The Korea Development Bank

Environmental and Social Management System

Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States

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Environmental and Social Management System

Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States

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1. INTRODUCTION

1.1 Background

Energy consumption in Indonesia is still dominated by fossil fuel, including coal. The proportion of coal in electricity generation is 54.7%. This contributes greatly to the 65.43% share of energy in GHG emissions in Indonesia when the Agriculture Forestry and Other Land Use (AFOLU) sector is excluded. Energy and Manufacturing industries have been included as the first three main categories in the Second BUR (Indonesia, 2018).

In emerging economies, the energy use from industry is increasing exponentially and directly linked to GDP (IEA, 2017). Between 2000 and 2015, Indonesia's gross domestic product (GDP) doubled and its demand for electricity increased by 150% (IEA, 2017). Moving from traditional agricultural activities, the industry sector of Indonesia contributes to around 39% of Indonesia's GDP. The yearly growth rate of energy consumption in the sector is projected to be 0.54%.

The industry sector has been a key driver of the growth in the Indonesian economy. The largest industry sub-sectors in Indonesia contributing to overall GDP are machinery and transport equipment, followed by food, beverage, and tobacco. Transport and machinery equipment manufacturing quadrupled between 2000 and 2016, increasing its contribution to the GDP of the overall industry and services sector from 8% in 2000 to 12% in 2016 (IEA, 2017).[1]

According to the ASEAN Centre for Energy (ACE), final energy consumption in Indonesia was 38.39 million TOE in 2017, increasing at an average annual rate of 2.6 % from 2005-2017.[2] In industry, the energy consumption reached 11.94 million TOE in 2017.

In industry sector, GHG emissions are generated from fossil fuel combustions, industrial processes and product used (IPPU), and waste treatment activities. Among manufacturing industries, eight industry sub-sectors (Cement, Fertilizer, Ceramic and Glass, Chemical, Pulp and Paper, Textile, Iron and Steel, and Food and Beverage), are the highest energy consuming industries and are also main contributors to GHG emissions in the sector.[3] Those eight industries contributed around 147.43 Mt CO2e or about 55.9 percent of national GHG emissions from energy use in industry as direct and indirect emissions in 2016, which account for 263.7 Mt CO2e.[4] In national context, the GHG emissions from industrial activities rank the second after the Land Use Change and Forestry (LUCF).

The 5th ASEAN Energy Outlook outlined the feasibility of substantial energy savings through significant Energy Efficiency (EE) implementation.[5] It also noted that in the absence of enhanced EE, between 2015 and 2040, Total Primary Energy Supply (TPES) will more than double in Indonesia.

According to the IEA study report on Southeast Asia's Energy Transition 2019, there is significant untapped potential to improve energy efficiency measures in the industry sector. More than $600 billion is needed to improve end-use energy efficiency in the Sustainable Development Scenario to 2040, a 13% increase compared to the New Policy Scenarios.

Potential energy savings in industry can be found in energy-intensive manufacturing sectors (such as food, beverage, automotive, steel, pulp and paper, and textiles manufacturing), where energy intensity can be improved by 44% by 2040. To improve energy efficiency at the national level in

[1] International Energy Agency (IEA) (2017). Energy Efficiency 2017. IEA: Paris. Available at https://www.iea.org/reports/energy-efficiency-2017 [Accessed on 22 December 2020]

[2] ASEAN Centre for Energy. (2017). The 5th ASEAN Energy Outlook (AEO5). Available at: https://aseanenergy.org/the-5th-asean-energy-outlook/ [Accessed on 22 December 2020]

[3] Ministry of Industry Republic of Indonesia in cooperation with UNDP, 2018, Greenhouse gas Emission Profile from Indonesia's Industry Sector, UNDP: 2018.

[4] See footnote #3

[5] ASEAN Centre for Energy. (2017). The 5th ASEAN Energy Outlook (AEO5). Available at: https://aseanenergy.org/the-5th-asean-energy-outlook/ [Accessed on 22 December 2020]

Indonesia, the effort should be focused on those main intensive energy industries. Common industrial equipment and systems, such as chilled water systems, compressed air systems, motor driven systems (e.g. pump and fan systems), lighting systems and industrial boilers, collectively consume significant energy in the industries. Consequently, inefficiencies in these equipment and systems lead to high energy wastage on a national scale.

Although the utilization of energy-efficient technologies in the industry sector can provide a huge benefit to both the GHG emissions reduction target and energy efficiency target of Indonesia, the deployment of high EE potential technologies in Indonesia's industry is hindered due to several factors, with missing upfront finance support as the leading one.

The International Energy Agency (IEA) estimates that half of the worldwide climate mitigation actions must come from energy efficiency.[6] Energy efficiency is defined as the ratio between the output of the end-use service and the association energy input.[7] To achieve the 17% energy intensity reduction target proclaimed in the National Energy Plan of Indonesia (RUEN), energy-efficient technologies such as motors and other energy-intensive technology will be crucial.[8]

Incremental EE investment, meaning the price difference between efficient technology compared to conventional technology, is hard to be implemented by industry owners. Data shows that most EE in the industry is still self-funded, but in emerging economies, the investment still falls short compared to EU or American investment trends. Green banks play an important role to fund EE. The development of Principles for Sustainable Insurance (PSI) further indicates the unique facilitating role through targeted EE insurance products to overcome some of the barriers.[9]

Financial instruments fall short to provide an attractive alternative to the industry for providing the capital-intensive upfront cost for high EE potential technologies. Private banks focus their EE investments on projects with payback periods of 3 years or less, which excludes large energy intensive EE technologies.[10] Energy efficiency investments suffer from split incentives, misperception about the risk assessment of technologies, small capital volumes, lack of technological expert in the banking system and for most lack of offtaker institution. Uncertainty of risks regarding the assets installed, revenues resulting from the project and energy savings generated make financial models such as project finance or leasing agreements difficult.[11] Smart metering, on-bill finance, energy savings insurance and cost reduction of the EE technologies are some of the measures that could overcome these barriers. Also, financial institutions so far do not monitor the energy performance of 'bank assets', which hinder the implementation of financial instruments such as green bonds.

As per preliminary analysis in the program concept note, it has been estimated that the program would require the financial support of USD 100 million – USD 80 million coming from GCF loan and grant, and USD 20 million from co-financing sources.

[6] See footnote #1

[7] Green Climate Fund (GCF) 2019. Energy Efficiency for Industry and Appliances. Simplified Approval Process (SAP) Technical Guidelines. Available at https://www.greenclimate.fund/documents/20182/194568/SAP_Technical_Guidelines__Energy_Efficiency_for_Industry_and_Appliances.pdf/0f03956b-1efe-812e-9252-34d363aac4f4 [Accessed on 22 December 2020]

[8] See footnote #1

[9] G20 Energy Efficiency Investment Toolkit (2017). G20 Energy Efficiency Investment Toolkit. G20 Energy Efficiency Finance Task Group (EEFTG). Available at https://www.unepfi.org/wordpress/wp-content/uploads/2017/05/G20-EE-Toolkit-Summary-for-Policymakers.pdf [Accessed on 22 December 2020]

[10] See footnote #9

[11] Streitferdt, V.; Tumiwa, F. 2017: Energy Efficiency finance mapping in Indonesia. http://publications.apec.org/publication-detail.php?pub_id=1892 [Accessed on 22 December 2020]

1.2 Basis of the E&S Management System (ESMS)

Given the development stage of the project, the exact location, size, and extent of the sub-projects are unknown at this level, and the details of the sub-projects will be finalized during the program implementation phase. Thus, the Environmental and Social Management System (ESMS) has been developed to set out a framework for how the Programme (i.e. Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States, refer to Section 2.1 for full description) of projects will be managed from an environmental and social perspective. The ESMS further highlights relevant policies, guidelines, codes of practice, and procedures to be taken into consideration for the integration of E&S aspects into the project design. Adhering to the principles and procedures and using the checklist of potential E&S issues laid out in this ESMS will help the End-borrowers to ensure compliance with the GCF safeguard policies and the relevant provisions under the related government policies, and associated rules, regulations, and procedures.

In order to ensure sub-projects are eligible for funding under GCF, ESMS has been developed aligned to GCF's E&S Safeguard Policies, in addition to conformity with E&S legislation of the Government of Indonesia (GOI). The ESMS will provide the necessary background for E&S considerations, a checklist of potential E&S issues of the Program activities to be considered and built into the design of the Program so that environmentally and socially sustainable implementation can take place. It will provide guidelines to carry out E&S Impact Assessment (ESIA), and to prepare E&S Management Plans (ESMP) to mitigate any negative social and environmental impacts of the sub-project interventions. The ESMS sets out how the mitigation and monitoring will be implemented, checked and reviewed for subprojects. It will help Accredited Entities (AE) to ensure that they adequately identify, assess, manage, mitigate and monitor environmental and social risks and respond to problems that arise.[12]

This ESMS will also serve as the guideline for preparing Terms of Reference (TOR) of any environmental and/or social safeguard staff to be employed to support oversight and monitoring of compliance with requisite E&S norms. Therefore, the ESMS must be used as the template and guideline to ensure the diligent environmental compliance of the planning and implementation of the activities envisaged under the GCF projects.

1.3 Objectives and General Principles of the ESMS

The objective of the ESMS is to ensure that activities under the proposed operations will address the following issues:

1. Minimize potential negative environmental impacts as a result of either individual projects or their cumulative effects;
2. Enhance positive environmental and social development outcomes;
3. Provide a mechanism for consultation and disclosure of information;
4. Ensure that environmental and related social issues are thoroughly evaluated, and necessary interventions are incorporated in planning, decision making, and implementation of Program activities;
5. Protect environmentally sensitive areas from additional disturbance from Program interventions;
6. Protect human health and safety;

[12] Green Climate Fund (GCF) 2020. GCF Programming Manual, pg.143. Available at https://www.greenclimate.fund/sites/default/files/document/gcf-programming-manual_0.pdf

7. Ensure compliance and due diligence with GCF safeguard policies as well as with related Government policies, regulations, guidelines, and procedures as applicable to the type of project activities financed by the Program;
8. Avoid or minimize the adverse impact on labor force and gender, including SEAH risks, to the extent possible;
9. Identify and mitigate adverse impacts that the project interventions might cause on people (men and women), including protection against loss of livelihood activities, with culturally, socially, and economically appropriate measures; and
10. Develop necessary social development and safeguard compliance measures through adequate disclosure and consultation with affected people and their community.

Considering the objectives of the ESMS, the planning and implementation of the Program activities will be based on the principles incorporated in the Program design and the implementation arrangements.

The project will ensure that environmental considerations are given sufficient attention to planning and design. To this end, the End Borrower will carry out an environmental assessment for the funded sub-projects along with social and gender assessment. The project will ensure that environmental assessment addresses all potential environmental and social, direct and indirect impacts of the sub-project throughout its life: preconstruction, construction and operation stages and mitigation measures are taken to mitigate negative consequences and enhance positive impacts.

The End Borrower will follow the related government rules (laws, ordinances, acts, etc.) and GCF Operational Policies and Guidelines. Participation of different relevant stakeholders along with the workers and community people will be ensured during the planning and design of the project. Besides, special attention will be given to ensure the participation of different vulnerable groups and gender inclusion.

The ESMS process and related environmental and social assessments within the E&S Management Framework (ESMF) are summarized in Figure 1.1 below.

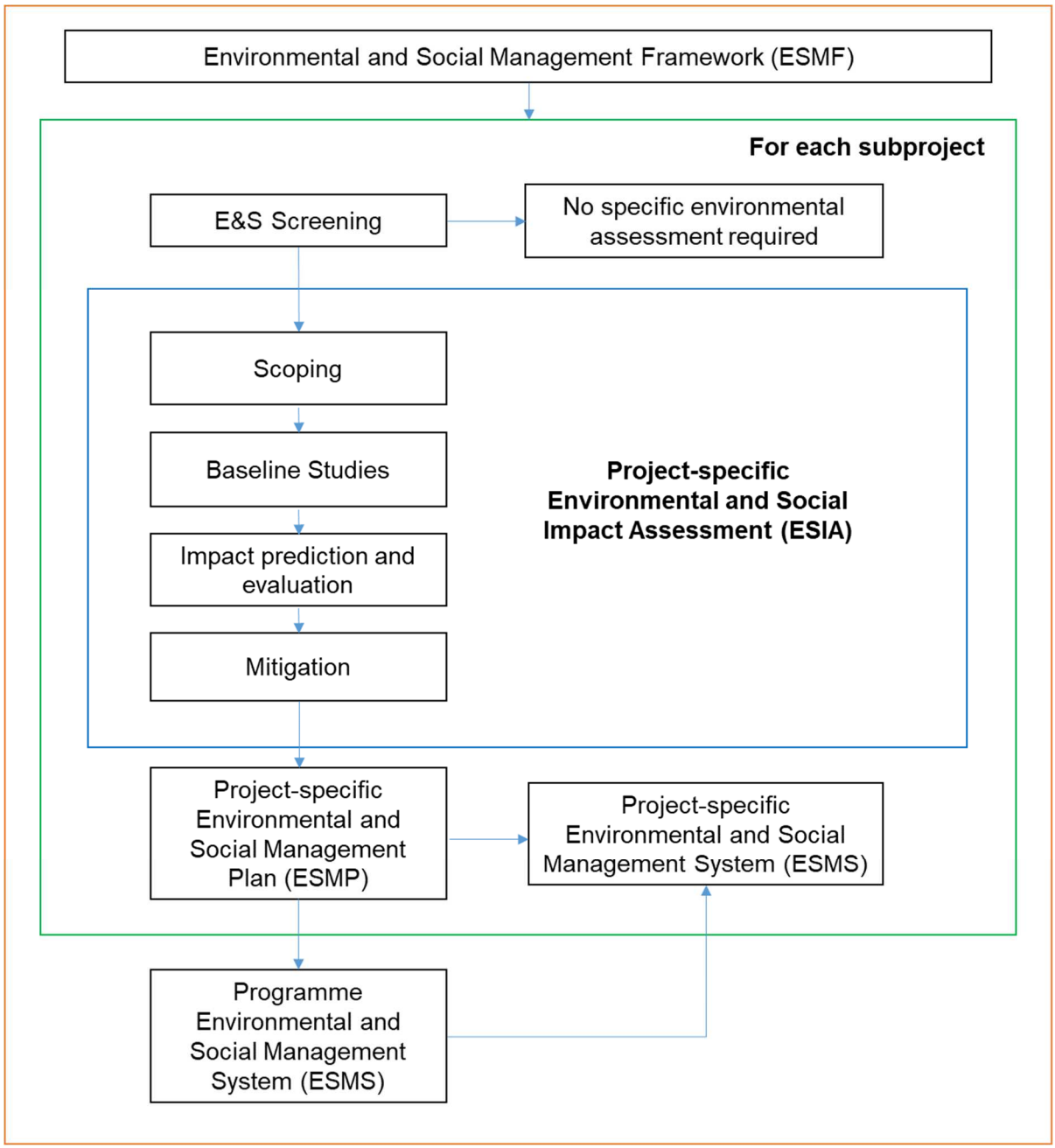


Figure 1.1 ESMF and related Environmental and Social Assessment, Plans, and Management Systems

1.4 Overall Structure of ESMS

This framework has been prepared for the Executing Entities and Implementing Entities of the target program and is divided into five parts and supported by Appendixes. The table below provides the brief description of these parts and the sections of this document which correspond to each part:

Table 1-1 Structure of the ESMS

Part Name	Description	Relevant Section of the ESMS
Programme Description	Description of the Program's activities and portfolio including the sector, nature, types, and scales of projects to be financed based on potential size/scale of projects and their environmental and social impacts and risks.	Section 1. Introduction Section 2. Program Description
Environmental and Social Management Policy of the Programme	Description of the objectives and principles that guide the program, applicable requirements for the project proponents and executing entities, etc. Should be aligned with or be consistent with the GCF ES Policy, the KDB ES Policy and the Indonesia laws and regulations..	Section 3. Policy, Legal and Administrative Framework
Organizational Responsibilities, Resources and Capacities	Description of the organizational arrangements for the implementation of the programme and that of the projects by the Financial Intermediaries and Beneficiaries, providing a clear definition of who is responsible for developing and driving the programme ESMS, and capacity building requirements.	Section 2. Program Description Section 6. Institutional Arrangement for Safeguard Compliance and Capacity Building
Environmental and Social Management Procedures and Applicable Requirements	Provision of clear steps on what needs to be done at the various stages of the investment cycle for projects in the portfolio, including the tools to: (i) screen projects for potential environment and social risks and impacts; (ii) identify applicable ESS standards / IFC Performance Standards; (iii) determine the E&S category of the project; and, (iv) determine the specific instrument/s to be prepared for each project. Description of activities which support E&S impact assessment procedure like: ■ Procedure for undertaking E&S impact assessment for sub-project type ■ E&S screening (incl. SEAH), ■ Other sub-project specific procedures,	Section 4. ESMS Procedures and Requirements Section 5. E&S Impact Assessment

