	15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products	15.7.1 Proportion of wildlife resulting from poaching or illicit trade
		15.7.1.(a) Percentage of settlement of environmental crimes up to P21 of the number of cases that occurred
		15.7.1.(b) Number of additional wild animal and plant species that are bred in conservation institutions
	15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species	15.8.1 Proportion of countries adopting relevant and adequate national legislation on the prevention or control of invasive alien species
		15.8.1.(a) Formulation of animal and plant quarantine policies and recommendations, as well as animal and vegetable biological safety
	15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	15.9.1 Progress towards achieving the national targets set in accordance with Aichi Biodiversity Target 2 of the 2011-2020 Biodiversity Strategic Plan
		15.9.1.(a) Document of biodiversity utilization plan
	15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	15.a.1 Development assistance and government spending for the conservation and sustainable use of biodiversity and its ecosystems
	15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation	15.b.1 Development assistance and government expenditures for the conservation and sustainable use of biodiversity and its ecosystems
	15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable	15.c.1 Proportion of wildlife resulting from poaching or illicit trade
		15.c.1.(a) Percentage of settlement of environmental crimes up to P21 of the number of cases that occurred



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	livelihood opportunities	
SDG16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	16.1 Significantly reduce all forms of violence and related death rates everywhere	16.1.1.(a) Number of killer crime cases in the last one year
		16.1.2 Deaths due to conflict per 100,000 population disaggregated by sex, age and cause of death
		16.1.2.(a) Deaths due to conflict per 100,000 population
		16.1.3 Proportion of population who experienced physical, psychological or sexual violence in the last 12 months
		16.1.3.(a) Proportion of population who were victims of violent crimes in the last 12 months
		16.1.4* Proportion of population that feel safe walking alone around the area they live after dark
	16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	16.2.1.(a) Proportion of household with children aged 1–17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past year
		16.2.1.(a) Proportion of households with children aged 1-17 who experienced corporal punishment and/or psychological aggression from caregivers in the past year
		16.2.1.(b) Prevalence of violence against boys and girls
		16.2.2 Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation
		16.2.3:Proportion of young men and women aged 18-29 who experienced sexual violence before the age of 18
		16.2.3.(a) Proportion of young women and men aged 18–24 years who experienced sexual violence by age 18
		16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all
	16.3.1 Proportion of victims of violence in the past 12 months who reported to the authorities or authorities recognized in conflict resolution mechanisms	16.3.1.(a) Proportion of victims of violence in the previous 12 months who reported their victimization to the police
		16.3.1.(b) Percentage of poor people who receive litigation and non-litigation legal assistance
16.3.1.(c) Percentage of poor people that receive legal services in		



UN SDG Goals	UN SDG Targets	Indicators	
		the form of legal assistance post, trial outside the court building, and expense of case fees	
		16.3.2 Proportion of detainees to all detainees and prisoners	
		16.3.2.(a) Proportion of prisoners exceeding the time of intention to the total number of prisoners	
	16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime		16.4.1 Total value of inward and outward illicit financial flows (in current United States dollars)
	16.4.2 Proportion of seized, found or surrendered arms whose illicit origin or context has been traced or established by a competent authority in line with international instruments		
	16.5 Substantially reduce corruption and bribery in all their forms		16.5.1 Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months
	16.5.1.(a) Anti-corruption behaviour index		
	16.5.2 Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months		
	16.6 Develop effective, accountable and transparent institutions at all levels		16.6.1* Primary government expenditures as a proportion of original approved budget
	16.6.1.(a) Percentage increase in Unqualified Opinion on the Financial Statements of Ministries/Institutions and Local Governments (Province/District/City)		
	16.6.1.(b) Percentage of improvement in Government Performance Accountability System of Ministries/Agencies and Local Governments (Province/Regency/City).		
	16.6.1.(c) Percentage of E-procurement usage towards procurement expenditure		
	16.6.1.(d) Percentage of government agencies that have a Bureaucratic Reform Index score for both Ministries/Agencies and Local Governments (Province/Regency/City)		
16.6.2 Proportion of population who are satisfied with their recent experience with public services			



UN SDG Goals	UN SDG Targets	Indicators
		16.6.2.(a) Percentage of Compliance with the Implementation of the Public Service Law of Ministries/Agencies and Local Governments (Province/Regency/City)
	16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	16.7.1 Proportion of positions (by age group, gender, disability and community group) in public institutions (DPR/DPRD, public services, judiciary) compared to national distribution
	16.7.1.(a) Percentage of women's representation in the People's Representative Council (DPR) and Regional People's Representative Council (DPRD)	
	16.7.1.(b) Percentage of women's representation in decision making in executive institutions (Echelon I and II)	
	16.7.2 Proportion of population who believe in inclusive and responsive decision-making by gender, age, disability and community group	
	16.7.2.(a) Democracy institution capacity index	
	16.7.2.(b) Freedom aspect index	
	16.7.2.(c) Political Rights Index	
	16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance	16.8.1 Proportion of membership and decision-making rights of developing countries in International Organizations
	16.9 By 2030, provide legal identity for all, including birth registration	16.9.1* Proportion of children under 5 years of age whose births have been registered with a civil registration agency, by age
	16.9.1.(a) Percentage of birth certificate ownership for populations of 40% low income	
	16.9.1.(b) Percentage of children with birth certificate ownership	
	16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements	16.10.1 Number of verified cases of murder, abduction and enforced disappearance, arbitrary detention and torture of journalists, media personnel, trade unions and human rights defenders in the last 12 months
	16.10.1.(a) Number of handling complaints of human rights violations	
	16.10.1.(b) Number of handling complaints against women's human rights violations, especially violence against women	