Performance Management and Emergency Preparedness and Response	Description of monitoring plan of the ES performance of each project and a periodic review of the ES performance of the entire portfolio.	Section 4. ESMS Procedures and Requirements Section 9. E&S Management Plan
Stakeholder Engagement and Grievance Mechanisms	Description of the various channels available to communicate with partners and other stakeholders about how the management system is functioning particularly regarding the ES performance of the portfolio. Description of activities which support E&S impact assessment and management procedure like: ■ A Programe-level Grievance redress mechanism and requirements for grievance redress for individual projects and/or participating FIs. ■ Stakeholder consultation and participation	Section 7. Stakeholder Consultation Section 8. Grievance Redress Mechanism
Appendix	Supporting documents to provide assistance in developing documents	Appendix

2. PROGRAM DESCRIPTION

2.1 Program Introduction

2.1.1 Program Background

Indonesia is in need of urgent actions to address gradually deteriorating climate change impacts and their consequences. The climate-vulnerable archipelagic state submitted its nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) with a strong willingness to transition towards a low-carbon and climate-resilient pathway. The NDC of Indonesia recognises energy efficiency as one of its key mitigation actions. While Indonesia attributes 65.43% of the total greenhouse gas (GHG) emissions to the energy sector, the market penetration of energy efficient technologies and the ensuing energy savings have been long hampered by a range of barriers, such as access to finance, regulatory challenges, and a lack of capacity and awareness amongst relevant stakeholders. In addition, since the Coronavirus Disease (COVID-19) outbreak and spread, the state budget and relevant stimulus measures in the neediest areas have brought the agenda of energy efficiency and conservation back in terms of priority. Surrounded by further setbacks from the pandemic and related budget deficits, an international-level intervention in the urgent, but deprioritised area is more important than ever. The Programme entitled “Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in the other ASEAN Member States,” hereafter “Programme,” will support Indonesia and its neighbouring ASEAN members to re-focus on climate actions amid the post-pandemic recovery era, strengthening the foundation for the NDC achievement and the national alignment with the Paris Agreement eventually.

Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States (the Program), therefore, shall support Indonesia and other ASEAN countries to be ready to drive a low-carbon development pathway with enhanced energy efficiency and conservation performance, addressing three chronic barriers – i.e., financial, regulatory, and technical barriers, which are all interlinked with a vicious circle of implementation failures of similar precedents. This initiative pays special attention to the three challenges, regarding them as the three entry points of intervention and designing three components accordingly as below. The Programme proposes a solution package of innovative energy efficiency financing schemes equipped with de-risking mechanisms, a supportive regulatory framework, and technical assistance.

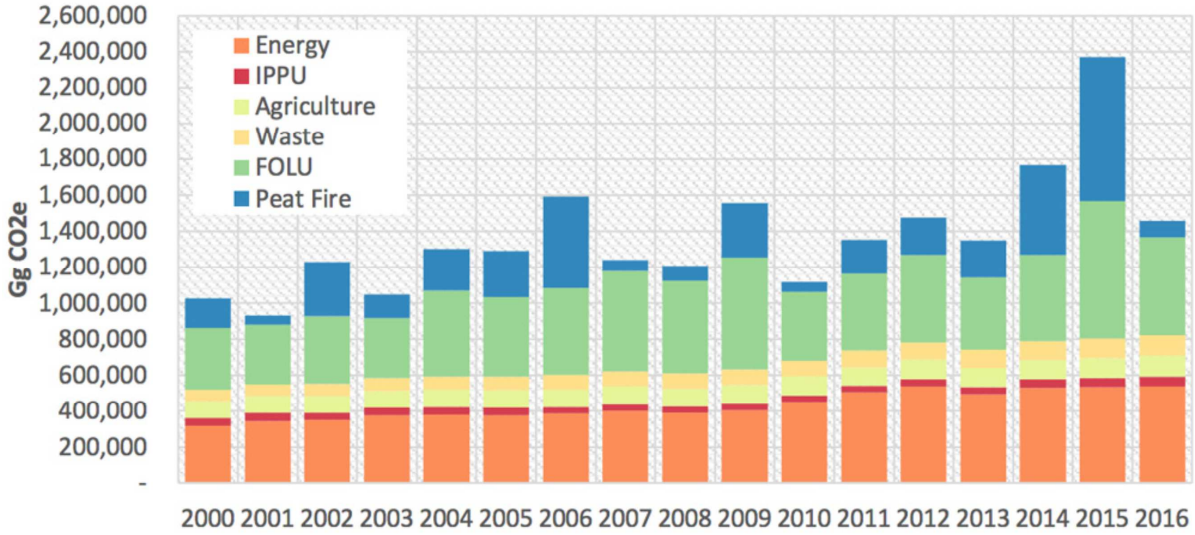
Table 2-1 Programme Composition Summary

Triggered Barrier	Component	Executing Entity	GCF Funding
Financial barrier (e.g., access to energy efficiency finance)	[Component 1] Energy Efficiency Finance	Local financial intermediaries (FIs)	USD100 mil (Guarantees)
Regulatory barrier (e.g., lack of policy incentives)	[Component 2] De-risking mechanisms	ASEAN Centre for Energy (ACE)	USD1.58 mil (TA grant)
Demand-side barrier (e.g., weak capacity of local enterprises)	[Component 3] Technical Assistance (TA) for the Market Readiness	ASEAN Centre for Energy	USD3.42 mil (TA grant)

The Programme anticipates bringing about a transformative change in the industrial energy efficiency market of Indonesia and its neighbouring ASEAN countries, in terms of the GHG emissions reduction (3,139,000 tonnes of CO_{2eq}), as well as proliferation of diverse energy efficient technologies, socio-economic and environmental co-benefits, investment at scale, awareness enhancement and

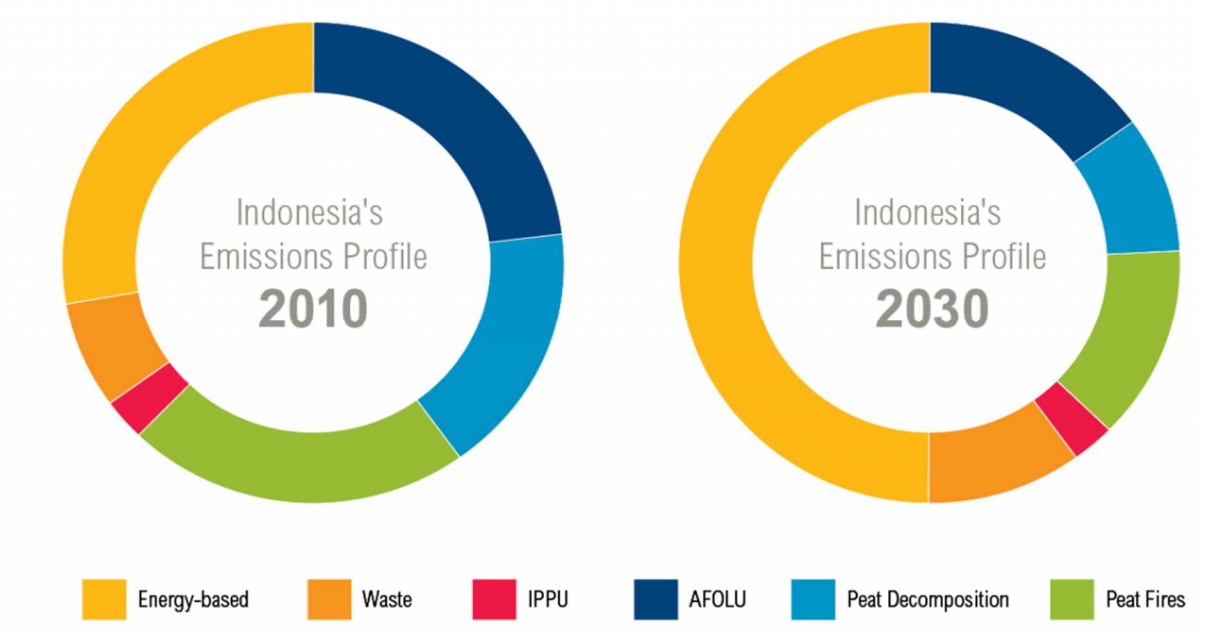
behavioural change amongst local players, and so on. Above all things, the Programme will function as a catalyst to drive a genuine paradigm shift through enabling environment formation, in addition to one-off financing provision. This grand-scale intervention will be made with key local and global stakeholders with different expertise under KDB supervision. With the market acceptance and the regulatory capacity improvement, confidence over energy efficient technologies will be accumulated amongst industries and financiers on the ground, which will catalyse the energy efficiency market of the whole ASEAN market at last.

Mitigation Needs in the Energy Sector of Indonesia, Surrounded by Harsh Market Circumstances. Indonesia is one of the largest GHG emitters globally. The Carbon Brief Profile (2019) recognises the large emerging economy as the world's fourth largest GHG emitter in 2015, attributing heavy emissions to the burning of fossil fuels for energy generation, deforestation, and peat fires. In particular, the energy sector largely contributes to the total GHG emissions of the large emerging economy. Relevantly, Climate Transparency (2020) argues that Indonesia has seen its emissions increase by almost 140% between 1990-2017 with the highest increase in the energy sector. A business as usual (BAU) scenario-based emissions project presents a dire snapshot of the energy sector being the biggest culprit contributing significantly to the enormous GHG emissions in 2030 (BAPPENAS, 2015). Given this backdrop, Indonesia needs urgent and effective actions to mitigate GHG emissions in the energy sector in pursuit of a true transformation towards a low-carbon society.



Source: Ministry of Environment and Forestry, Indonesia

Figure 2.1 GHG Emissions Profile of Indonesia, 2000-2016

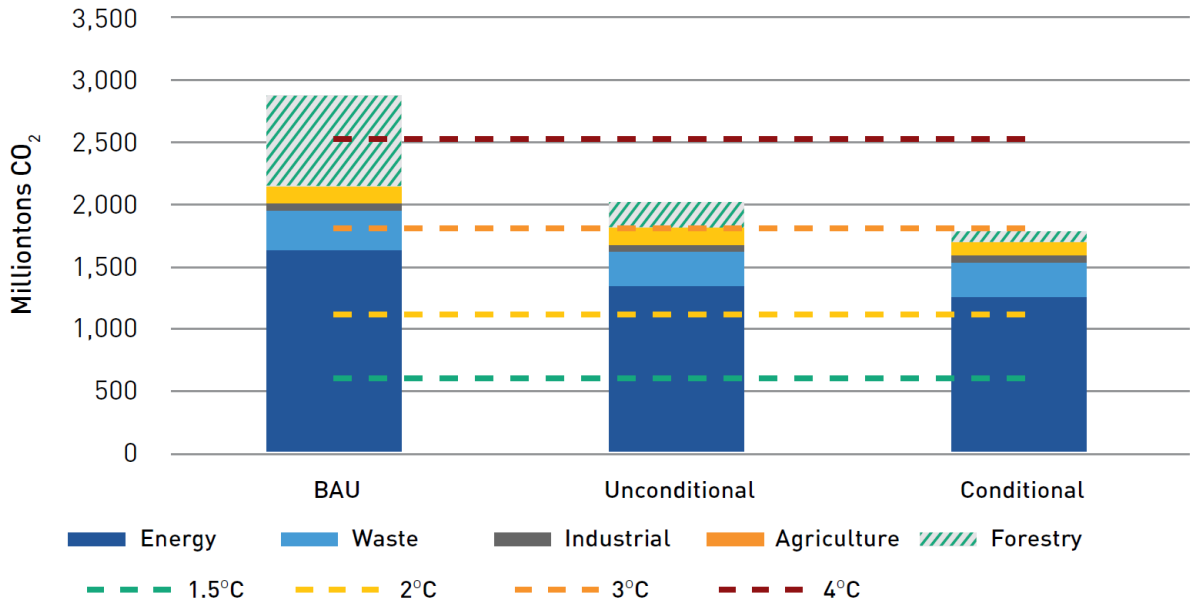


Source: BAPPENAS, 2015, extracted from the World Resources Institute

Figure 2.2 GHG Emissions Profile of Indonesia, 2010 vs. 2030

Indonesia's energy sector has faced challenging circumstances against a low-carbon transformation, considering the apparent fossil fuel dependency; as of 2020, more than 60% of its electricity generation relied on the capacity of coal-fired power plants, according to the latest Power Development Plan (RUPTL) published by the state-owned utility company, PLN. Such a heavy dependency has been continuously exacerbated with the state subsidies for the fossil fuel-based petroleum products and electricity. As of 2019, the amount of the fossil fuel subsidies totalled USD8.6 billion. Distorted policy incentives have resulted in significantly low energy prices, which is one of the critical barriers to energy transition moves including the promotion of energy efficiency and conservation in Indonesia.

Intervention is Urgent and Necessary with Indonesia, Lagging behind the Paris Agreement. According to the NDC of Indonesia, updated in July 2021, the country has set up an unconditional target of 29% reduction of the GHG emissions against the BAU scenario by 2030, while committing itself to a conditional contribution up to 41% reduction by 2030 with international support. In actuality, these targets are criticised by international experts because they are not ambitious enough to be in line with the Paris Agreement. While the Ministry of Environment and Forestry of Indonesia also reset the net zero target year from 2070 to 2060 through the updated NDC, it emphasises the necessity of international assistance. Given that the national net zero target of 41% conditional mitigation commitment by 2060 can be achieved only with internationally supportive actions for finance provision, technology development and transfer, and capacity building, an international level intervention is critical. At this juncture, the international partnership-based Programme is an essential intervention for Indonesia. It shall tackle the energy sector with substantial mitigation potential (see below) for the country to be on track moving towards a 1.5°C scenario.



Source: Funding Proposal for Program dated 8 July 2022

Figure 2.3 Indonesia's Updated NDC Scenario in 2030

Internationally projected climate scenarios present a dire picture of the climate future in case of a BAU pathway; Indonesia is not an exception to this at all. In particular, Indonesia's scenarios of a Representative Concentration Pathway (RCP), a GHG concentration trajectory adopted by the Intergovernmental Panel on Climate Change (IPCC), alarm the country when it trails around with a BAU case of RCP8.5. The global community ought to support Indonesia to strive for and act in accordance with a choice of RCP2.6, a desirable pathway that limits global warming to below 1.5°C, the aspirational goal of the Paris Agreement. See below RCP scenarios for Indonesia, by different emissions pathways from the strong mitigation scenario to the BAU scenario.