UN SDG Goals	UN SDG Targets	Indicators
		16.10.2.(a) Availability of a Public Agency that carries out its obligations as regulated in Law no. 14 of 2008 concerning Public Information Disclosure
		16.10.2.(b) Percentage of settlement of public information disputes through mediation and/or non-litigation adjudication
		16.10.2.(c) Number of certificates owned by Information Management and Documentation Officials (PPID) to measure the quality of PPIDs in carrying out their duties and functions as regulated in laws and regulations
	16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime	16.a.1* Existence of independent national human rights institutions in compliance with the Paris Principles
	16.b Promote and enforce non-discriminatory laws and policies for sustainable development	16.b.1 Proportion of population who reported experiencing discrimination and harassment in the past 12 months based on the prohibition of discrimination under international human rights law
		16.b.1.(a) Number of discrimination policies in the past 12 months based on the prohibition of discrimination under international human rights law
SDG17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection	17.1.1 Total government revenue as a proportion of GDP, by source
		17.1.1.(a) Ratio of tax revenue to GDP
		17.1.2 Proportion of domestic budget funded by domestic taxes
	17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries	17.2.1 Net official development assistance, total and to least developed countries, as a proportion of the Organisation for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)



UN SDG Goals	UN SDG Targets	Indicators
	17.3 Mobilize additional financial resources for developing countries from multiple sources	17.3.1 Foreign Direct Investment (FDI), development assistance and South-South Cooperation as a proportion of the total domestic budget
		17.3.2 Volume of remittances/remittances (in US dollars) as a proportion of total GDP
		17.3.2.(a) Proportion of the volume of remittances of Indonesian labor migrants (in US dollars) to GDP
	17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress	17.4.1* Proportion of debt and interest payments (Debt Service) to exports of goods and services
	17.5 Adopt and implement investment promotion regimes for least developed countries	17.5.1 Number of countries that adopt and implement investment promotion regimes for developing countries, including the least developed countries
	17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism	17.6.1 Number of cooperation agreements and programs in the field of science and/or technology between countries by type of cooperation
		17.6.1.(a) Number of knowledge sharing activities within the framework of South-South and Triangular Cooperation
17.6.2 Fixed internet broadband subscription according to speed level		



UN SDG Goals	UN SDG Targets	Indicators
		17.6.2.(a) Percentage of the national fiber optic backbone network connecting the Capital District/City
		17.6.2.(b) Penetration rate of fixed broadband access in urban and rural areas
		17.6.2.(c) Proportion of population served by mobile broadband
	17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed	17.7.1 Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies
	17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology	17.8.1* Proportion of individuals using the Internet 17.8.1.(a) Percentage of 3T districts covered by universal telecommunications and internet access services
	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation	17.9.1 Dollar value of technical and financial assistance (including through North-South, South-South and Tirangular cooperation) committed to developing countries 17.9.1.(a) Number of indications of funding for capacity building within the framework of Indonesia's SSTC
	17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system	17.10.1 World weighted average Free Trade Agreement (FTA) tariffs



UN SDG Goals	UN SDG Targets	Indicators
	under the World Trade Organisation, including through the conclusion of negotiations under its Doha Development Agenda	17.10.1.(a) Weighted average tariff in Free Trade Agreement (FTA) partner countries (6 countries).
	17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020	17.11.1 Developing and least developed countries share of global exports 17.11.1.(a) Growth in exports of non-oil and gas products
	17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organisation decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access	17.12.1 Average tariffs faced by developing countries, least developed countries and small island developing countries
	17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence	17.13.1* Macroeconomic Dashboard
	17.14 Enhance policy coherence for sustainable development	17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development
	17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development	17.15.1 Extent of use of country-owned results frameworks and planning tools by providers of development cooperation
	17.16 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries	17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the Sustainable Development Goals
	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	17.17.1 Total commitments for public-private partnerships and civil society (in USD) 17.17.1.(a) Number of PPP project plan list documents issued every year 17.17.1.(b) Total government allocation for project preparation, project transactions, and government support in Government and Business Entity Cooperation (PPP)
		17.18.1 Proportion of sustainable development indicators produced



UN SDG Goals	UN SDG Targets	Indicators
	<p>17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts</p>	<p>at the national level with complete disaggregation of data relevant to the target, in accordance with the Fundamental Principles of Official Statistics</p>
		<p>17.18.1.(a) Percentage of Central Statistics Agency (BPS) consumers who are satisfied with the quality of statistical data</p>
		<p>17.18.1.(b) Percentage of consumers who use BPS statistical data and information as their main reference</p>
		<p>17.18.1.(c) Total metadata of basic, sectoral, and special statistical activities contained in the Statistical Reference Information System (SIRuSa).</p>
		<p>17.18.1.(d) Percentage of disaggregated TPB indicators that are relevant to the target</p>
		<p>17.18.2* Number of countries that have national statistical laws that comply with the Fundamental Principles of Official Statistics</p>
		<p>17.18.2.(a) Review of Law Number 16 of 1997 concerning Statistics</p>
		<p>17.18.3* Number of countries with funded National Statistical Planning and implementing plans based on funding sources</p>
	<p>17.18.3.(a) Formulation of the National Strategy for Development of Statistics (NSDS)</p>	
	<p>17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries</p>	<p>17.19.1 Dollar value of all resources made available to strengthen statistical capacity in developing countries</p>
		<p>17.19.1.(a) Number of statistical functional officers and computer administrators in Ministries/Institutions</p>
		<p>17.19.1.(b) Percentage of Ministries/Agencies that already have statistical functional officials and/or computer systems</p>
		<p>17.19.1.(c) Percentage of fulfillment of the needs of statistical functional officials and computer institutions of Ministries/Institutions</p>
		<p>17.19.2 Proportion of countries that a) conducted at least one Population and Housing Census in the last ten years, and b) achieved 100 percent birth registration and 80 percent death registration</p>
<p>17.19.2(a) The Census of Population and Housing in 2020</p>		



UN SDG Goals	UN SDG Targets	Indicators
		17.19.2.(b) Availability of registration data related to births and deaths (Vital Statistics Register) 17.19.2.(c) Number of external visitors who access statistical data and information through the website 17.19.2.(d) Percentage of consumers who are satisfied with access to data from the Central Statistics Agency (BPS) 17.19.2.(e) Percentage of consumers who use data from the Central Statistics Agency (BPS) in planning and evaluating national development

Reference 7. Climate-smart Infrastructure

What is climate-smart infrastructure?

A growing number of international financial institutions (IFIs) and development and commercial banks address climate change in their environmental and social policies, which apply to projects that they finance. This is quite relevant to infrastructure projects, because the majority of greenhouse gas (GHG) emissions today are associated with carbon-intensive infrastructure construction and operation, particularly in the energy, transport, water supply, and sanitation sectors. PPP could be used by government entities to tap into private investment and expertise to be able to deliver “climate-smart infrastructure”.

According to the World Bank, “climate-smart infrastructure” refers to infrastructure that provide climate change mitigation and adaptation solutions, by:

- Mitigating climate change through reduced GHG emissions and improved energy efficiency;
- Increasing the resilience of infrastructure assets to climate change. This is performed by planning, designing, building, and operating infrastructure in a way that anticipates, prepares for, and adapts to climate change. This may generate significant cost savings by preventing or minimizing adjustments or replacements of infrastructure in the future; and
- Enhancing resilience through infrastructure, by providing certain protection to climate change effects (e.g., sea barriers, flood protection).

How to deliver climate-smart infrastructure?

Government entities should incorporate climate consideration in each stage of PPP lifecycle, as elaborated below:

Project Preparation:

- assess the impacts of climate change on infrastructure projects
- develop plans to reduce carbon emissions
- incorporate features that enhance the infrastructure resilience
- consider climate change in preliminary studies and assessments, such as feasibility studies, value-for-money and cost-benefit analyses

Procurement:

GCA should include in PPP bidding documents minimum qualifying criteria that require bidders to:

- demonstrate sufficient financial and technical capacity to develop innovative low carbon solutions and to respond to disaster events;
- provide evidence for sufficient knowledge to identify and assess carbon impacts, low-carbon solutions as well as climate change events (e.g. experience in the construction of “green” buildings as demonstrated by relevant certifications);
- prove sufficient insurance coverage with regard to potential climate-related risks;
- submit appropriate environmental and social management plans as well as disaster prevention and risk response plans.

The criteria above could also be used in bid evaluation, e.g., giving additional points to bids that include innovative efforts related to greenhouse gas reduction or disaster risk management.

The GCA could also require technical specifications on better life-cycle performance, including reducing greenhouse gas emissions and mitigating identified climate change risks.

Contracting

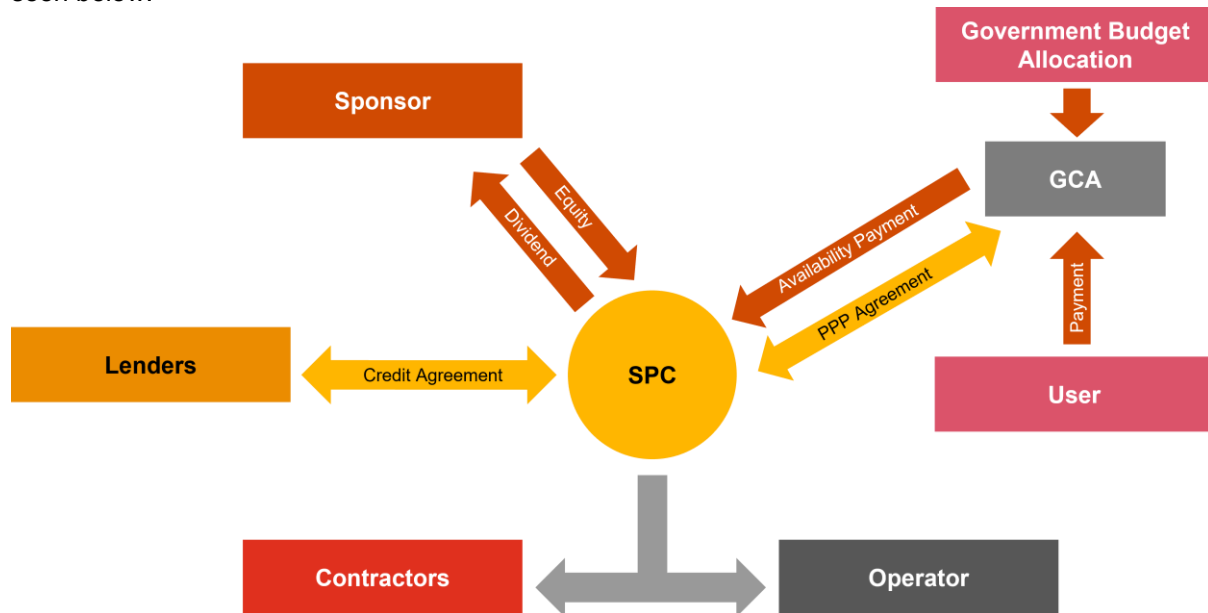
- Set out KPIs (e.g., emissions, energy consumption, adaptation measures) as well as reporting obligations and inspection rights regarding climate-change mitigation and adaptation obligations
- Contractual payment mechanisms that connect (non-)compliance with climate change mitigation and adaptation obligations with bonuses, penalties and/or payment deductions during construction and operation and maintenance (O&M) stages)
- Adjustment mechanisms within the PPP contract that allocate risks associated with unpredictable changes caused by or connected with climate change

Reference 8. PPP Payment Schemes

Two types of PPP Payment Schemes are described below – Availability Payment and User Charge.