Table 2-2 Projected Temperature Changes in Indonesia by RCP Scenario

	Average Daily Maximum Temperature		Average Daily Temperature		Average Daily Minimum Temperature	
Scenario	2040–2059	2080–2099	2040–2059	2080–2099	2040–2059	2080–2099
RCP2.6	0.9 (0.2, 1.5)	0.9 (0.2, 1.8)	0.9 (0.4, 1.5)	0.9 (0.3, 1.6)	0.9 (0.4, 1.5)	0.9 (0.3, 1.5)
RCP4.5	1.2 (0.5, 2.0)	1.6 (0.8, 2.6)	1.2 (0.7, 1.8)	1.6 (1.0, 2.5)	1.2 (0.7, 1.8)	1.7 (1.1, 2.5)
RCP6.0	1.0 (0.3, 1.9)	2.0 (1.2, 3.0)	1.1 (0.6, 1.7)	2.0 (1.4, 2.9)	1.1 (0.6, 1.7)	2.0 (1.4, 3.0)
RCP8.5	1.6 (0.8, 2.5)	3.4 (2.4, 4.9)	1.6 (1.1, 2.3)	3.4 (2.6, 4.6)	1.6 (1.1, 2.3)	3.4 (2.6, 4.6)

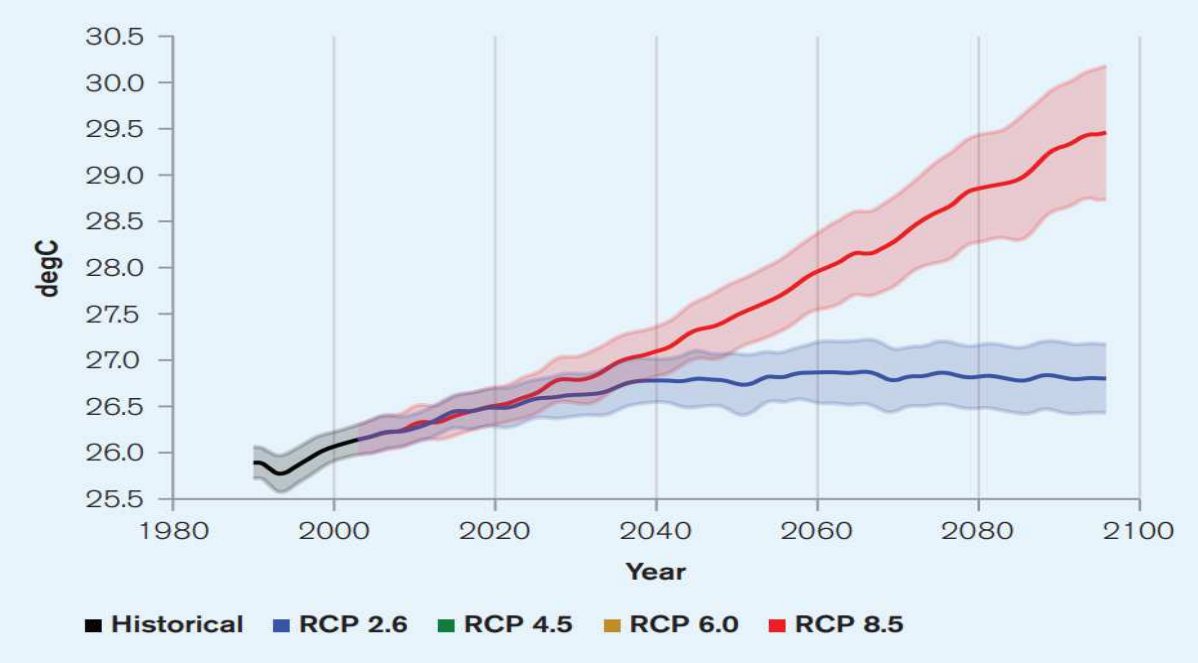


Figure 2.4 Projected Average Annual Temperature Changes (°C) in Indonesia by RCP Scenario

Energy Efficiency is an Urgent Area for Reducing GHG Emissions from Indonesia's Energy Sector. The International Energy Agency (IEA) estimates that half of the worldwide climate mitigation actions must come from energy efficiency. According to the IEA report on Southeast Asia's Energy Transition as of 2019, there is a significant untapped potential to improve energy efficiency measures in the industry sector across the Southeast Asian region and more than USD 600 billion is needed to improve end-use energy efficiency in the Sustainable Development Scenario that outlines the needed changes of the global energy system to deliver on these three energy-related Sustainable Development Goals (SDGs) – (1) universal access to energy (SDG 7), (2) reduction of the severe health impacts of air pollution (SDG 3), and (3) climate action (SDG 13) – by 2040.

The 5th ASEAN Energy Outlook addresses that, between 2015 and 2040, the total primary energy supply of Indonesia will be more than double in the absence of enhanced energy efficiency. The IEA strongly supports the urgent need of improved industrial energy efficiency, noting that the role of energy efficiency is crucial in order to achieve energy intensity reduction targets of 17% lower than BAU projections proclaimed under the National Energy General Plan of Indonesia (RUEN). Of the energy-related GHG emissions, particularly, the industrial sector is the largest driver within the energy areas, accounting for 37% of the total, followed by the transport sector (27%) and power sector (27%). Climate Transparency Report (2020) states, "Indonesia has implemented industrial energy management policies; however, more stringent industrial energy efficiency standards are needed to achieve significant emission reduction (p.13)." The sectoral breakdown of the GHG emissions justifies the Programme's intervention in the industrial energy efficiency area by urgency and priority.

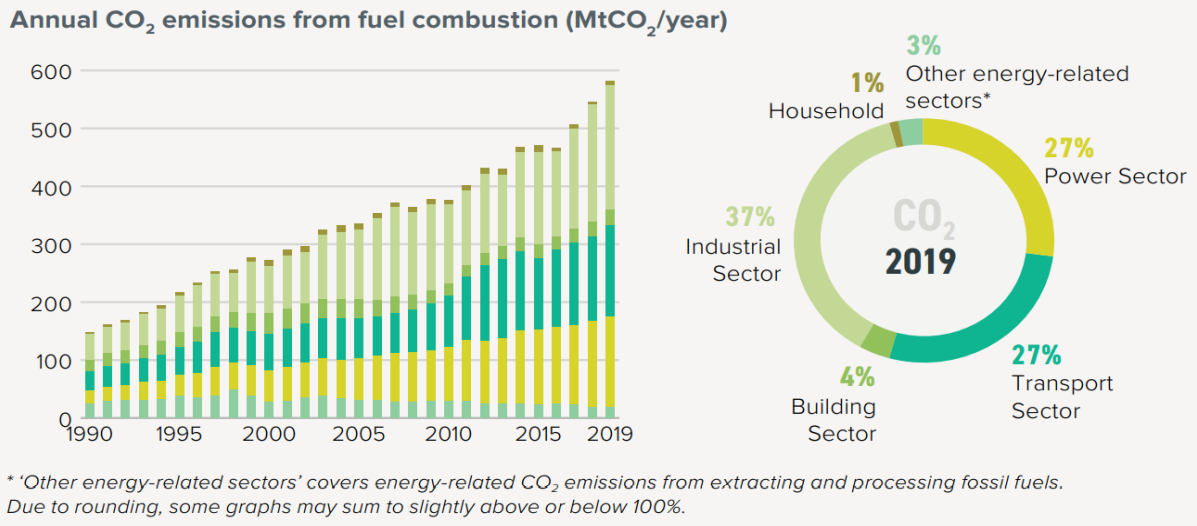


Figure 2.5 Energy-related GHG Emissions of Indonesia

COVID-19 Impacts on Energy Efficiency Promotion in Indonesia. In harsh reality, being confronted by the state budget's deficit widened due to the handling of the pandemic, the government has a strong willingness to address priority sectors such as healthcare around the procurement of vaccination and medical equipment, social protection and basic needs support that directly affect the vulnerable group of people and businesses. The governmental deployment of stimulus measures in the neediest areas seems likely to bring energy efficiency and conservation back in terms of priority. The area of energy efficiency and conservation is generally positioned as a second priority and the COVID-19 crisis has added an extra level of pressure on top of the backdrop, according to Energy Efficiency 2020 report (IEA, 2020). Given the further setbacks from the COVID-19 woes, international-level intervention in the urgent business area – lower priority though – is more important than ever: breaking a trajectory in respect of the importance of low priorities.

The proposed Programme is designed based on the lessons learned from the precedents in the country and in other jurisdictions, in line with the strong willingness of the Indonesian government to strengthen and refine the regulatory framework and policies for promoting industrial energy efficiency in consideration of synergy impacts alongside diverse relevant programmes and initiatives. The Program is an integrated package of de-risking mechanisms, innovative EE financing scheme, regulatory framework and pre-feasibility study for regional scale-up, technical assistance and capacity building activities.

2.1.2 Components and Activities of the Program

The components and activities, as well as the outputs leading to such an outcome, are described in the Table below. Refer to the latest funding proposal for full detail on the Program.

Table 2-3 Project Components and Activities

Component	Activities	Executing Entity
[Component 1] Energy Efficiency Finance	3. Activity 1.1: Backstopping credit risk of local FI's own loan with the GCF credit guarantee provision 4. Activity 1.2: Monitoring and management with F/X risk follow-up	Local FIs
[Component 2] De-risking mechanisms	5. Activity 2.1: Introduction of customised Energy Saving Insurance (ESI)	ACE

Component	Activities	Executing Entity
	6. Activity 2.2: Development of ESCO financing structure	
[Component 3] Technical Assistance (TA) for the Market Readiness	7. Activity 3.1: Local FIs capacity building activities 8. Activity 3.2: Technical advisory for industry player 9. Activity 3.3: Development of EE regulatory framework 10. Activity 3.4: Sharing knowledge and understanding gained by the programme with ASEAN member states	ACE

2.1.3. Program Executing Entity

Korea Development Bank (KDB) is an Accredited Entity. KDB will pursue the successful implementation of the Program in collaboration with two (2) Co-Executing Entities: (1) ACE for technical, financial and regulatory assistance, as well as capacity building and dissemination; and (2) a selected financial intermediary for loan disbursement. KDB is in charge of development of operational manuals including this ESMF. The following table summarizes roles of each executing entities on the program.

Table 2-4 Role of Program Executing Entity

Institutions	Role
KDB – Accredited Entity	SuperviseComponent **1,2 and 3** Appendix A Provide co-financing Appendix B Develop and discuss EE insurance options Appendix C Develop concessional loan to Indonesian local financial institutions Appendix D Marketing strategy and implementation
ASEAN Center for Energy (ACE) – Co-Executing Entity	Lead component **3 & 4** Appendix E Design and development of de-risking mechanisms Appendix F Technical assistance and capacity building for stakeholders (project pipeline development, technology and EM system, financial, regulatory), including policy advisory to MEMR/MOF Appendix G Stakeholders engagement and dissemination, including through ASEAN regional Meetings, and explore replicable EE finance mechanism and business model.
A Financial Intermediary – Co-Executing Entity	Appendix H Lead component **1** Provide co-financing and channel the concessional loan Appendix I Involved in identifying reputable insurer

2.2. Program Area

The Program has identified the priority target industries amongst energy-intensive ones (including food/beverage, textile/apparel, chemical/petrochemicals, pulp/paper/wood, and non-metallic minerals) and the priority target systems and technologies (such as pump / fan / motor / compressor within motor systems, and boiler / economizer / chillers within boiler / steam / process cooling systems, and sector-specific systems) based on various quantitative and qualitative selection criteria. As such, the primary focus would be any final beneficiary within the identified target industries and/or technologies, although the FI would not rule out to financing any sub-projects in relation to other industries or

technologies, as long as those sub-projects fit the overarching objective of the Program, based on Eligibility Criteria in the Table 2.5. The criteria are expected to be specified further during the implementation stage according to more in-depth practical and legal discussions with local FIs.

Table 2-5 Programme Eligibility Criteria (Component 1)

<table>
<tr><td>Final Beneficiaries (Borrowers)</td><td>
• <u>General – Mandatory Qualification</u>
Industry owners, enterprises, technology providers, ESCOs, or project developers in any form of a greenfield, replacement, upgrade, scale-up and/or expansion, which aim to enhance energy efficiency in industrial areas of Indonesia.
* Entities with more than USD200million in annual sales not eliglble
* Guarantee coverage to a single borrower shall be up to USD 20 million (20% of total GCF guarantee)..

• <u>Flexibility in Form</u>
A single final beneficiary may be selected on a stand-alone basis or on an aggregated basis (e.g., bundling a number of projects with a mixture of different energy efficiency technologies) or multiple final beneficiaries may be grouped into a single Sub-project Loan Agreement (e.g., bundling a number of industry owners with their respective projects within an industrial complex).

• <u>Priority Condition 1 (Indonesia NDA priority)</u>
Vulnerable locations and beneficiaries as prioritised in the National Medium Term Development Plan (RPJMN) 2020-2024, NDC roadmap, and NAPs.
• <u>Priority Condition 2 (Women's Empowerment and Gender Investing Strategy)</u>
A women-led SME will be selected with priority.[13] Even if not gender-mainstreamed yet, a company with a commitment to gender mainstreaming could be prioritised under the guidance of gender experts employed for the Programme.
</td></tr>
<tr><td>Total Cost</td><td>
• <u>General – 100% of total amounts</u>
- The cost of purchasing the energy efficient technologies and equipment;
- Required associated costs/expenses for the energy efficient technologies and equipment, including freight, installation, customs duty, and related insurance; and
- Other costs/expenses considered necessary for the project implementation by relevant FIs.
</td></tr>
<tr><td>Equity Injection Requirement</td><td>
• As per the classification of the final beneficiaries into Class A / Class B, a minimum level of equity injection is required as 5% / 10% of Total Cost, respectively.
• Each of the final beneficiaries is classified as per the annual sales volume, based on SMEs classification of WEF(World Economic Forum), in 2021[14] (USD converted) as follows:
<table>
<tr><th>Annual Sales Volume</th><th>Classification</th><th>Equity Requirement</th></tr>
<tr><td>Up to USD35million</td><td>Class A/
ESCOs</td><td>5% (of Total Cost)</td></tr>
<tr><td>USD35million ~ USD200million</td><td>Class B</td><td>10% (of Total Cost)</td></tr>
</table>
</td></tr>
<tr><td>Total Eligible Investment Cost</td><td>
• <u>Total Cost excluding the equity injection by final beneficiary</u>
</td></tr>
</table>

[13] IFC's definition of women-owned enterprise i.e., at least 51% owned by a woman or women; or a business where at least 20% is owned by women with one or more women in a top management role (CEO/COO), and at least 30% of the board of directors being female (where a board exists). But to better suit the objective to this programme, broader definition of women-owned business by MCA-Indonesia (2016) will be adopted, which is business in which a woman or group of women holds most of the important roles and positions in the ownership of capital/business inputs, business management, human resources/labor, and/or business control. Consequently, a thorough assessment should be carried out in a case-by-case basis to determine whether a business can be categorized as a women-owned business.
[14] www.weforum.org/agenda/2021/09/how-can-indonesian-sems-scale-up/

Environmental and Social Safeguards (ESS)	• To be classified as "E&S Risk Category B" or "E&S Risk Category C" • The Programme will not finance any project with the category A potential • The Programme will not finance any project with potential adverse impacts in relation to indigenous peoples in Indonesia • The Programme will not finance any project that may involve land acquisition that may cause any involuntary resettlement or physical/economic losses • The Programme will not finance any project with potential adverse impacts on ecological diversity and ecosystem • The Programme will not finance any project with potential adverse impacts on cultural heritage
Priority Industries & Technologies	• <u>General – Mandatory Qualification</u> - Technologies with energy efficiency improvement by more than 20%, compared to the existing equipment of a beneficiary; for cases where 20% is not achievable (e.g: motors), best in class equipment will be used - The rate of improvement would be proven by evidence, such as catalogue/brochure/declaration from suppliers, reports/certificates from certified energy auditors/independent advisors, or reports developed under TA activities of Component 3; - No re-sale of existing equipment is allowed; and - Second-hand equipment is not eligible • <u>Priority Industries</u> Food and beverage, textile and apparel, chemical and petrochemical, pulp / paper / wood, and non-metallic minerals (including cement). • <u>Priority Systems and Technologies</u> - Pump, fan, motor, compressor within the motor system (e.g., high efficiency pump, fan, compressor, motor, variable speed drive (VSD) and variable frequency drive (VFD) etc. - High efficiency boiler / economiser / chillers within boiler / steam / process cooling systems - Sector-specific system (e.g., waste heat recovery (WHR) power facility in cement industry)

Likewise, the Program does not plan to target any particular locations across regions in the country, as long as a final beneficiary or its sub-project is aligned with the Program objective. That said, several provinces where energy-intensive industries or the relevant industrial complexes are concentrated (such as Greater Jakarta, East/West/Central Java, Banten, East Kalimantan, and South/North Sumatra) are likely to be ones in which the selected Final Beneficiaries or their sub-projects are located.

2.2.1. Geographical and Beneficiaries Target of the Program

The Program is to cover entire geography of Indonesia, however, given that the intention of the Program covers the industrial sector, it is expected to focus on the Indonesian's main manufacturing regions in the country, namely Jakarta, East/West/Central Java, Banten, East Kalimantan and South/North Sumatra.

In Indonesia, the majority of businesses in the manufacturing sector are mostly located on the island of Java. The island accounts for 60 percent of the population and 58 percent of GDP; it is also where the capital is situated.

Logistics and infrastructure are also more developed here than on the other islands with major land and seaports easily accessible to manufacturers. Additionally, more than half of the 100 or so industrial estates are located on the island. The main manufacturing hubs on the island are in the provinces of West Java, Central Java province, East Java, and Banten.

Some 60 percent of Indonesia's manufacturing activities are located in West Java province, ranging from textiles, F&B, automotive, aviation, and electronics. Its top-three exports were machinery,

electronics, and electric equipment with automotive, F&B, and industrial estates receiving the most direct domestic (DDI) and foreign direct investment (FDI). The region is also investing heavily in livestock, plantations, and agriculture since the province's fertile volcanic soil produces 70 percent of national tea production and around 20 percent of total rice production.