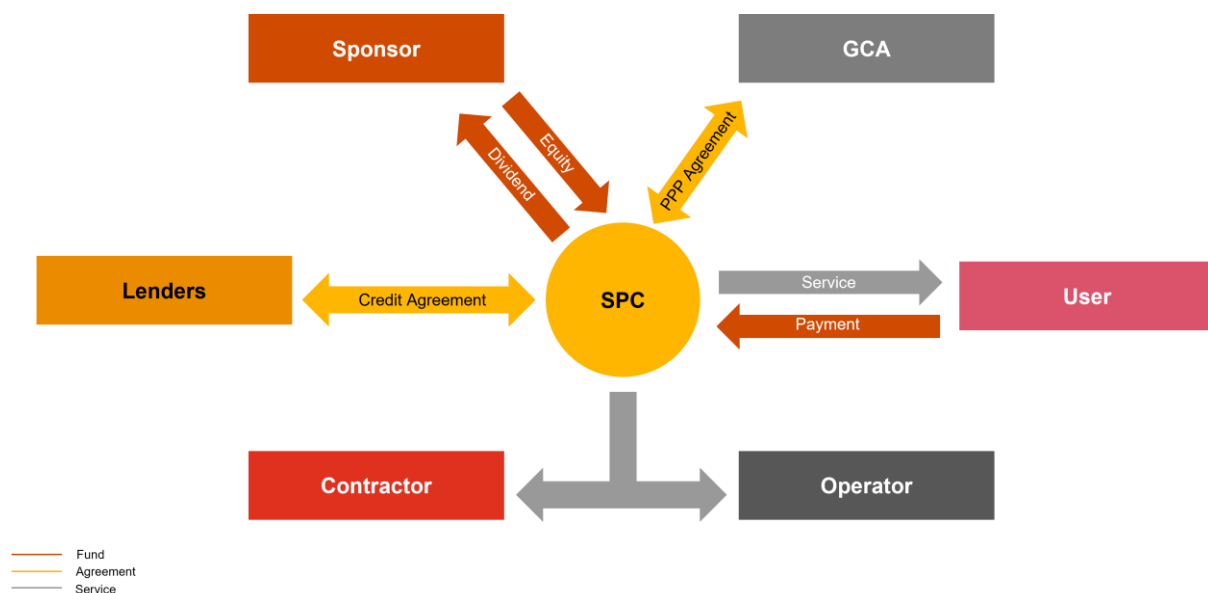
Availability Payment

A PPP Availability Payment scheme is where the government makes a payment to the IBE for the availability of services in accordance with the quality and criteria specified in the PPP Agreement. This payment scheme is selected when the project is not financially profitable. The scheme can be seen below.



User Charge

User charge is a payment scheme in the form of tariff in which directly become main income of the IBE.

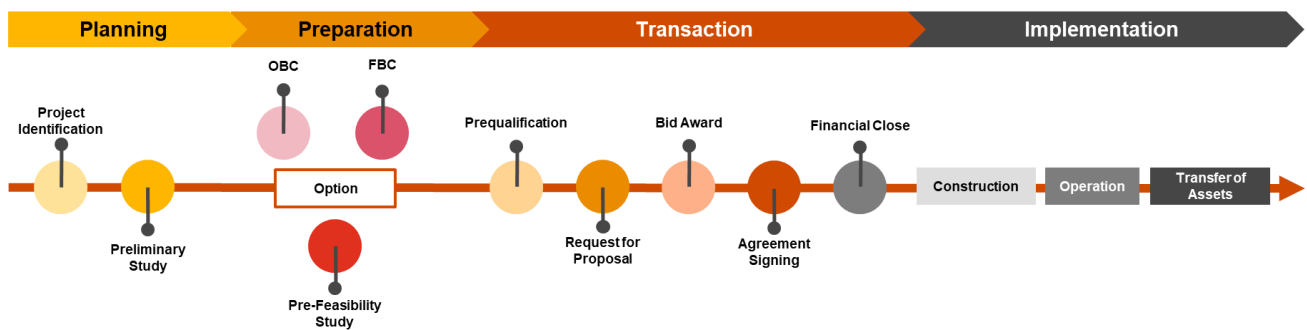


Reference 9. PPP Proposal Schemes

According to Presidential Regulation Number 38 of 2015, there are two types of PPP project proposal schemes – Solicited and Unsolicited.

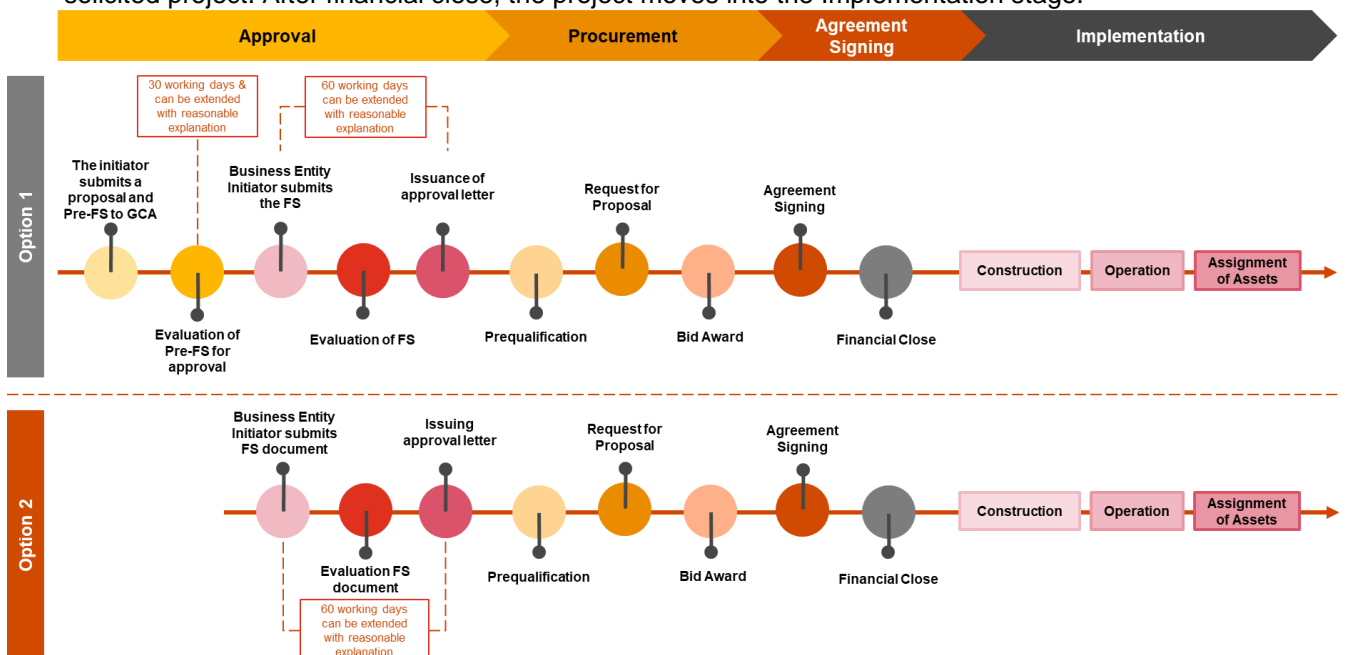
Solicited

A Solicited Proposal is where the project is initiated by the Government. A Solicited Project is able to obtain fiscal and non-fiscal support as well as a guarantee from the Government. This type of PPP Proposal Scheme is regulated by Minister of National Development Planning Number 2 of 2022, in which the project consists of four stages, namely Planning, Preparation, Transaction, and Implementation. At the end of the Implementation stage, there is a transfer of assets from the private party to the GCA, meaning that the PPP contract has ended, and the project is fully owned by the GCA.



Unsolicited

An Unsolicited Proposal is where the project is initiated by the private sector or the project proponent (the initiator). This type of PPP proposal scheme is able to obtain a guarantee from the Government. The stages of an unsolicited project are similar to those of a solicited project. The main difference is that the Planning and Preparation stages are conducted by the initiator. Therefore, the approval stage, which is the first stage of PPP in an unsolicited project is that the private sector must obtain approval from the GCA of the Feasibility Study that has been prepared. The Procurement and Agreement Signing stages in an unsolicited project are the same as the Transaction stage in a solicited project. After financial close, the project moves into the Implementation stage.



Reference 10. Availability Payment

Availability Payment (AP) is a periodic payment by the GCA to the IBE for the availability of infrastructure services in accordance with the quality and/or criteria as specified in the PPP Agreement. An AP scheme is usually used in the event that:

- There is no revenue from service users or no end users that can be charged a tariff, for example the provision of infrastructure used by the government to provide public services, or
- The potential income is not significant to cover IBE investments, or the project is not economically feasible financial, or
- The infrastructure is provided free of charge to the public, for example non-toll roads

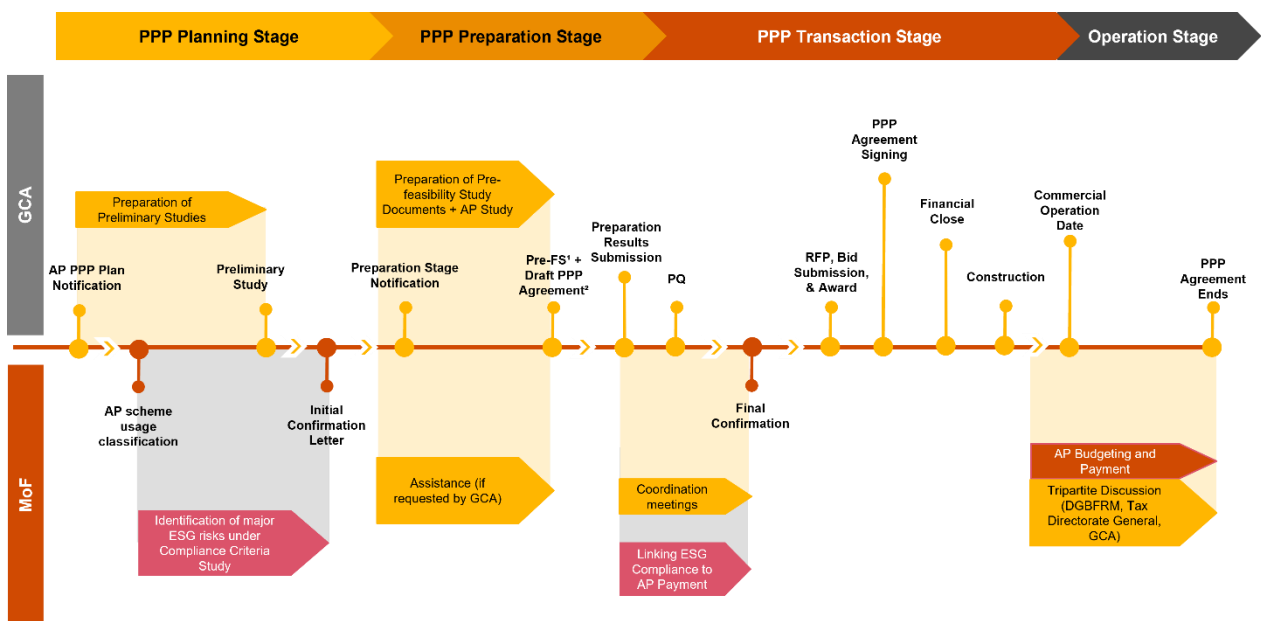
Benefits of the AP Scheme for the GCA:

- Increases attractiveness of PPP projects for investors
- Enables the GCA to offer infrastructure projects that are less financially viable (e.g., social infrastructure), as PPP projects
- Allows the GCA to obtain infrastructure services without having to provide large funds at the start of the project for construction

Benefits of the AP scheme for the IBE:

- IBE does not bear the demand risk
- Certainty of return on investment
- Guaranteed financial feasibility

The AP scheme business process is shown in the diagram below (taken from MoF's website):