The manufacturing sector contributes to 30 percent of the GDP of Central Java province. It has become particularly popular with investors engaging in textiles and garment manufacturing with 56 percent of inward textile investment going into the province. Other sectors include food and wood processing, and the non-metallic mineral industry. The province is also known for its teak wood

East Java province has a number of large industries, which includes the largest shipbuilding yard and the largest cement factory in the country. Major manufacturing sectors also encompass the food industry, machinery, leather goods, and furniture.

Banten province is rich in mineral sources, such as gold, coal, phosphate, and opals, among others. State-owned steel manufacturer PT Krakatau POSCO produces some three million tons of steel with other major industries in the province covering chemicals, automotive, and F&B. The Merak seaport is a key transport link between the islands of Java and Sumatra. The port also services one of the largest petrochemical facilities. The country's main international airport is also located in this province.

The cities of Tangerang, South Tangerang, and Cilegon, accounts for almost two-thirds of gross regional domestic product, because of their export-oriented processing industries.

2.2.2. Industrial Target of the Program

Moving from traditional agricultural activities, the industry sector with its contribution to around 39% of Indonesia's gross domestic product ("GDP") has been a key driver of the growth in the Indonesian economy as well as one of main contributors of GHG emissions from massive energy consumption in the sector.

In emerging economies, the energy use from industry is increasing exponentially and directly linked to the GDP. Between 2000 and 2015, Indonesia's GDP has doubled and its demand for electricity increased by 150%[15]. According to the ACE, energy consumption in industry reached 11.94 million tonnes of oil equivalent ("TOE") in 2017, which is around 31% of total energy consumption in Indonesia.

The GHG emissions form industrial activities (such as fossil fuel combustions, industrial processes and product used, and waste treatment activities etc.) rank the second after the land use in Indonesia. Amongst manufacturing industries, Eight highest energy intensive industries (i.e., cement, fertilizer, ceramic and glass, chemical, pulp and paper, textile, iron and steel, and food and beverage) contributed around 147.43 Mt CO_{2e} or about 55.9 percent of national GHG emissions from energy use in industry as direct and indirect emissions in 2016 [16].

The International Energy Agency ("IEA") estimates that half of the worldwide climate mitigation actions must come from energy efficiency[17]. According to the IEA study report on Southeast Asia's Energy Transition 2019, there is significant untapped potential to improve energy efficiency measures at the industry sector across the Southeast Asian region, and more than $600 billion is needed to improve end-use energy efficiency in the Sustainable Development Scenario to 2040, a 13% increase compared to the New Policy Scenarios[18]. The Ministry of Energy and Mineral Resources (MEMR), Indonesia estimated that across various sectors (e.g., industry, transport, household, and commercial) the energy saving potential would be the highest in industry sector.

[15] International Energy Agency (IEA). 2017. Energy Efficiency 2017

[16] Ministry of Industry Republic of Indonesia and UNDP. 2018. Greenhouse Gas Emission Profile from Indonesia's Industry Sector

[17] IEA. 2017

[18] IEA. 2019. Southeast Asia Energy Outlook 2019

The 5th ASEAN Energy Outlook addressed that in the absence of enhanced energy efficiency, between 2015 and 2040, total primary energy supply will more than double in Indonesia[19]. The IEA also noted that the role of energy efficiency will be crucial in order to achieve energy intensity reduction target for the industrial energy use with 17% lower than the business-as-usual projections proclaimed under the National Energy Plan of Indonesia ("RUEN")[20]. In particular, potential energy savings would be significant in energy-intensive manufacturing industries, where energy intensity can be improved by 44% by 2040[21].

In other words, inefficiencies in industrial process and system have been leading to high energy wastage on a national scale, and utilization of energy-efficient technologies in the industry sector therefore could provide a huge benefit to the GHG emissions reduction target as well as energy intensity reduction target of Indonesia.

According to national statistics, in 2017 the most energy intensive industries, based on their total energy use, were:

1. Non-metallic minerals: comprise of the production of cement, ceramics, glass, and lime. These manufacturing sectors are characterised by the transformation of naturally occurring minerals such as limestone, silica, and clays through an energy-intensive process. Energy consumption is mainly due to fuel combustion. The heating system in cement plant only uses coal and biomass as the main energy supplier, while the prime mover of the motor-driven machinery gets the energy supply from the grid electricity;
2. Textiles and apparel products: this sector had been a leading source of growth in manufacturing output, exports and employment in Indonesia. This sector is the first for electricity consumption and the second highest for fuel consumption. Mainly, the electricity demand is required by the spinning process (i.e. combining fibres into a yarn) that need more electricity power to run the machinery instead of heat like on the weaving industry (i.e. from yarn to fabric) or in the finishing process[22].
3. Food and beverage products: rising personal income and increased spending on food and drink from middle class consumers has contributed to a constant growth of this sector. Fuel combustion is the main source of energy use for this sector;
4. Chemical and Petrochemicals: comprising products derived by the petrol refinery process and other chemicals from oil, natural gas, air, water, metals, and minerals. Energy consumption is mainly due to fuel combustion;
5. Pulp, paper and wood products: the energy supply for the pulp industry mostly comes from the excess wood of the pulp production process with a small amount of additional energy sources such as coal, oil, natural gas, and grid electricity. The paper industry, instead, relies more on the grid electricity supply, which is used to activate the motor-driven machinery, cooling system and the heating, ventilation and air conditioning.

2.2.3. Technological Target of the Program

In order to achieve the objectives of the Program, it is expected to focus on a specific set of technologies used in the abovementioned sectors. Although, the FI would not rule out to financing any sub-projects in relation to other industries or technologies, as long as those sub-projects fit the overarching objective of the Program

The main technologies can be divided into:

[19] ASEAN Centre for Energy. 2017. The 5th ASEAN Energy Outlook (AEO5)

[20] IEA. 2017

[21] IEA. 2019

[22] Vivadinar, Y., Purwanto, W.W. and Saputra A.H., 2016. Tracing the energy footprints of Indonesian manufacturing industry. Energy Science and Engineering. 4(6), pp 394-405. Doi: 10.1002/ese3.142

1. Motor Systems: motor-driven machineries, fan, pump, variable-frequency drive (VFD), compressors, etc. In general, modification or upgrade of the machinery is expected to lead to a better efficiency and therefore a lower consumption of electricity. For example, the VFD allows motor speed to be controlled to match specific operating requirements. In general, the motor is operated at a lower power level to conserve energy, resulting in a lower energy consumption. This will also positively reflect on the overall economic performance.
2. Steam/Cooling systems: boiler, economizer, chiller, etc. Energy use in process heating systems can be reduced by lowering demand for heating services, improving the efficiency of heat production, heat containment and improved heat transfer, and by recovering heat for reuse. Improved maintenance and management, such as using sensors and controls, can also help optimise performance. These measures reduce energy costs while increasing resilience to energy supply failure.

   Sector-specific technologies: for example, waste heat recovery power generation in cement industry. The cement production process conventionally involves heating material in a kiln to around 1350 degrees Celsius, before cooling back down using large amounts of water. Recovery of energy from the wasted heat can potentially be useful for various applications including electricity production.

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The ESMF identifies all the national and state-level legislation, rules, and guidelines, which would be applicable to the program. It has also identified all the relevant international policies and guidelines, which are applicable to the program. This section highlights the relevant E&S policies and regulations and guidelines applicable to the constituent projects.

3.1. Indonesian Government E&S Policies and Regulatory Requirements

3.1.1. Act of Republic of Indonesia No. 32 Year 2009 regarding Environmental Protection and Management

The act is the highest guideline in environmental procedures, issues, and possible maximum applicable sanctions for violation of environmental laws. Any activity which is considered to have a high risk to the environment or if it is ordered by the Minister of Environment should carry out an environmental impact assessment.

Every activity that is not included in the mandatory criteria to develop Environmental Impact Assessment (AMDAL) as referred to in Article 23 is required to have UKL-UPL (Environmental management and monitoring efforts).

Every activity that is required to have AMDAL or UKL-UPL is obliged to have environmental permit. The environmental permit shall be issued on the basis of the decision on the environmental feasibility or recommendation of AMDAL or UKL-UPL. The environmental permit consists the requirements contained in the decision on environmental feasibility or recommendation about UKL-UPL. The environmental permit shall be issued by the Minister, governors or regents/mayors in accordance with their respective scopes of authority.

3.1.2. Government Regulation No 27 Year 2012 on Environmental Permit

According to this regulation that stipulated on 23 February 2012 stated every Business and / or Activity mandatory of Environmental Impact Assessment (AMDAL or UKL-UPL) is required to have Environmental Permit.

AMDAL is prepared by the initiator at the planning stage of a business and / or activity. The location of the business and / or activity plan must be in accordance with the spatial plan. In the event the location of the Business and / or Activity plan is not in accordance with the spatial plan, the Amdal document cannot be assessed and must be returned to the Initiator.

Applications for environmental permits are submitted in writing by the person in charge of the business and / or activity as the initiator to the Minister, governors or regents / mayors in accordance with their respective authorities. The application for an Environmental Permit is submitted simultaneously with the submission of the AMDAL and RKL-RPL assessment or UKL-UPL examination.

Application for environmental permits must be completed with: AMDAL document or UKL-UPL form; business and / or activity establishment documents; and business and / or activity profiles.

The Environmental Permit Holder is obliged to:

- Comply with the requirements and obligations contained in the Environmental Permit and environmental protection and management permits;
- Prepare and submit implementation reports on the requirements and obligations in the Environmental Permit to the Minister, governors or regents / mayors; and
- Providing insurance funds for the restoration of environmental functions in accordance with statutory regulations.

Environmental permit holders who violate the provisions will be subject to administrative sanctions including: written warning; government coercion; suspension of Environmental Permits; or revocation of environmental permit.

In this regulation also covers related Stakeholder Engagement as stated in Article: The initiator, in compiling the EIA document as referred to in Article 8, involves the community:

- who are affected;
- environmentalist; and / or
- who are affected by all forms of decisions in the EIA process.

Community participation is carried out through:

- announcement of business and / or activity plans; and
- public consultation

3.1.3. Act No. 5 Year 1990 on Conservation of Living Natural Resources and Their Ecosystems

This Act stipulated on 10 August 1990 with objective to strive for the realization of the preservation of living natural resources and the balance of their ecosystems so that they can further support efforts to improve community welfare and the quality of human life. Conservation of living natural resources and their ecosystems is carried out through the following activities:

- life support system protection, in a way
  - certain areas as life support system protection areas;
  - the basic pattern of developing a life support system protection area;
  - arrangements for the utilization of life support system protection areas
- preservation of plant and animal species diversity and their ecosystems;
- Sustainable use of living natural resources and their ecosystems. Nature conservation areas consist of:
  - National Parks;
  - Grand forest park;
  - Nature Tourism Park.

There are some fines will be charged for those who violate this regulation.

3.1.4. Regulation of the Minister of Environment and Forestry Number P.76 / MENLHK-SETJEN / 2015 of 2015 concerning Criteria for National Park Management Zones and Management Bloc of Nature Reserves, Wildlife Reserves, Grand Forest Parks and Nature Tourism Parks

The regulation was stipulated on 16 December 2015 to provides an overview of the management direction that will be achieved in the next 10 (ten) years. Area arrangement is carried out by planning by dividing the area into management zones or management blocks in accordance with the results of an inventory of potential areas and considering area management priorities, which include:

- Management zone in National Park;
- Management Bloc of Nature Reserves, Wildlife Reserves, Grand Forest Parks and Nature Tourism Parks.

The management zone or management block will be structured through the following activity stages:

- drafting;
- assessment;
- ratification and stipulation; and
- Boundary marking.

Monitoring is carried out by the technical directorate in terms of conformity to the criteria for each management zone or management block, appropriateness of allocation and marking of management zone or management block boundaries. Monitoring is carried out periodically for a maximum of 5 (five) years.

3.1.5. Presidential Regulation No. 61 of 2011 regarding National Plan to Reduce GHG Emissions

This Regulation is a guideline for Ministries / agencies to plan, implement, and monitor and evaluate action plans for reducing greenhouse gas emissions and Local governments in the preparation of a Regional Greenhouse Gas Action Plan. Moreover, this National Plan become a reference for the public and business actors in planning and implementing GHG emission reduction. Enforcement date of this regulation is 20 September 2011.

As per Indonesia commitment in G-20 Pittsburgh (2009), COP15 (2009) to reduce GHG emissions by 26% by 2020 and contingent on the provision of international financial support, further committed to a 41% reduction against business as usual targets. Hence, this regulation is one form of effort to fulfil the commitment.

The core activities of the National Action Plan for Reducing Greenhouse Gas Emissions are divided into several areas, namely:

- Agriculture
  - Emission Reduction Target (26%): 0.008 (Giga ton) CO2e
  - Emission Reduction Target (41%): 0.011 (Giga ton) CO2e.

  Policies undertaken to support this national plan by strengthening national food security and increasing agricultural production with low GHG emissions and Improving the function and maintenance of the irrigation system.
- Forestry and Peatlands
  - Emission Reduction Target (26%): 0.672 (Giga ton) CO2e
  - Emission Reduction Target (41%): 1.039 (Giga ton) CO2e.

  Policies Implemented to Support this national plan by reducing GHG emissions while increasing environmental comfort, preventing disasters, absorbing labor, and increasing community and state income; Management of network systems and water systems in swamps; Maintenance of the swamp reclamation network (including existing peatlands); and Increased productivity and efficiency of agricultural production on peatlands with the lowest possible emission and optimal absorption of CO2.
- Energy and Transportation
  - Sector Emission Reduction Target (26%): 0.038 (Giga ton) CO2e
  - Emission Reduction Target (41%): 0.056 (Giga ton) CO2e.

  Policies implemented to support this national plan: 1. Increase in energy savings; 2. Use of cleaner fuels (fuel switching); 3. Increasing the use of new and renewable energy; 4. Utilization of clean technology for both power plants and transportation facilities; and 5. Development of a national mass transportation that is low-emission, sustainable, and environmentally friendly.

- Industry Sector
  - Emission Reduction Target (26%): 0.001 (Giga ton) CO2e
  - Emission Reduction Target (41%): 0.005 (Giga ton) CO2e.

  Policies undertaken to support this national plan by increasing industrial growth by optimizing energy use.
- Waste Management Sector
  - Emission Reduction Target (26%): 0.048 (Giga ton) CO2e
  - Emission Reduction Target (41%): 0.078 (Giga ton) CO2e.

  Policies implemented to support this national plan: Improve waste management and domestic wastewater.

3.1.6. Presidential Regulation No. 71 of 2011 on the Implementation of a National Greenhouse Gas Inventory (5 Oct 2011)

The implementation of the National GHG Inventory aims to provide:

- Periodic information regarding the level, status and trend of changes in GHG emissions and removals including carbon storage at the national, provincial and district / city levels.
- Information on the achievement of GHG emission reduction from national climate change mitigation activities

GHG inventory is carried out by:

- Monitoring and collecting activity data on sources of GHG emissions and removals including carbon storage, as well as determination of emission factors and GHG removals.
- GHG emissions and removals accounting including carbon storage.

The results of calculating GHG emissions and removals including carbon storage are reported in the form of GHG emission levels and status.

The calculation of GHG emissions and removals including carbon storage is carried out by: a. use activity data in each source of emissions and removers including carbon storage; b. using activity data for the same year; c. using local emission factors and absorption factors.

The results of calculating GHG emissions and / or removals are used to calculate the achievement of GHG emission reduction from national climate change mitigation activities.

3.1.7. Government Regulation No. 79 of 2014 regarding National Energy Policy (17 Oct 2014)

The national energy policy is an Energy Management policy based on the principles of justice, sustainability and environmental insight in order to create Energy Independence and national Energy Security. The national energy policy is valid from 2014 to 2050. It aims to give direction for energy management in order to create independency and security in energy field. For example, the Indonesian government is required to decrease oil and gas export, increase renewables consumption and power plant development, determine progressive electricity tariff and feed in tariff for renewable energies, and also formulate subsidies mechanism for low class society.

Energy Independence and National Energy Security are achieved by realizing:

- Energy Resources are not only used as export commodities but as capital for national development;
- Energy Management Independence;

- Energy availability and meeting domestic Energy Sources needs;
- Management of Energy Resources in an optimal, integrated and sustainable manner;
- Efficient use of energy in all sectors;
- Access for the community to Energy in a fair and equitable manner;
- Development of technological capabilities, the Energy Industry, and domestic Energy services to be independent and increase the capacity of human resources;
- Creation of job opportunities; and
- The preservation of environmental functions.

3.1.8. Presidential Regulation No. 22 of 2017 regarding the National Energy Plan (13 March 2017)

The National Energy General Plan is the policy of the Central Government regarding the national level energy management plan which becomes the elaboration and implementation plan of the National Energy Policy which is cross-sector in nature to achieve the targets of the National Energy Policy. This plan is prepared by the Central Government and stipulated by the National Energy Council for a period of up to 2050 serves as a reference:

- Preparation of central development planning documents and regional development planning;
- Preparation of the National Electricity General Plan and the Electricity Supply Business Plan; and
- Preparation of the State Revenue and Expenditure Budget / Regional Revenue and Expenditure Budget by state ministries / non-ministerial government agencies and the Regional Government and its implementation.

3.1.9. Government Regulation No 41 Year 1999 on Air Pollution Control (26 May 1999)

This regulation stipulated on 26 May 1999 by considering that the air as a natural resource affecting human life and other living creatures must be preserved and its function preserved is for the maintenance of human health and welfare as well as protection for other living creatures; and that in order for the air to be of great use to the preservation of environmental functions, it is necessary to maintain, protect and guarantee its quality by controlling air pollution;

The protection of ambient air quality is based on ambient air quality standards, air quality status, ambient, emission quality standards, exhaust gas emission thresholds, noise level standards, noise thresholds and Air Pollution Standard Index.

Air pollution control includes prevention and control of pollution, as well as restoration of air quality by carrying out an inventory of ambient air quality, preventing sources of pollutants from both mobile and immovable sources including sources of disturbance and handling of emergencies. Air pollution prevention includes efforts to prevent air pollution by:

- Stipulation of ambient air quality standards, immovable source emission quality standards, disturbance level standards, exhaust gas emission thresholds and motor vehicle noise;
- Stipulation of air pollution control policies.

Anyone carrying out a business and / or activity that emits emissions and / or a standard level of disturbance to ambient air is obliged to:

- Comply with ambient air quality standards, emission quality standards, and disturbance level standards stipulated for the business and / or activity it carries out;
- To prevent and / or control air pollution caused by the business and / or activities it does;

- Provide true and accurate information to the public in an effort to control air pollution within the scope of its business and / or activities.

Every person or person in charge of a business and / or activity that causes air pollution and / or disturbance is obliged to take measures to overcome and recover it.

3.1.10. Regulation of the Minister of Energy and Mineral Resources Number 9 of 2020 concerning Efficiency of Electricity Supply of PT Perusahaan Listrik Negara (Persero)

PT Perusahaan Listrik Negara (State Electricity Company or PLN) is an Indonesian government-owned corporation which has a monopoly on electricity distribution in Indonesia and generates the majority of the country's electrical power.

To increase efficiency in the electricity supply business of PT Perusahaan Listrik Negara (Persero), it is necessary to regulate the mechanism for setting targets and the realization of the efficiency of electricity supply in the form of power generation efficiency and efficiency of the electricity grid. In conducting the electricity supply business, PT PLN (Persero) implements and improves the efficiency of electricity supply to power plants and power grids. PT PLN (Persero) carries out efficiency in the supply of electricity to power plants based on the specified SFC size target for power plants. The determination of the amount of Specific Fuel Consumption (SFC) for a power plant includes:

- power plant SFC target for the period of 5 (five) years (roadmap);
- annual power plant SFC targets; and
- realization of SFC semi-annual and annual power plants.

This regulation was stipulated on 6 April 2020.

3.1.11. Act No. 13 Year 2003 on Manpower (25 March 2003)

This Act contains provisions in relation to equal opportunities, labour protection, including human resources policy, labour grievance mechanism and regarding child labour management.

Background of this regulation are that in accordance with the role and position of the workforce, it is necessary to develop manpower to improve the quality of the workforce and their participation in development and to increase the protection of workers and their families in accordance with human dignity and dignity; and D. that protection of workers is intended to guarantee basic rights of workers / labor and guarantee equal opportunity and treatment without discrimination on any basis to realize the welfare of workers / laborers and their families while still paying attention to the progress of the business

This act aims to: a. empower and utilize manpower optimally and humanely; b. realizing equal employment opportunities and providing manpower in accordance with the needs of national and regional development; c. provide protection to workers in realizing welfare; and d. improve the welfare of workers and their families.

Every worker has the same rights and opportunities to obtain a decent job and livelihood regardless of gender, ethnicity, race, religion and political orientation according to the interests and abilities of the workforce concerned, including equal treatment of persons with disabilities. Every worker / laborer has the right to receive equal treatment without discrimination from employers.

Workers have the right to obtain job competency recognition after participating in job training organized by government job training institutions, private job training institutions, or on-the-job training.

3.1.12. Regulation of the State Minister for the Environment Number 17 of 2012 concerning Guidelines for Community Involvement in the Process of Analysis of Environmental Impacts and Environmental Permits

This regulation was stipulated on 10 October 2012 as guidelines for community engagement in the processes of environmental impact analysis report and environmental licenses. The implementation of community engagement in the processes of Environmental Impact Analysis Report and environmental licenses shall be conducted based on the following basic principles:

- Provision of transparent and complete information;
- Equality of positions between involved parties;
- Just and prudent problem solving; and
- Coordination, communication and cooperation between concerned parties.

3.1.13. Presidential Decree No. 186 year 2014, article 4 regarding Social Empowerment of Remote Indigenous Community (Komunitas Adat Terpencil/KAT) (24 December 2014)

Regulations regarding the definition of remote indigenous community and the empowerment program. Social Empowerment for KAT is intended to develop independence so that it is able to meet its basic needs which aims to realize:

- protection of rights as citizens;
- fulfilment of basic needs;
- KAT integration with the broader social system; and
- Independence as a citizen.

The community has the widest opportunity possible to play a role in Social Empowerment for KAT.

3.1.14. Regulation of Ministry of Social No.12 year 2015 regarding the implementation of presidential decree No. 186 of 2014 concerning social empowerment of remote indigenous communities (KAT). (14 August 2015)

Social Empowerment for KAT is intended to develop independence so that it is able to meet its basic needs. Social Empowerment towards KAT is carried out based on categories with an empowerment period according to each category. Categories consist of:

- Category I; is KAT which generally lives with the following conditions:
  - live scattered and mobile in small, closed and homogeneous communities;
  - livelihood depends on the relatively high local environment and natural resources;
  - live with a subsistence economic system;
  - simple life;
  - marginalized in the countryside; and
  - experiencing multiple vulnerabilities
- Category II; is KAT which generally lives with the following conditions:
  - temporary sedentary life, generally still homogeneous, but more open;
  - shifting cultivation;
  - living with an economic system leads to a market system;

- life is slightly ahead of KAT category I;
- marginalized in the countryside; and
- experience vulnerability.

- Category III: is KAT which generally lives with the following conditions:
  - settled, heterogeneous and more open;
  - livelihood farming, gardening, fishing, handicrafts and / or trading;
  - live with a market economy system;
  - in general, life is more advanced than KAT category II;
  - marginalization in rural and urban areas; and
  - still experiencing vulnerabilities

3.2. Other Relevant E&S Policies, Acts, Rules and Strategies

3.2.1. GCF E&S Safeguard Policies

GCF establishes this overarching E&S Policy (hereafter Policy) that articulates how GCF integrates E&S considerations into its decision making and operations to effectively manage E&S risks and impacts and improve outcomes.

In carrying out its mandate of promoting a paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development, GCF will effectively and equitably manage E&S risks and impacts and improve outcomes of all GCF-financed activities. This policy presents the commitments of GCF and articulates the principles and standards to which GCF will hold itself accountable. Through this policy, GCF will require that all GCF-supported activities will commit to:

- Avoid, and where avoidance is impossible, mitigate adverse impacts to people, including the risks of SEAH, and the environment;
- Enhance equitable access to development benefits; and
- Give due consideration to vulnerable and marginalized populations, groups, and individuals, local communities, indigenous peoples, and other marginalized groups of people and individuals that are affected or potentially affected by GCF-financed activities.

The policy will apply to all GCF-financed activities and both public and private sector entities. The activities supported by GCF may include programs, projects, and subprojects. The financial instruments may vary and may include grants, concessional loans, guarantees, and equity investments.

The Environment and Social Policy apply to three engagement areas:

- At the strategic and institutional level: The policy responds to the mandate expressed in the Governing Instrument and links to other operational strategies and policies including internal structures and governance frameworks of GCF;
- At the entities level: The policy sets out the requirements for accredited entities working with GCF to establish and maintain robust, systematic, accountable, inclusive, gender-responsive, participatory and transparent systems to manage risks, including SEAH risks, and impacts from GCF-financed activities, pursuant to this policy and the ESS standards adopted by GCF. These requirements complement the accreditation framework and are considered in the accreditation and reaccreditation processes; and

- At the activity level: The policy establishes the requirements for E&S risk assessment and management to be aligned to GCF ESS standards ensuring that due diligence is undertaken for all GCF-financed activities, including subprojects financed from GCF-funded programs or through financial intermediaries, regardless of the financial instruments used or whether these are solely supported by GCF or co-financed by other institutions.

The following principles shall guide how GCF will implement the ESMS and achieve the objectives of this policy:

Integration of E&S sustainability

The ESMS and the policy provide an opportunity for GCF to incorporate E&S considerations in ways that not only include safeguard measures of "do no harm," but also improve E&S outcomes and generate co-benefits to the environment and the communities, including indigenous peoples, that depend on it. Within the parameters of the ESMS, this is translated into the operations of GCF, such as accreditation, investment criteria, ESS application, monitoring and accountability, information disclosure, gender mainstreaming, incorporation of considerations related to indigenous peoples, stakeholder engagement, and the redress mechanism.

Equality and non-discrimination

In meeting the ESS standards, all activities financed by GCF will require that, where they are unavoidable, adverse impacts do not fall disproportionately on vulnerable and marginalized groups and individuals that are affected or potentially affected by GCF-financed activities, and avoid prejudice and discrimination in providing access to development resources and benefits;

Mitigation hierarchy

The GCF adheres to the mitigation hierarchy as an overall principle to managing environmental risks and impacts suitable for all instances of GCF-financed activities. The mitigation hierarchy aims to:

i. Anticipate and avoid adverse risks and impacts on people and the environment;

ii. Where avoidance is not possible, adverse risks and impacts are minimized through abatement measures;

iii. Mitigate any residual risks and impacts; and

iv. Where avoidance, minimization or mitigation measures are not available or sufficient, and where there is sufficient evidence to justify and support viability, design and implement measures that provide remedy and restoration before adequate and equitable compensation of any residual risks and impacts;

Coherence and links with relevant policies and practices of GCF

The E&S Policy is an overarching policy that shall be consistent and linked with the relevant policies and practices of GCF, such as those related to accreditation, monitoring and accountability, the redress mechanism, information disclosure, gender, and others, as appropriate, including those relevant policies that are still to be developed;

Continuous improvement and best practices

The ESMS will be continuously reviewed and updated in a transparent and participatory manner to sustain its relevance and responsiveness to the prevailing organizational, social, economic, and political conditions. The ESMS will also be consistently aligned with international best practices and applicable standards, reflecting the experiences and lessons learned by accredited entities and other relevant institutions, as well as including recommendations made by the GCF independent accountability units. In updating the ESMS, GCF will provide guidance to accredited entities on the implications of such updates on their E&S management systems and their application to ongoing GCF-financed activities.

Stakeholder engagement and disclosure

The ESMS requires that there is broad multi-stakeholder support and participation throughout the lifecycle of GCF-financed activities, including the development of measures to mitigate, manage, and monitor E&S risks and impacts. The process to build support shall be inclusive, gender-responsive and culturally aware, and will be supported by the disclosure of relevant information pursuant to the GCF Information Disclosure Policy;

Gender-sensitive approach

GCF will contribute to gender equality and inclusiveness by ensuring that the methods and tools to promote gender equality and reduce gender disparities in climate actions are established and implemented. In designing activities for GCF-funding, GCF will require accredited entities to adequately assess the gender risks and impacts (as part of social risks and impacts assessments), and link the corresponding gender risk management measures to the activity-level gender action plans;

Knowledge-sharing

GCF will lead and promote the sharing of lessons and experiences in applying ESS and in implementing the ESMS among entities and stakeholders, and will integrate these lessons with capacity development, communications, and outreach activities of GCF and the entities.

Harmonized application of E&S requirement

GCF will promote the harmonized application of E&S safeguards to reduce multiple and overlapping requirements for activities through the development of a common approach that considers the requirements of other co-financing institutions while providing the highest level of E&S protection required among the parties, with at least the level of protection by GCF being required.

Compliance with applicable laws

GCF will not support activities that do not comply with applicable laws, including national laws and/or obligations of the country directly applicable to the activities under relevant international treaties and agreements, whichever is the higher standard.

Labor and working conditions

All activities financed by GCF will promote decent work, fair treatment, non-discrimination and equal opportunity for workers, guided by the core labor standards of the International Labor Organization.

Indigenous people

The overall objective of this Policy is to provide a structure for ensuring that activities of GCF are developed and implemented in such a way that fosters full respect, promotion, and safeguarding of indigenous peoples so that they (a) benefit from GCF activities and projects in a culturally appropriate manner; and (b) do not suffer harm or adverse effects from the design and implementation of GCF-financed activities. All GCF-financed activities will support the full and effective participation of indigenous peoples and recognize their contribution to fulfilling the GCF mandate throughout the entire life cycle of the activities. The design and implementation of activities will be guided by the rights and responsibilities outlined in the United Nations Declaration on the Rights of Indigenous Peoples including, of particular importance, the right to free, prior and informed consent, which will be required by GCF in applicable circumstances.

Human rights

All activities supported by GCF will be designed and implemented in a manner that will promote, protect, and fulfil universal respect for, and observance of, human rights for all recognized by the United Nations. GCF will require the application of robust E&S due diligence so that the supported activities do not cause, promote, contribute to, perpetuate, or exacerbate adverse human rights impacts; and

Biodiversity

All GCF-financed activities will be designed and implemented in a manner that will protect and conserve biodiversity and critical habitats, ensure environmental flows of water, maintain the benefits of the ecosystem.

3.2.1.1. General requirements as per GCF E&S Safeguard Policies

Requirements of Accredited Entities

GCF operates through accredited entities, including those functioning as financial intermediaries. These entities are tasked to deliver upon the objectives of GCF through the supported activities while ensuring that the fiduciary, environmental, and social standards of the GCF are met. According to GCF's policies, accredited entities will have in place E&S management systems that specify their capacities, standards, and processes for screening, identifying, assessing, managing, and monitoring the potential E&S risks and impacts pursuant to the ESS standards of GCF and this policy.

The accreditation of entities will be conducted pursuant to the accreditation framework, under which adequacy of the applicant's E&S management system, track record of implementing such a system and institutional capacity to undertake E&S risks and impacts assessment and management is assessed.

Requirement of E&S management system

The E&S management system of the accredited entities will appropriate to its role as an implementing entity (which may include a project execution role), an intermediary entity, or both. The accredited entities will maintain and continuously improve the E&S management system on which their accreditation was approved. The level of detail and complexity of the management system, and the staff and financial resources allocated to it, will be adequate to manage the expected level of risks and impacts of the activities to be financed. The staff of the accredited entities, including those who may be part-time or externally acquired (e.g., consultants), will have the necessary expertise in all areas covered by the ESS standards of GCF to carry out their responsibilities.

If the entities have been accredited to have an intermediary function, their E&S management system will include the policies, procedures, and resources to conduct due diligence and oversight over executing entities and ensuring that the executing entities have the capacity and E&S management systems to fulfil the activity-level requirements discussed in sections V, VI and VII of this policy and line with the ESS standards of GCF.

Requirements of E&S assessment

The E&S assessment will be in a manner that follows good international industry practices; identifies best alternatives; allows for an integrated and balanced view of the E&S risks and impacts pursuant to GCF standards and requirements of the accredited entities; considers E&S factors that can affect the achievement of intended results; include upstream and downstream E&S risks and impacts on ecosystems and identifies opportunities to enhance the positive E&S outcomes and benefits.

The scope and depth of the E&S assessment will be proportional to the level of risks and impacts and determined in the screening and by the specific requirements of the applicable E&S safeguards pursuant to the ESS standards of GCF and E&S Policy.