*Including AP Study

*Commitment Letter on AP Payment Implementation

Reference 11. Government Support Business Process

Business Process of Project Development Facility

No.	Step	Task	Input	Output	PIC	Approver
1	PDF Request Evaluation	<ol style="list-style-type: none"> Analyze and develop gap analysis on PDF Request document Discuss and give feedback with GCA Draft an Official Note 	<ul style="list-style-type: none"> Official Note of OBC review PDF Request Application, submitted by GCA 	<ul style="list-style-type: none"> Official Note of Recommendation Draft Principle Agreement ("Persetujuan Prinsip") 	Director of Government Support and Infrastructure Financing Management	Director General of Budget Financing and Risk Management
2	Principle Agreement	<ol style="list-style-type: none"> Review the Official Note Review the Draft Principle Agreement 	<ul style="list-style-type: none"> Official Note of Recommendation Draft Principle Agreement 	Principle Agreement Letter	Director General of Budget Financing and Risk Management	Minister of Finance
3	Master Agreement	<ol style="list-style-type: none"> Draft the Master Agreement, incorporating legal considerations Negotiate with GCA 	Principle Agreement	Master Agreement ("Kesepakatan Induk")	Director of Government Support and Infrastructure Financing Management	Director General of Budget Financing and Risk Management
4	Assignment Decision Letter	<ol style="list-style-type: none"> Draft the Assignment Decision letter, incorporating legal considerations Discuss the draft Assignment Decision letter with SMV 	Master Agreement ("Kesepakatan Induk")	Assignment Decision letter ("SK Penugasan")	Director of Government Support and Infrastructure Financing Management	Director General of Budget Financing and Risk Management
5	Assignment Agreement	<ol style="list-style-type: none"> Develop assignment scope, budget, output, and work plan Draft the PP, incorporating legal considerations Negotiate with SMV 	Assignment Decision letter ("SK Penugasan")	Assignment Agreement ("Perjanjian Penugasan")	Director of Government Support and Infrastructure Financing Management	Director General of Budget Financing and Risk Management
6	PDF Support Delivery	<ol style="list-style-type: none"> Develop analysis reports and follow-up plans Draft Output Result Review and approve the draft output result 	Assignment Agreement ("Perjanjian Penugasan")	Output Result ("Hasil Keluaran")	PDF Executor (PT SMI or IIGF)	Director General of Budget Financing and Risk Management

Business Process of Viable Gap Fund



No.	Step	Task	Input	Output	PIC	Approver
1	VGF Principle Agreement	<ol style="list-style-type: none"> 1. Preparation of verification and analysis results report 2. Committee/working group meeting 3. Request for clarification of data and information to GCA 4. Draft recommendation on VGF Principle Agreement letter 	VGF Principle Agreement (“Peretujuan Prinsip”)	VGF Principle Agreement letter	Director General of Budget Financing and Risk Management	Minister of Finance
2	VGF Amount Agreement	<ol style="list-style-type: none"> 1. Preparation of verification and analysis results report 2. Committee/working group meeting 3. Request for clarification of data and information to GCA 4. Draft recommendation on VGF Amount Agreement letter 	VGF Amount Agreement (“Peretujuan Besaran Dukungan”) Application	VGF Amount Agreement letter	Director General of Budget Financing and Risk Management	Minister of Finance
3	Final Agreement	<ol style="list-style-type: none"> 1. Preparation of the initial draft of the Evaluation Report on Proposed Final Agreement of the VGF 2. VGF Committee meeting and finalization of Evaluation Report on Proposed Final Agreement 3. Official note regarding recommendation on VGF Final Agreement 4. Signing of VGF Final Agreement letter 	Letter of Proposal for VGF Final Agreement (“Peretujuan Final”)	VGF Final Agreement letter	Director General of Budget Financing and Risk Management	Minister of Finance
4	VGF Letter	<ol style="list-style-type: none"> 1. Draft the Evaluation Report 2. Conduct VGF Committee meeting and finalise the Evaluation Report 3. Issue an official note regarding recommendation on VGF Letter 4. Issue the VGF Letter 	<ul style="list-style-type: none"> • Final Agreement (“Surat Peretujuan Final Dukungan Kelayakan”) • GCA Report (“Laporan PJKP”) 	VGF letter	Director General of Budget Financing and Risk Management	Minister of Finance
5	Disburse VGF	<ol style="list-style-type: none"> 1. Budget Owner assign PPK to verify documents submitted by GCA 2. PPK to release a Direct Payment Request Letter (“Surat Permintaan Pembayaran”) and Expense Accountability Statement (“Surat Pernyataan Tanggung Jawab Belanja”) 3. SPM Official to verify the Direct Payment Request Letter and submit a Direct 	<ul style="list-style-type: none"> • Payment Request Letter (“Surat Permintaan Pembayaran”) by GCA • VGF letter • Final Agreement • Summary of VGF terms and conditions as stated in the PPP Agreement • Absolute 	Fund disbursed	PPK, SPM Official, Treasury Office, Operational Bank	The budget owner in the ministry responsible for the project



No.	Step	Task	Input	Output	PIC	Approver
		<p>Payment Order Letter (“Surat Perintah Membayar Langsung”) to the State Treasury Service Office (“Kantor Pelayanan Perbendaharaan Negara”)</p> <p>4. The Treasury Office to submit a Fund Disbursement Order Letter (“Surat Perintah Pencairan Dana”) to the operational bank</p> <p>5. The operational bank to disburse fund to the account of the private sector signing the PPP agreement.</p>	<p>Accountability Letter (“Surat Pernyataan Tanggung Jawab Mutlak”) signed by GCA</p> <ul style="list-style-type: none"> GCA Verification Memorandum , receipt signed by the private sector Account number of the private sector 			

Business Process of Guarantee

No.	Step	Task	Input	Output	PIC	Approver
1	Scanning	<ol style="list-style-type: none"> Develop a “Project Longlist” (contains list of potential PPP projects) Shortlisting the potential PPP projects by doing a preliminary review Develop a “Scanning Report” based on preliminary review 	<ul style="list-style-type: none"> Information from GCA OBC from GCA Unsolicited project proposals from GCA 	Scanning Report	Business Development (BD) & Guidance and Consultation (GAC) Division	Head of BD & GAC Division
2	Screening	<ol style="list-style-type: none"> Screening evaluation Issuance of a Confirmation to Proceed Letter 	Screening form document from GCA to IIGF	Confirmation to Proceed (CTP) Letter to GCA	Guarantee Underwriting (UNT) Division	Board of Directors
3	Appraisal	<ol style="list-style-type: none"> Assess the Pre-FS Project risk appraisal Develop an Interim Evaluation Memo 	Pre-Feasibility Study (FBC) as well as other documents such as draft PPP Agreement, Project’s financial model, and ENS form	<ul style="list-style-type: none"> Letter of Intent (Lol) Interim Evaluation Memo 	Project Appraisal (PAP) Division, involving Environmental & Social (ENS) and Legal & Compliance (LAC) Division	Board of Directors
4	Structuring	<ol style="list-style-type: none"> Development of a guarantee structure Determine maximum 	<ul style="list-style-type: none"> Interim Evaluation Memo Cooperation Agreement 	<ul style="list-style-type: none"> Underwriting Memo containing: <ul style="list-style-type: none"> Draft Guarantee 	UNT Division, involving Corporate Strategy & Finance (CSF), Project	<ul style="list-style-type: none"> Underwriting Memo: Board of Directors In-Principle

No.	Step	Task	Input	Output	PIC	Approver
		guarantee exposure 3. Develop draft Guarantee Agreement and Recourse Agreement 4. Review and assist the GCA on the development of Risk Mitigation Plan 5. Ensure the GCA follows the recommendation of Interim Evaluation Memo 6. Prepare draft In-Principle Approval (IPA)	from GCA	Agreement o Draft Recourse Agreement o Cooperation Agreement o Risk Mitigation Plan • In-Principle Approval	Monitoring & Claim Management (PMCM), Risk Management (RM), LAC, and PAP Divisions	Agreement: Board of Directors and CEO
5	Signing the Guarantee & Recourse Agreement	1. Finalize Guarantee Agreement and Recourse Agreement 2. Prepare a Closing Memo	Draft Guarantee Agreement and Recourse Agreement	• Guarantee Agreement • Recourse Agreement	Guarantee Underwriting Division	• IIGF CEO • Private Investor's authorized representative (for Final GA) • GCA's authorized representative (for Final RA)

Business Process of Co-Guarantee in IIGF

No.	Step	Task	Input	Output	PIC	Approver
1	Offering Guarantee Product	1. Offering guarantee products: a. IIGF Guarantee ²² b. Multilateral Agency Guarantee ²³ c. GoI Guarantee ²⁴ 2. Deciding the proportion of the guarantee and co-guarantee limit	Request for Project Guarantee	Approval of Guarantee Product	IIGF in negotiation with MoF or Multilateral Agencies	• BOD • BOC (in exceptional cases) • MoF (for projects involving MoF guarantees)
2	Evaluating Guarantee Product	1. IIGF to send the required documents to MoF	1. Guarantee Application Package	Approval of GoI Guarantee	IIGF and MoF	Minister of Finance

²² IIGF Guarantee: only covers payment to debt holders, but may also cover equity investors on an exceptional basis

²³ Multilateral Agency Guarantee: IIGF will undertake the initial screening and appraisal process, provide surveillance and administration

²⁴ GoI Guarantee: IIGF will undertake initial screening and appraisal, provide ongoing administration and monitoring



No.	Step	Task	Input	Output	PIC	Approver
		2. Documents evaluated by MoF	<ul style="list-style-type: none"> submitted by GCA 2. IIGF report on appraisal process 3. The proposed risk sharing arrangement between IIGF & GoI 			

Business Process of Co-Guarantee in MoF

No.	Step	Task	Input	Output	PIC	Approver
1	Draft Co-Guarantee Agreement	<ul style="list-style-type: none"> 1. Analysis of the draft co-guarantee agreement 2. Official Note of Recommendation for approval of Draft Co-guarantee Agreement 3. Approval of the Draft Co-guarantee Agreement 	Request for Approval of Draft Co-guarantee Agreement, submitted by IIGF	Letter of Approval of the Draft Co-guarantee Agreement	Director General of Budget Financing and Risk Management	Minister of Finance
2	Approval of Draft Guarantee Agreement and Recourse Agreement or Co-Agreement	Analysis of the Draft Government Guarantee Agreement and the Draft Recourse Agreement or Co-agreement	<ul style="list-style-type: none"> 1. Letter of Approval for the Scope of Co-guarantee 2. Draft Government Guarantee Agreement from the Infrastructure Guarantee Agency (IIGF) 3. Draft Recourse Agreement or Co-agreement 	Approval Letter on Draft Government Guarantee Agreement, Recourse Agreement or Co-agreement	Director General of Budget Financing and Risk Management	Minister of Finance

Reference 12. Links to Further References

Source	Year	Document	Link
ADB	1998	Policy on Gender and Development	https://www.adb.org/sites/default/files/institutional-document/32035/gender-policy.pdf
ADB	2003	Environmental Assessment Guidelines	https://www.adb.org/sites/default/files/institutional-document/32635/files/environmental-assessment-guidelines.pdf
ADB	2009	Safeguard Policy Statement	https://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf
ADB	2006	Core Labor Standards Handbook	https://www.adb.org/sites/default/files/institutional-document/33480/files/cls-handbook.pdf
ADB	2018	Access to Information Policy	https://www.adb.org/sites/default/files/institutional-document/450636/access-information-policy.pdf
AiIB	2019	Environmental and Social Framework	https://www.aiib.org/en/policies-strategies/download/environment-framework/Final-ESF-Mar-14-2019-Final-P-PDF.pdf
APMG	2016	PPP Introduction and Overview	https://ppp-certification.com/sites/www.ppp-certification.com/files/documents/chapter-1-ppp-introduction-and-overview.pdf
EBRD	2019	Environmental and Social Policy	https://www.ebrd.com/documents/comms-and-bis/environmental-and-social-policy.pdf
EIB	2013	Environmental and Social Handbook	https://consult.eib.org/consultation/essf-2021-en/user_uploads/eib-environmental-and-social-handbook.pdf
European Commission	2015	Guidelines on Stakeholder Consultation	https://ec.europa.eu/info/sites/default/files/better-regulation-guidelines-stakeholder-consultation.pdf
Equator Principles	2020	Equator Principles	https://equator-principles.com/app/uploads/The-Equator-Principles_EP4_July2020.pdf
GRI, UN Global Compact	2018	Integrating the SDGs into Corporate Reporting: A practical guide	https://www.unglobalcompact.org/library/5628
HM Government	2020	The Orange Book: Management of Risk – Principles and Concepts	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/866117/6.6266_HMT_Orange_Book_Update_v6_WEB.PDF
IFC / WBG	2007	Environmental, Health & Safety Guidelines	https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM
IFC	2002	Handbook for Preparing a Resettlement Action Plan	https://www.ifc.org/wps/wcm/connect/ee19f150-f505-41db-891f-6ef5557195b6/ResettlementHandbook.PDF?MOD=AJPERES&CACHEID=ROOTWORKSPACE-ee19f150-f505-41db-891f-6ef5557195b6-jkDOCRL