For Category A, activities that are anticipated to have significant E&S, including transboundary risks and impacts, a full and comprehensive ESIA and ESMP will be required.

For Category B activities with limited impacts, a fit-for-purpose ESIA, and an ESMP, with a more limited focus as may be appropriate, that describes the potential impacts, as well as appropriate mitigation, monitoring, and reporting measures will be required.

For Category C activities should have minimal or no adverse E&S impacts, including SEAH risks and impacts, and, therefore may not require any assessments, although a pre-assessment or screening should confirm that the activities are indeed in Category C.

Requirements of E&S management plan

GCF will require and ensure that the accredited entities develop ESMPs that contain the measures to manage and mitigate the identified risks and impacts, pursuant to the ESS standards of the GCF and this policy. If an accredited entity is acting in an intermediary function, the GCF will require the accredited entity to take all necessary measures to ensure that the executing entities fulfil the activity-level ESMP requirements discussed in this section, and the accredited entity will conduct the necessary due diligence and oversight to ensure that these requirements are fulfilled.

Based on the results of the E&S assessment, the ESMP for an activity will be designed such that the appropriate measures to address adverse E&S risks and impacts including health and safety, as well as opportunities to pursue and enhance positive E&S outcomes, are adequately described, roles defined, and the corresponding timelines and resources identified. Where transboundary risks and impacts are potentially involved, ESMP should include a modality to demonstrate that the concurrence of stakeholders is agreed in the ESMP. Where activities involve existing facilities, E&S audits may be required with an ESMP, which may include remediation, recompense, or management of any residual E&S issues.

The ESMP will be integrated into the overall planning, design, resourcing, and execution of the GCF-financed activities and reflected in the accredited entities' E&S management system. Where gaps exist in the capacity of accredited entities to implement the mitigation measures exist, GCF will work with the accredited entities to build or enhance the institutional capacity and address the gaps before the activities necessitating such mitigation measures are going to be implemented.

GCF will require and ensure that activities are screened, including component subprojects of program and activities requiring financial intermediation, for any potential adverse impacts on the promotion, protection, and respect for gender equality in accordance with the GCF Gender Policy and Action Plan and compliance with national laws and/or obligations of the country directly applicable to the activities under relevant international treaties and agreements through a comprehensive gender risk and impact assessment. Supporting and mitigating actions are to be described and cost in the activity-specific gender action plans and/or MPs, as part of the considerations for GCF funding.

For activities requiring financial intermediation, GCF will require and ensure that the accredited entities in an intermediary function develop an operational program- or project-level E&S management system or framework to identify and manage the risks associated with their portfolio and delegated activities on an ongoing basis. The complexity of the program- or project-level E&S management system or framework will vary according to the risk exposure that the intermediary is expected to manage. The E&S management system or framework will be designed and implemented to meet the E&S safeguards of the accredited entities, pursuant to the ESS standards of GCF and this policy.

Monitoring and reporting

GCF, through its Secretariat, will carry out monitoring and reporting functions related to the E&S performance of the accredited entities and the supported activities as required in the GCF monitoring and accountability framework. The monitoring will be a continuous process that allows disclosure pursuant to the monitoring and accountability framework and the Information Disclosure Policy. The extent of monitoring will be based on the type and level of risks identified, including E&S risks.

GCF will monitor the compliance of accredited entities with the applicable E&S safeguards requirements, pursuant to the ESS standards and the monitoring and accountability framework of GCF. On an annual basis, the accredited entities will provide GCF with a self-assessment of their compliance with the applicable E&S safeguards pursuant to the ESS standards of GCF. Halfway through the five-year accreditation, the Secretariat will undertake a mid-term review of the compliance

performance of the accredited entities. Annually, the Secretariat will report to the Board the consolidated results of the annual self-assessments, mid-term reviews, and any ad hoc reviews that were conducted. Information disclosure, stakeholder engagement, and grievance redress

The Governing Instrument affirms that GCF will operate in a transparent and accountable manner, guided by the principles of efficiency and effectiveness. The GCF Information Disclosure Policy operationalizes this commitment by ensuring transparency, public access to information, and stakeholder participation in all its activities. The Information Disclosure Policy requires that relevant information, including with respect to E&S issues, is made available to the affected and potentially affected communities and external stakeholders.

The information will be made available in accordance with the provisions of the Information Disclosure Policy, allowing the stakeholders time to review, seek further information, and provide inputs on a proposed activity, including ways to improve the design and implementation of its E&S safeguards. The information in the form of E&S reports, including additional

The accredited entities will also disclose, in the same manner, and time frame as the safeguard documents, a summary of the activities, along with the environmental/social information, including the following at a minimum:

1. The purpose, nature, and scale of the activities, and the intended beneficiaries;
2. The duration of proposed activities;
3. A summary of stakeholder consultations and the planned stakeholder engagement process; and
4. The available grievance mechanism(s).

GCF will require accredited entities (AE), executing entities (EE), implementing entities (IE) and other intermediaries, to ensure the effective engagement of communities and individuals, including transboundary, vulnerable, and marginalized groups and individuals that affected or potentially affected by the activities proposed for GCF financing. The stakeholder engagement plan will describe the disclosure of information, meaningful consultation and informed participation in a culturally appropriate and gender-responsive manner, and, in certain circumstances, free, prior informed consent, as required pursuant to the ESS standards of GCF. The disclosure of information, meaningful consultation, and informed participation will be designed and undertaken in a manner that takes into consideration the risks and impacts, including where appropriate transboundary impacts as well as opportunities to enhance E&S outcomes of the proposed activities, starting from the design and development of activities and will continue throughout the lifecycle of the activities.

The approach of GCF is to provide for grievance and redress at GCF, accredited entity, and activity levels. GCF requires that accredited entities inform the communities affected, or likely to be affected, by the GCF-financed activities about the grievance and redress mechanisms at all three levels, at the earliest opportunity of the stakeholder engagement process and in an understandable format and all relevant languages. The details for sending complaints containing the contact information and the appropriate modes by which these will be received will be provided by the accredited entities to the communities and disseminated with other involved institutions.

The ESS standards of GCF establish the requirements for setting up of a grievance redress mechanism at the activity level to receive and facilitate the resolution of concerns and grievances about the E&S performance of GCF-financed activities. These mechanisms will seek to resolve complaints in a manner that is satisfactory to the complainants and other relevant parties, that will be identified, depending on the nature of the complaint. To this end, GCF will require accredited entities to identify, where this already exists at the activity-level grievance redress mechanism, or establish and maintain appropriate and effective mechanisms to receive complaints and facilitate the resolution of such in connection with the GCF-financed activities.

Implementation arrangements and resource provision

The E&S Safeguards Policy is an essential component of the overall management framework described as the ESMS of GCF. The implementation of this policy will be through the processes and procedures developed as part of the ESMS, taking into account other relevant policies and the ESS standards of GCF. GCF will have staff with appropriate expertise and will allocate responsibilities and adequate resources to support the effective implementation of this policy.

Requirements of Effective date and review

The E&S Safeguards Policy will apply to ongoing activities to the extent reasonably possible and those that will be approved after the effective date. GCF will review and evaluate the overall E&S performance based on the objectives of this policy and the ESS standards, as discussed in the next paragraph. Appropriate amendments to this policy will be considered, based on the results of such review and evaluation, changes to the ESMS, including updates on and development of the ESS standards. In amending this policy, GCF will provide guidance to accredited entities on the implications of such amendments on the accredited entities' E&S management systems and their application to ongoing GCF-financed activities. A review of the policy will be undertaken five years after the effective date in order to assess the effectiveness of GCF in achieving the objectives of the policy. This review will include a stakeholder consultation and will be supplemented by annual and mid-term operational reviews and reporting, which may lead to improvements in the ESMS, as required.

3.2.1.2. Requirements as per GCF Policy on the Prevention and Protection from Sexual Exploitation, Sexual Abuse, and Sexual Harassment (SEAH Policy)

Policy on the Prevention and Protection from Sexual Exploitation, Sexual Abuse, and Sexual Harassment (SEAH Policy) establishes GCF's zero tolerance of SEAH. It sets clear obligations for GCF Covered Individuals to prevent and respond to SEAH and to refrain from condoning, encouraging, participating in, or engaging in SEAH. The SEAH Policy is linked with the E&S Safeguard Policies (refer to Section 3.2.1.1), and SEAH risk mitigation requirements in all GCF financed activities are addressed in the E&S Policy.

The SEAH Policy sets out guiding principles that should be adopted to the Program. The GCF will require AE, EE, IE and other intermediaries, to ensure:

- Not to tolerate any form of Sexual Exploitation, Sexual Abuse, or Sexual Harassment;
- Not to enter into future engagements with those who condone, encourage, participate in, or engage in SEAH in Fund-related activities:
- To take all appropriate measures to prevent, mitigate, investigate, and remedy SEAH in relation to acts perpetrated by Covered Individuals in Fund-related activities; and
- To take all appropriate measures to protect actual or suspected survivors such as ensuring their anonymity, physical safety and removal from proximity to suspected perpetrators - from retaliation because of a report of actual or suspected SEAH perpetrated by Covered Individuals in relation to a Fund related activity.

Furthermore, the SEAH Policy sets out the obligations that should be adopted by the Program. The GCF will require AE, EE, IE and other intermediaries:

- Not to condone, encourage, participate in, or engage in SEAH to in Fund-related activities. In particular, they shall not:

  (a) Use their position to commit Sexual Exploitation, Sexual Abuse, or Sexual Harassment against any person implementing, engaged in, or benefiting from Fund-related Activities; or

  (b) Engage in sexual activity with a child (as defined in Article 1 of the United Nations Convention on the Rights of the Child). Mistaken belief regarding the age of a child is not a valid legal

defence. Any such activity shall be deemed to constitute Sexual Exploitation and/or Sexual Abuse.

- To have a duty to report any suspected SEAH in Fund-related Activities as soon as possible after becoming aware of it to the IIU or to the EAC where applicable (as outlined in GCF SEAH Policy Section VII), and to cooperate with the IIU in the context of an investigation, or other inquiry in accordance with the Policy on the Protection of Whistle-blowers and Witnesses. Relevant Independent Integrity Unit and EAC contacts for reporting are found in GCF SEAH Policy Section VII.
- Subject to the availability of protection against retaliation, any supervisor, manager, or other such person of GCF who receives a report of suspected SEAH is obligated to transmit such report without delay to the Independent Integrity Unit.

3.2.2. KDB E&S Framework

KDB is an Equator Principle Finance Institute (EPFI), which means it is a member of Equator Principles Association (as of January 2017) who adopts Equator Principle that is a globally recognized benchmark for determining, assessing and managing E&S risk during loan application review. KDB therefore has established an Environmental and Social Framework that lays out KDB's principles, standards, and processes for managing environmental and social risks and impacts. Through the policy, KDB ensures that it works in partnership with its clients to identify, assess, and manage environmental and social risks and impacts of projects in a structured way, on an ongoing basis.

The objectives of KDB's ESF is comprised of:

- The Environmental and Social Policy, which sets out the requirements that KDB must follow regarding projects it supports though the use of a variety of financial products;
- The Environmental and Social Standards, which sets out the mandatory requirements that apply to borrowers and projects; and
- The environmental and Social Procedures, which outline the procedural requirements through which KDB ensures compliance with the Environmental and Social Policy and the Environmental and Social Standards.

The Environmental and Social Policy of KDB applies globally and to all industry sectors when the financial products described below are provided by KDB to support a new project:

- Project finance advisory services where total project capital costs are US$10 million or more.
- Project finance with total project capital costs of US$10 million or more.
- Project-related corporate loans where all of the following three criteria are met:
    1. The majority of the loan is related to a project over which the client has effective operational control (either direct or indirect).
    2. The total aggregate loan amount and KDB's commitment (before syndication or sell down) are each at least US$50 million.
    3. The loan tenor is at least two years.
- Bridge loans with a tenor of less than two years that are intended to be refinanced by project finance or a project-related corporate loan that is anticipated to meet the relevant criteria described above.
- Project-related refinance and project-related acquisition finance, where all of the following three criteria are met:
    - The underlying project was financed in accordance with the EP framework.
    - There has been no material change in the scale or scope of the project.

- Project completion has not yet occurred at the time of the signing of the facility or loan agreement.

The Policy also applies to all Green Climate Fund (GCF) project and programme for which a funding proposal is developed by KDB as an accredited entity, regardless of whether the financial product falls inside the scope defined above. For financing to or through Financial Intermediaries (FI), KDB will conduct due diligence to assess the potential environmental and social impacts and risks associated with the FI's existing and likely future portfolio, and its commitment and capacity in social and environmental management. All FIs will ensure that their investments comply with the Environmental and Social Standards.

The KDB's Environmental and Social Policy implementation process involves the following key steps shown in Table 3.1.

Table 3-1 Key Steps under the KDB's E&S Risk Management Framework

Process	Key Activity
Project Categorization	When a project is proposed for financing, KDB will review and categorize the project based on the magnitude of its potential environmental and social risks and impacts, following the environmental and social categorization process of the IFC. The categories are: **Category A** – Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible or unprecedented; **Category B** – Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures2; and **Category C** – Projects with minimal or no adverse environmental and social risks and/or impacts, including SEAH risks.
Environmental and Social Assessment	For all Category A and Category B projects, KDB will require the client to conduct an environmental and social assessment (assessment) process to address the relevant environmental and social risks and impacts, including SEAH risks, of the proposed project. The assessment process will be conducted in a manner relevant and appropriate to the nature and scale of the proposed project, and may comprise of: 1. a full-scale Environmental and Social Impact Assessment (ESIA), a limited or focused environmental and social assessment, or straightforward application of environmental siting, pollution standards, design criteria, or construction standards; 2. one or more specialized studies; and 3. assessments of potential adverse human rights impacts, SEAH risks, and climate change risks. The assessment process will be documented to provide an adequate, accurate and objective evaluation and presentation of the environmental and social risks and impacts, including SEAH. For all Category A, and as appropriate, Category B projects, the assessment documentation will include a full-scale ESIA report and a climate change risk assessment report with a focus on relevant physical risks as defined by the

Process	Key Activity
	Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). For all projects with expected Greenhouse Gas (GHG) emission levels (combined Scope 1 and Scope 2 emissions) exceeding 100,000 tons of CO2 equivalent annually, KDB will require a climate change risk assessment which includes consideration of relevant climate transition risks as defined by the TCFD, and an alternatives analysis evaluating less GHG intensive alternatives.
Environmental and Social Standards	To align with international best practices in managing environmental and social risks and impacts, KDB adheres to the following set of Environmental and Social Standards (E&S Standards): ▪ All projects will comply with relevant host country laws, regulations and permits that pertain to environmental and social issues. ▪ Projects that are not located in Designated Countries will comply with applicable International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability and the World Bank Group Environmental, Health and Safety Guidelines. ▪ All climate projects in partnership with the GCF will comply with applicable GCF policies, including gender and SEAH policies. The review of the assessment process will establish, to KDB's satisfaction, the Project's overall compliance with, or justified deviation from, the E&S standards as described above. KDB may, at its sole discretion, apply additional requirements.
Environmental and Social Management System and Stakeholder Engagement	For all Category A and Category B projects, KDB will require the client to develop or maintain an Environmental and Social Management System (ESMS). As part of the ESMS: ▪ The client will prepare an Environmental and Social Management Plan (ESMP) which addresses issues raised in the assessment process and incorporate actions required to comply with the E&S Standards. ▪ The client and KDB will agree on an Environmental and Social Action Plan (ESAP) when the E&S Standards are not met to KDB's satisfaction. The ESAP is intended to outline gaps and commitments to meet requirements in line with the E&S Standards. For all Category A and Category B projects, KDB will require the client to demonstrate effective stakeholder engagement as an ongoing process in a structured and culturally appropriate manner with affected communities, workers and, where relevant, other stakeholders. To facilitate stakeholder engagement, the client will make appropriate assessment documentation readily available to the affected communities and, where relevant other stakeholders (e.g., SEAH), in the local language and in a culturally appropriate manner. Such disclosure should occur early in the assessment process, in any event before the project construction commences, and on

Process	Key Activity
	an ongoing basis. Furthermore, the client will take account of, and document, the results of the stakeholder engagement process, including any actions agreed resulting from such process. For projects with potentially significant adverse impacts on affected communities and projects affecting indigenous peoples, including SEAH risks, KDB will require the client to conduct an Informed Consultation and Participation process. Consistent with the special circumstances described in IFC Performance Standard 7, projects with adverse impacts on indigenous people will require their Free, Prior and Informed Consent (FPIC). If a process of good faith negotiations that meets the consultation requirements of IFC Performance Standard 7 has been followed and documented, but it is not clear if FPIC has been achieved, the KDB will determine, with supporting advice from a qualified independent consultant, if this qualifies as a justified deviation from the requirements of IFC Performance Standard 7, and whether the client should pursue additional corrective actions to meet IFC Performance Standard 7's objectives. For all Category A and, as appropriate, Category B projects, KDB will require the client to establish a grievance mechanism as a part of the ESMS to receive facilitate resolution of concerns and grievances about the project's environmental and social performance.
Due Diligence and Independent Review	For all Category A and Category B projects, KDB will conduct a due diligence process to confirm the project's overall compliance with, or justified deviation from, the Policy and the E&S Standards. For all Category A and, as appropriate, Category B projects, an independent environmental and social consultant, not directly associated with the client, will carry out an independent review of the assessment documentation, the ESMS, and the stakeholder engagement process documentation in order to assist KDB's due diligence, and determination of compliance with the E&S Standards. The independent environmental and social consultant will also propose or opine on a suitable ESAP capable of bringing the project into compliance with the E&S Standards, or indicate when compliance is not possible.
Covenants	For all projects, KDB will require the client to covenant in the financing documentation to comply with all relevant host country environmental and social laws, regulations and permits in all material aspects. For all Category A and Category B projects, KDB will require the client to covenant in the financial documentation: ▪ to comply with the ESMPs, and the ESAP (where applicable) during the construction and operation of the project in all material respects; and ▪ to provide periodic reports in a format agreed with KDB (with the frequency of these reports proportionate to the severity of impacts, or as required by law, but not less than annually), prepared by in-house staff or third party experts, that i) document compliance with the ESMPs and ESAP (where applicable), and ii) provide representation of compliance with relevant local, state and

Process	Key Activity
	host country environmental and social laws, regulations and permits; and ▪ to decommission the facilities, where applicable and appropriate, in accordance with an agreed decommissioning plan. Where a client is not in compliance with its environmental and social covenants, KDB will work with the client on remedial actions to bring the project back into compliance. If the client fails to re-establish compliance within an agreed grace period, KDB reserves the right to exercise remedies, including calling of an event of default, as considered appropriate
Monitoring and Reporting	For all Category A and, as appropriate, Category B projects, KDB will require appointment of an independent environmental and social consultant, or require that the client retain qualified and experienced external experts to verify its monitoring information which would be shared with KDB. Independent review is conducted to assess project compliance with the E&S Standards and ensure ongoing monitoring and reporting after financial close and over the life of the loan. For all Category A and, as appropriate, Category B projects, KDB will require the client to ensure that a summary of the ESIA is accessible and available online. For all GCF funded project and programme, KDB will disclose project information in line with GCF's Information Disclosure Policy. For all Category A and, as appropriate, Category B projects emitting over 100,000 tons of CO2 equivalent annually, KDB will require the client to publicly report GHG emission levels (combined Scope 1 and Scope 2 emissions) on an annual basis during the operational phase. Depending on the circumstances of the project, GHG emissions reporting may not be appropriate, in which case KDB determines whether a deviation may be justified.

3.2.3. KDB Gender Equality Policy and Action Plan

KDB has established a Guidance for GCF-Funded Projects, which includes provisions on gender equality. The objective of the guideline is to provide a guideline for effective mainstreaming of gender in the Projects.

Under the guideline, the definition of gender mainstreaming is 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.

The gender mainstreaming procedure will proceed as follows:

1. **Identification**: KDB shall require the borrower to conduct gender analysis and identify evaluation indicators;
2. **Implementation**: KDB shall require the borrowers to submit annual monitoring reports and conduct monitoring based on previously identified indicators; and

3. **Completion**: KDB shall prepare evaluation reports on lessons learnt, and ensure that positive elements will be reflected in future projects.

The guideline provides the following terms should be considered when implementing gender equality:

1. Transparent disclosure of relevant information;
2. Allocation of sufficient human and financial resources;
3. Implementation of training programmes for capacity enhancement;
4. Improvement of the Gender Equality Policy based on experiences and complaints received; and
5. Monitoring of the borrower's gender-related obligations.

3.2.4. IFC E&S Safeguard Policies

In April 2006, the IFC, a member of the World Bank Group, released a set of Performance Standards (PS) based upon the original World Bank Group Safeguard Policies, which recognised further the specific issues associated with private sector projects. The IFC PS have been broadened to include issues such as greenhouse gases, human rights, community health, and safety and security. A revised set of PS came into force on January 1, 2012. The complete list of IFC PS is provided in Figure 3.1 and more details can be found on the IFC website[23].

Figure 3.1 IFC Performance Standards

3.2.5. World Bank E&S Safeguard Policies and Environmental and Social Framework

The current environmental and social policies of the Bank are known as the "Safeguard Policies," the mechanism for addressing environmental and social issues in project design, implementation and operation, and they provide a framework for consultation with communities and for public disclosure.

The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. The Safeguard policies documents include Operational Policies (OP), which is the statement of policy objectives and operational principles, including the roles and

[23] IFC Performance Standards and Guidance Notes, 2012, retrieved on: March 2021, at : https://www.ifc.org/wps/wcm/connect/9fc3aaef-14c3-4489-acf1-a1c43d7f86ec/GN_English_2012_Full-Document_updated_June-27-2019.pdf?MOD=AJPERES&CVID=mRQmrEJ

obligations of the Borrower and the Bank, whereas Bank Procedures (BP) is the mandatory procedures to be followed by the Borrower and the Bank in accordance with the OPs.

In August 2016, the World Bank adopted a new set of environment and social policies called the Environmental and Social Framework (ESF). As of October 1, 2018, the ESF applies to all new World Bank investment project financing. With existing projects continuing to apply the Safeguard Policies, the two systems will run in parallel for an estimated seven years.

The ESF offers broad and systematic coverage of environmental and social risks. It makes important advances in areas such as transparency, non-discrimination, public participation, and accountability – including expanded roles for grievance mechanisms. The ESF consists of:

5.1 The World Bank's Vision for Sustainable Development

5.2 The World Bank's Environmental and Social Policy for Investment Project Financing (IPF), which sets out the requirements that apply to the Bank

5.3 The 10 Environmental and Social Standards (ESS), which set out the requirements that apply to Borrowers

5.4 Bank Directive: Environmental and Social Directive for Investment Project Financing

5.5 Bank Directive on Addressing Risks and Impacts on Disadvantaged or Vulnerable Individual Groups

The new key elements added to WB ESS are shown in Table 3.2 below.

Table 3-2 New Key Elements of WB ESS

Standard	Building on	New Key Elements
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	OP/BP4.01(Environmental Assessment)	Integrates Environmental and Social Assessment; includes requirements related to non-discrimination and social inclusion; proportionality and adaptive management; use of the ESCP
ESS2: Labor and Working Conditions	OP/BP4.01 (Environmental Assessment) and EHS Guidelines	Prohibits child labor and forced labor, heightened focus on OHS, grievance mechanisms
ESS3: Resource Efficiency and Pollution Prevention and Management	OP4.09 (Pest Management) and EHS Guidelines	Promotes efficient management of energy, water, and other resources and materials; hazardous materials management; pesticides; GHG assessment mandate
ESS4: Community Health and Safety	OP/BP4.37 (Safety of Dams) and EHS Guidelines	Assess risks and impacts on communities; Design of safe and resilient infrastructure, equipment operation, products, services, road safety, hazardous materials; emergency preparedness
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	OP/BP4.12 (Involuntary Resettlement)	Greater clarity on treatment of state land, land titling, access to common resources, voluntary transactions, forced evictions
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	OP/BP4.04 (Natural Habitats) and OP/BP4.36 (Forests)	Expanded requirement to assess and mitigate impacts on biodiversity including in primary supply chains; biodiversity offsets; management of living resources in additional sectors (e.g. agriculture)
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	OP/BP4.10 (Indigenous Peoples)	Clearer definitions of IP, requires FPIC in specified circumstances
ESS8: Cultural Heritage	OP/BP4.11 (Physical Cultural Resources)	Enhanced consultation with affected communities, intangible heritage
ESS9: Financial Intermediaries	OP/BP 4.01 (Environmental Assessment)	Establish E&S procedures commensurate with FI nature, risk level and impact
ESS10: Stakeholder Engagement and Information Disclosure	Consolidates WB engagement provisions	Meaningful consultation, access to information and grievance redress through the life of project

ESS1 Assessment and Management of Environmental and Social Risks and Impacts sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing (IPF), in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).

ESS2 Labor and Working Conditions recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions

ESS3 Resource Efficiency and Pollution Prevention and Management recognizes that 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. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life-cycle.

ESS4: Community Health and Safety addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement - involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented.

ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development and it recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also addresses sustainable management of primary production and harvesting of living natural resources, and recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, whose access to, or use of, biodiversity or living natural resources may be affected by a project.

ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities ensures that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. ESS7 is also meant to avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.

According to ESF, Indigenous Peoples refer exclusively to a distinct social and cultural group possessing the following characteristics in varying degrees:

a) self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others; and

b) collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation, as well as to the natural resources in these areas; and

c) customary cultural, economic, social, or political institutions that are distinct or separate from those of the mainstream society or culture; and

d) a distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

ESS8: Cultural Heritage recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. ESS8 sets out measures designed to protect cultural heritage throughout the project life-cycle.

ESS9: Financial Intermediaries (FIs) recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.

ESS10: Stakeholder Engagement and Information Disclosure recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

3.2.6. The World Bank's (WB's) Environmental Health and Safety (EHS) Guidelines

The Environmental Health and Safety Guidelines (also known as "EHS Guidelines") are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). This GIIP is considered to be achievable in new facilities at reasonable costs by existing technology. For existing facilities, achieving these may involve the establishment of site-specific targets with an appropriate timetable to achieve these.

When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects will be required to achieve whatever is more stringent. If less stringent levels or measures than those provided in the EHS Guidelines are appropriate in view of specific project circumstances, a full and detailed justification must be provided for any proposed alternatives through the E&S risk and impact identification and assessment process.

The EHS Guidelines consist of guidelines for various industrial sectors as well as General Environmental, Health & Safety Guidelines, which cover a wide range of issues and applies to all industrial and the sector-specific guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health and safety issues potentially applicable to all industry sectors. They are designed to be used together with the relevant industry sector guideline(s).

- Environmental (air emissions and ambient air quality, energy conservation, wastewater, and ambient water quality, water conservation, hazardous materials management, waste management, noise, and contaminated land)
- Occupational Health and Safety (general facility design & operation, communications & training, physical hazards, chemical hazards, biological hazards, radiological hazards, personal protective equipment, special hazard environments, and monitoring, etc.)
- Community Health and Safety (water quality and availability, the structural safety of project's infrastructure, life and fire safety, traffic safety, transport of hazardous materials, disease prevention, emergency preparedness & response, etc.)
- Construction and Decommissioning (environment, occupational health & safety, community health & safety)

It should be noted that these Industry Sectors' EHS Guidelines and the General EHS Guideline are intended to identify recognized good practice, particularly in the absence of comparable national or local legislation. Moreover, they are designed to cover a wide range of topics, especially in the case of the General EHS Guideline, some or many of which specific topics may not be relevant or applicable to the project enterprise seeking a loan. The EHS Guidelines will be used by the financial institutions

as useful tools in the screening and reviewing process to determine whether E&S risks associated with the project enterprise have been appropriately identified and managed.

3.3. Implication of the Environmental and Social Policies to the Programme

The programme aims to promote energy efficiency measures which implies lower GHG emission, leading to an overall environmental benefit. However, implementation of the measures should not create an adverse environmental or social impact. While, adherence to the prevailing regulations is necessary to undertake such a program, the alignment of the program design with the policies stated above will ensure the positive environmental impacts are realized. Also, since funding is coming from GCF, the standards set by GCF should also be adhered to.

In view of sub-projects' nature, the program can be classified as Medium level of intermediation, I2 under the environmental and social risk categories as defined in the ESS standards of the GCF. An intermediary's existing or proposed portfolio includes, or is expected to include, substantial financial exposure to activities with potential limited adverse environmental or social risks and impacts that are few, generally site-specific, largely reversible and readily addressed through mitigation measures. The subprojects classified as "E&S Risk Category B" or "E&S Risk Category C" will be eligible for the Programme and those with the category A potential will not be financed. The Programme will not finance any subproject with potential adverse impacts in relation to indigenous peoples, biodiversity, and cultural heritage in Indonesia.

Considering the IFC Performance Standards (PS), the following PSs will be applicable for the subprojects:

Overarching

PS1: Assessment and Management of Environmental and Social Risks and Impacts

a) Policy (or equivalent documents)

b) Process for identifying risks & impacts

c) Management program

d) Organizational capacity & competency

e) Process for monitoring & evaluation

f) External communications

Subproject Specific

PS2: Labor and Working Conditions

PS3: Resource Efficiency and Pollution Prevention

PS4: Community Health, Safety, and Security

PS5: Land Acquisition and Involuntary Resettlement (potential impact depending on the subproject activity)

PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources, PS7: Indigenous Peoples and PS8: Cultural Heritage will not be applicable for this project as the project activities will not address or adversely impact any of these mentioned issues.

The entities will ensure that all GCF-financed activities meet applicable laws related to managing environmental and social risks and impacts, including national laws, regulations and standards, and obligations of the country directly applicable to the project under relevant international treaties and agreements. The compliance with applicable laws will be reflected in the screening process indicating these national requirements and how these will be met through the management plans.

3.4. Gap Analysis

3.4.1. Legislative Gaps

The Programme is required to comply with the GCF Interim Environmental and Social Safeguards (ESS) standards, which follow IFC Performance Standards, Korea Development Bank's Environmental and Social Framework and the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines).

The gap analysis is focused on identification of gaps in relation to the potential impacts of the Programme in the National Policy and Regulations of Indonesia. Table 3.3 below summarises the main legislative gaps against the WB ESS and IFC Performance Standards with mitigation measures to address these gaps. This gap analysis is based on legislation identified through publically available information sources. The most stringent of either local or international standards should be used when conducting ESIA assessments.