Source	Year	Document	Link
IFC	2007	Stakeholder Engagement – A Good Practice Handbook for Companies Doing Business in Emerging Markets	https://www.ifc.org/wps/wcm/connect/affbc005-2569-4e58-9962-280c483baa12/IFC_StakeholderEngagement.pdf?MOD=AJPERES&CVID=jkD13-p
IFC / EBRD	2009	Workers' accommodation: processes and standards: A guidance note by IFC and the EBRB	https://www.ebrd.com/downloads/about/sustainability/Workers_accomodation.pdf
IFC	2009	Good Practice Note – Addressing Grievances from Project-Affected Communities	https://www.ifc.org/wps/wcm/connect/f9019c05-0651-4ff5-9496-c46b66dbee db/IFC%2BGrievance%2BMechanisms.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-f9019c05-0651-4ff5-9496-c46b66dbee db-jkD0-.g
IFC	2012	Performance Standards on Environmental and Social Sustainability	https://www.ifc.org/wps/wcm/connect/c02c2e86-e6cd-4b55-95a2-b3395d204279/IFC_Performance_Standards.pdf?MOD=AJPERES&CVID=kTjHBzk
IFC	2012	Guidance Notes: Performance Standards on Environmental and Social Sustainability	https://www.ifc.org/wps/wcm/connect/9fc3aaef-14c3-4489-acf1-a1c43d7f86ec/GN_English_2012_Full-Documents_updated_June-14-2021.pdf?MOD=AJPERES&CVID=nXqnsJp
IFC	2012	Policy on Environmental and Social Sustainability	https://www.ifc.org/wps/wcm/connect/7141585d-c6fa-490b-a812-2ba87245115b/SP_English_2012.pdf?MOD=AJPERES&CVID=kilrw0g
IFC	2012	Access to Information Policy	https://www.ifc.org/wps/wcm/connect/6810c62b-2a5d-47f2-97ba-06193bba4e42/AIP_English_2012.pdf?MOD=AJPERES&CVID=kilXyKw
IFC	2013	Good Practice Handbook: Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets	https://www.ifc.org/wps/wcm/connect/58fb524c-3f82-462b-918f-0ca1af135334/IFC_GoodPracticeHandbook_CumulativeImpactAssessment.pdf?MOD=AJPERES&CVID=kbnYgl5
IFC	2015	Environmental and Social Management System Toolkit – General	https://www.ifc.org/wps/wcm/connect/6147cbba-efe8-4879-ba77-c7af63bede7c/ESMS_Toolkit_General.pdf?MOD=AJPERES&CVID=nzhmvxC
IFC	2015	Environmental and Social Management System Implementation Handbook – General	https://www.ifc.org/wps/wcm/connect/4c41260d-1ba8-4d10-a77d-f762d60a1380/ESMS+Handbook+General+v2.1.pdf?MOD=AJPERES&CVID=nzhmupn
IFC	2015	Environmental and Social Management System Self-Assessment and Improvement Guide	https://www.ifc.org/wps/wcm/connect/eb754f02-8a6a-4b06-aed2-bc1ba5cc8437/ESMS%2BSelf%2BAssessment%2Bv2.3%2B-%2BEnglish.xlsx?MOD=AJPERES&CVID=nzhmrNt
IFC	2017	Good Practice Note: Managing Contractors' Environmental and Social Performance	https://www.ifc.org/wps/wcm/connect/87197a95-1b7f-4f57-ac1e-ee961730ce4d/p_GPN_ESContractorManagement



Source	Year	Document	Link
			t.pdf?MOD=AJPERES&CVID=mR5DVaJ
JICA	2022	Japan International Cooperation Agency (JICA) – Guidelines for Environmental and Social Considerations	https://www.jica.go.jp/english/our_work/social_environmental/guideline/c8h0vm0000013gbd-att/guideline_03.pdf
OJK	2022	Green Taxonomy	https://ojk.go.id/id/berita-dan-kegiatan/info-terkini/Documents/Pages/Taksonomi-Hijau-Indonesia-Edisi-1---2022/Taksonomi%20Hijau%20Edisi%201.0%20-%202022.pdf
UNDP	2021	Social and Environmental Standards	https://www.undp.org/library/undp-social-and-environmental-standards#
WBG	2013	OP 4.03 Operational Policies: Performance Standards for Private Sector Activities	https://ppfdocuments.azureedge.net/1566.pdf
WBG	2013	A Framework for Disclosure in PPPs	https://thedocs.worldbank.org/en/doc/773541448296707678-0100022015/original/DisclosureinPPPsFramework.pdf
WBG	2017	PPP Reference Guide Version 3.0	https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/PPP%20Reference%20Guide%20Version%203.pdf
WBG	2015	Creating a Framework for Public-Private Partnership (PPP) Programs: A Practical Guide for Decision-Makers, by Jeffery Delmon	https://openknowledge.worldbank.org/bitstream/handle/10986/22822/Creating0a0fra00for0decision0makers.pdf?sequence=1&isAllowed=y
WBG	2017	Environmental and Social Framework	https://thedocs.worldbank.org/en/doc/837721522762050108-0290022018/original/ESFFramework.pdf
WBG	2019	Gender Equality, Infrastructure and PPPs	https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2020-09/Gender-and-PPPs_Report_interactive.pdf
WBG	2022	Climate-Smart PPPs	https://ppp.worldbank.org/public-private-partnership/energy-and-power/climate-smart-ppps-1
WBG	2022	Climate-Smart PPPs	https://ppp.worldbank.org/public-private-partnership/energy-and-power/climate-smart-ppps-1