Table 3-3 Gap Analysis of Indonesia Legislation against the WB E&S Standards and IFC Performance Standards

IFC PS / WB ESS	WB Standard	GoI Regulation	Gaps Identified	ESMS Role and Principle
PS1 / ESS1 & ESS10: Assessment and Management of Environmental and Social Risks and Impacts & Stakeholder Engagement	ESS1 Paragraph 3 states that Borrowers will conduct environmental and social assessment of projects proposed for Bank financing to help ensure that projects are environmentally and socially sound and sustainable. The environmental and social assessment will be proportionate to the risks and impacts of the project. It will inform the design of the project and be used to identify mitigation measures and actions and to improve decision making.	Minister of Environment Regulation No 5/2012 specifies the requirement for conducting screening and also environmental and social impact assessment (ESIA) in the form of AMDAL (*Analisis Mengenai Dampak Lingkungan*) or UKL-UPL (*Upaya Pengelolaan Lingkungan-Upaya Pemantauan Lingkungan*) documents or letter of statement for undertaking environmental management and monitoring, SPPL (*Surat Pernyataan Pengelolaan Lingkungan*).	AMDAL, UKL-UPL and/or SPPL is more based on threshold value while ESIA and ESMP are based on magnitude of impact.	The environmental and social safeguard plans and instruments introduced in this ESMS such as ESMP follows the IFC PS.
	ESS1 Paragraph 5 states that in assessing, developing and implementing a project supported by Investment Project Financing, the Borrower may, where appropriate, agree with the Bank to use all or part of the Borrower's national environmental and social framework to address the risks and impacts of the project.	Based on Minister of Environment Regulation No 5/2012, Appendix 1, a screening of potential impacts is conducted to determine the type of environmental documents that will be required (AMDAL/UKL-UPL/SPPL) based on criteria described in the regulation.	The screening process does not consider the presence of social impacts due to land acquisition/involuntary resettlement, impact towards indigenous peoples as defined in ESS7 and physical cultural resources as defined in ESS8.	This ESMS develops a screening process for sub-project proposals that include identification of potential impact towards involuntary resettlement, indigenous peoples, and physical cultural resources.
	ESS1 B Institutional Capacity Paragraph 11: The Borrower may	Ministry of Environment Regulation No. 16/2012 section C.3 clearly	Insufficient follow up, analysis, use of environmental	The ESMP and UKL/UPL will address the gaps and include

	include components in the project to strengthen its legal or technical capacity to carry out key environmental and social assessment functions. If the Bank concludes that the Borrower has inadequate legal or technical capacity to carry out such functions, the Bank may require strengthening programs to be included as part of the project. If the project includes one or more elements of capacity strengthening, these elements will be subject to periodic monitoring and evaluation as required by ESS1.	regulates the requirement for data monitoring of UKL-UPL. Minister of Environment No 07/2010 established the need for having license for the ESIA compiler.	monitoring data for evaluation and continual improvement. The environmental monitoring program is not sufficient or is not corresponding to the scale of the impact of the project. The borrower could hire licensed consultant to conduct the social and environmental assessment and prepare the management and monitoring plan, however there is no requirement on capacity strengthening for loan project.	appropriate environmental monitoring programs appropriate to the scale of the impact of the project. This ESMS accommodates the need for training on social and environmental aspects.
	ESS10 Paragraph 19: The Borrower will disclose project information to allow stakeholders to understand the risks and impacts of the project, and potential opportunities. The Borrower will provide stakeholders with access to the following information, as early as possible before the Bank proceeds to project appraisal, and in a timeframe that enables meaningful consultations with stakeholders on project design.	Regulated in the Minister of Environment Regulation No. 17/2012 concerning Guidelines on Community Involvement in the AMDAL and Environment Permitting Process.	The government disclosure requirement is not as rigorous as the Bank's requirement. Only AMDAL requires public consultation prior to TOR development; UKL-UPL and SPPL do not require public consultation.	This ESMS accommodates the consultation and information disclosure process which includes the social and environmental documents and public consultation concerning ESMS and subproject safeguards documents
PS 2 / ESS2: Labour and Working Conditions	ESS2 Paragraph 3: The scope of application of ESS2 depends on the type of employment relationship between the Borrower and the project workers. The term	Indonesia has Labor Law (*Undang-Undang Ketenagakerjaan*) 13/2003 that covers direct worker and contracted worker and Ministry of	The regulation does not cover primary supply workers and community workers.	This ESMS provides clarification that the labor and working conditions outlined in this ESMS shall also apply to primary supply

	"project worker" refers to: (a) people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project (direct workers); (b) people employed or engaged through third parties to perform work related to core functions of the project, regardless of location (contracted workers); (c) people employed or engaged by the Borrower's primary suppliers (primary supply workers); and (d) people employed or engaged in providing community labor (community workers). ESS2 applies to project workers including fulltime, part-time, temporary, seasonal and migrant workers.	Labor and Transmigration Kep. 113/Men/VII/2004 concerning Protection for Child Workers in Developing their Talents and Interests.		workers and community workers, which includes SEAH risks in labor and working conditions in all the funded activities.
PS 3 / ESS 3: Resource Efficiency and Pollution Prevention	ESS3 Paragraph 5: The Borrower will implement technically and financially feasible measures for improving efficient consumption of energy, water and raw materials, as well as other resources.	There are various GOI regulations requiring and supporting conservation of energy, water, raw materials and other resources, namely: a) GOI Regulation 70/2009 concerning Energy Conservation related to tax and import duties dispensation b) Instruction President 13/2011 concerning Energy and Water Savings c) Ministry of Energy and Mineral Resources 12/2012 concerning Management of Fuel Use	No gaps identified	

		d) Ministry of Energy and Mineral Resources 13/2012 concerning Electricity Energy Saving e) Ministry of Energy and Mineral Resources 14/2012 concerning Energy Management f) Ministry of Public Works 2/2015 concerning Green Building Construction g) Governor of DKI Jakarta Decree 38/2012 concerning Green Building h) Etc.		
	ESS3 Paragraph 11: The Borrower will avoid the release of pollutants or, when avoidance is not feasible, minimize and control the concentration and mass flow of their release using the performance levels and measures specified in national law or the EHSGs, whichever is most stringent. This applies to the release of pollutants to air, water and land due to routine, non-routine, and accidental circumstances, and with the potential for local, regional, and transboundary impacts.	GOI regulations stipulated standards for air and greenhouse gas emissions, wastewater discharges, contaminated soil rehabilitation, waste management. Some of the standards are less stringent than EHS Guidelines, but some are also more stringent.	Gaps identified for GOI standards which are less stringent than EHS Guidelines.	This ESSF requires subprojects to observe WBG General EHS Guidelines.
PS 4 / ESS 4: Community Health, Safety and Security	ESS4 Paragraph 5: The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life cycle, including those who, because of	Ministry of Environment and Forestry P.26/MENLHK/SETJEN/KUM.1/7/2018 specifically mentioned community health as the risks and impacts to be evaluated from a proposed activity.	Community safety is not included in the scope of impact assessment.	This ESMS requires subprojects to observe WBG General EHS Guidelines and GCF SEAH Policy and take necessary safety measures according to the risks identified for each subproject.

	their particular circumstances, may be vulnerable.			
PS 5 / ESS5: Land Acquisition and Involuntary Resettlement	Compensation for asset with full replacement cost. Involuntary resettlement must be avoided or minimized as much as possible by considering various alternative options.	Law No. 2/2012 regulates compensation of assets based on the appraisal made by a licensed/independent appraiser in accordance to market prices. The regulation does not stipulate in detail how the resettlement is performed (tend to provide compensation in cash); not regulating the recovery/improvement of income, compensation is provided only to the land/building owner.	No gaps for replacement value of the affected asset. Not specifying compensation for persons who get benefit from the affected land such as encroachers, sharecroppers, renters, squatters and not arranging the requirements for livelihood restoration program for project affected people.	This ESMS states that land acquisition potential shall be included in subproject design, it should adopt the land acquisition best practice suggested by GCF (IFC PS Guidance Note 5)
PS 6 / ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	ESS6 Paragraph 14: This ESS requires a differentiated risk management approach to habitats based on their sensitivity and values. This ESS addresses all habitats, categorized as 'modified habitat', 'natural habitat', and 'critical habitat', along with 'legally protected and internationally and regionally recognized areas of biodiversity value' which may encompass habitat in any or all of these categories. The IFC/Bank does not support projects that involve the significant	Ministry of Environment Regulation no 16/2010 Appendix IV about UKL UPL preparation section B.4.a stipulated that any project proposal shall be rejected if the project is not in line with the regional/district spatial planning and with the Presidential Instruction on 10/2011 about Forestry Permit/Environmental Permit moratorium at specific area (in primary forest, wetlands and other sensitive area etc.).	The regulation does not specifically mention natural habitat and critical natural habitat as per ESS6.	Through the Screening Process and impact management planning (ESMS Annex B and C), critical natural habitats and protected areas will be identified. If the subproject is not consistent with the ESS or GOI laws and regulations, the subproject will not be funded.

	conversion or degradation of critical natural habitats.			
PS 7 / ESS7: Indigenous Peoples	This Performance Standard applies to communities or groups of Indigenous Peoples who maintain a collective attachment, i.e., whose identity as a group or community is linked, to distinct habitats or ancestral territories and the natural resources therein. It may also apply to communities or groups that have lost collective attachment to distinct habitats or ancestral territories in the project area, occurring within the concerned group members' lifetime, because of forced severance, conflict, government resettlement programs, dispossession of their lands, natural disasters, or incorporation of such territories into an urban area. Affected Communities of Indigenous Peoples may be particularly vulnerable to the loss of, alienation from or exploitation of their land and access to natural and cultural resources. In recognition of this vulnerability, in addition to the	There are no specific regulations on the management of impacts towards IP. The existing regulations only recognize the presence of IP.	The social and environmental assessment does not accommodate the presence of IP and impact towards IP.	The Programme will not finance any project with potential adverse impacts in relation to indigenous peoples in Indonesia.

	General Requirements of this Performance Standard, the client will obtain the FPIC of the Affected Communities of Indigenous Peoples FPIC does not necessarily require unanimity and may be achieved even when individuals or groups within the community explicitly disagree.			
PS 8 / ESS8: Cultural Heritage	ESS8 sets out provisions on risks and impacts to cultural heritage from project activities. There is requirement to identify and mitigate potential impact towards tangible and intangible cultural heritage for each sub-project.	Law No. 11/2010 about Cultural Heritage states that cultural heritage needs to be preserved and protected.	Gaps are in the enforcement of the regulation and the inclusion of risks and impacts to cultural heritage from project activities in the environmental and social impact assessment of sub-projects.	This ESMS provides a chance find procedure (for unexpected discovery) of cultural heritage (Annex L). The Programme will not finance subprojects with adverse impact on identified cultural heritages.

4. ESMS PROCEDURES AND REQUIREMENTS

4.1 Management of Programme ESMS

The Programme ESMS sets a system for implementing the policies and procedures of the E&S standards of GCF and AE(KDB), and AMDAL. The Programme ESMS will contain environmental social procedures that will be applicable to all projects within the Programme. Each project then will develop site-specific environmental and social procedures where required. The programme ESMS will be the systematic guideline for implementing the Project specific ESMP. In other words, GCF E&S Standards (ESS2 to ESS8) are reflected in the Programme ESMS as shown in Table 4.1, allowing the main criteria of each sector to be managed and evaluated across all E&S procedures from E&S screening to monitoring and evaluation. Additionally, the Programme will not finance any project with the category A potential in line with Eligibility Criteria pre-agreed.

Table 4.1 Programme ESMS and GCF E&S Standards

E&S Standards	Programme ESMS
ESS2 Labour and Working Condition	ESIA and all the assessment should include labour and working conditions of individual projects (e.g. the prevalence of labour and working condition issues in the region where the project is located)
ESS3 Resource Efficiency and Pollution Prevention	Historical/legacy information/data(BASELINE) in the vicinity of the Sub-project and Impact Assessment (ESIA), Monitoring followed on ESIA of the Sub-project regarding its air pollution and energy conservation, raw material efficiency, water pollution and management, waste management. Sub-project's adoption of international standards such as the World Bank Environmental Health and Safety Guidelines (ESHG) and Good International Industry Practice (GIIP)
ESS4 Community Health, Safety, and Security	Historical/legacy information/data(BASELINE) of Sub-project, or product /services to be provided by the Sub-project and Impact Assessment (ESIA), Monitoring followed on ESIA of Sub-project, or product /services to be provided by the Sub-project regarding construction site safety, construction traffic and road safety, exposure to and spread of infectious diseases, infrastructure design safety, fire hazard, and safety of new facility, etc. Sub-project's adoption of international standards such as the World Bank Environmental Health and Safety Guidelines (ESHG) and Good International Industry Practice (GIIP)
ESS5 Land Acquisition and Involuntary Resettlement	Sub-projects that may involve land acquisition that may cause any involuntary resettlement or physical/economic losses will not be financed
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	Sub-projects that may have potential adverse impact on ecological diversity and ecosystem will not be financed

ESS7 Indigenous People	Sub-projects that may have potential adverse impact in relation to indigenous people in Indonesia will not be financed
ESS8 Cultural Heritage	Sub-projects that may have potential adverse impact on any cultural heritage will not be financed

The Programme ESMS will be continuously reviewed and updated in a transparent and participatory manner to sustain its relevance and responsiveness to the prevailing organizational, social, economic, and political conditions. The Programme ESMS will also be consistently aligned with international best practices and applicable standards, reflecting the experiences and lessons learned by accredited entities and other relevant institutions.

The resources needed are planned, provided and managed to support the management plans and programs implemented during the project's lifecycle. Monitoring and measurements are done in order to track the environmental and social performance of Financial Intermediaries and Final Beneficiaries, as well as feedback from the stakeholders. Such information will then be reviewed by EEs and the they will prepare plans for continual improvement of project's environmental and social performance.

4.2 Associated Procedures of Programme ESMS

Policies and generic procedures applicable to all Projects will make up the Programme ESMS, along with Project specific procedures to manage impacts and risks specific to particular Project. It provides a structure as to how the mitigation and monitoring measures as set out in the ESMP will be implemented. Procedures may include existing documents developed by the Project Developers (Final Beneficiaries), or be developed by external parties. Procedures may include the following:

- Environmental and social management procedures;
- Health and safety management procedures;
- Organizational capacity and competence procedures; and/or
- Stakeholder engagement procedures.

General Structure of Procedures

The following general structure should be applied to all Programme ESMS Procedures. However, the structure and contents may vary depending on the scale and characteristics of subprojects

1) Project Context: Outlines the overall context of the project and the purpose of the procedure.

2) Purpose of Procedure: Outlines the purpose of the procedure and which other related documents should be read alongside it.

3) Scope of Procedure: Outlines the mitigation measures proposed by the procedure including what specific tasks the management, mitigation and monitoring covers.

4) Procedure Details: Provides detailed guidance including the following:

Roles and responsibilities in relation to activities for both the Financial Intermediaries and Final Beneficiaries;

Definition of keys terms;

Schedule of works;

Verification and monitoring;

Reporting of non-conformities;

Details of training in relation to the procedure;

Any forms that will accompany the procedure; and

Auditing of procedure.

4.3 Programme Procedure Development

The Programme ESMS will initially develop a set of Generic Procedures that apply to all Projects within the Programme. At the initial phase of the Programme generic procedures can be developed for Health and Safety and Labour and Working Conditions which are described in the following sections.

Once the subprojects are identified following Programme implementation, Project specific procedures will be developed as required. As ESMSs are in a cycle of continuous development through checking and improvement, it is expected that the procedures both at the project and programme level will improve over time and these developments will be shared between the Programme and Project ESMS as appropriate.

4.4 Generic Health and Safety Management Procedure Development

The Financial Intermediaries and the Final Beneficiaries will both be required to develop Occupational Health and Safety (OHS) plans for the subproject activities for the Programme, which will apply to all personnel involved in the project, including subcontractors and part-time workers. The primary health and safety objectives will be to ensure effective measures and management of occupational health and safety to minimise workplace accidents and injuries.

The health and safety procedures within the OHS plan will be used to establish a comprehensive Health and Safety Management System. They will meet the requirements specified in the IFC Environmental, Health and Safety Guidelines pertaining to occupational health and safety.

Health and Safety Procedure Requirements

The OHS Procedures will outline the procedures essential for the protection of personnel during construction and operation of subprojects. They will be designed to assist all those who deal with OHS as a functional responsibility within the context of their job. The key goal of the OHS Procedures will be to instil a safety culture within the site employees through education, good communication, a motivated workforce, recognition of individual/team effort and safety incentive programmes.

In particular, a typical OHS plan will include:

- Demonstration of compliance with national and IFC health and safety requirements;
- OHS responsibility / reporting structure;
- Details of site inductions and ongoing training;
- Hazard identification and risk assessment;
- Mitigation measures including mandatory personal protection equipment (PPE);
- Safe working procedures and safety rules (includes permit-to-work procedures, working at height, etc);
- Response to health and safety incidents, including investigation and reporting;
- Emergency response plans;

- Occupational health monitoring;
- Training requirements for all staff and contractors;
- Reporting and record keeping systems;
- Scheduled health and safety meetings; and
- Inspection and auditing procedures.

4.5 Generic Labour and Working Conditions Management Procedure

Even though the specific subprojects are not defined at this stage of the programme, it is assumed that a large portion of personnel working on the subprojects will be employed through final beneficiaries and subcontractors providing specific services to the project. It will be a contractual requirement for all providers to the subprojects that they comply fully with the laws and regulations of the national governments concerning employment of labour and working conditions. In addition, the employment policies shall comply with (at a minimum):

1) ILO Convention 87 on Freedom of Association and Protection of the Right to Organise
2) ILO Convention 98 on the Right to Organise and Collective Bargaining
3) ILO Convention 29 on Forced Labour
4) ILO Convention 105 on the Abolition of Forced Labour
5) ILO Convention 138 on Minimum Age (of Employment)
6) ILO Convention 182 on the Worst Forms of Child Labour
7) ILO Convention 100 on Equal Remuneration
8) ILO Convention 111 on Discrimination (Employment and Occupation).
9) UN Convention on the Rights of the Child, Article 32.1
10) UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families

A Workers Grievance Mechanism shall also be developed and implemented at each of the subproject sites. The mechanism provides a vehicle for workers to raise concerns with KDB and the Financial Intermediaries in regards to working conditions, wages, worker accommodation, health and safety concerns they may have.

In accordance with the IFC PS and WB ESS, the labour and working condition requirements listed shall also apply to primary supply workers and community workers.

4.6 Monitoring and Evaluation

Regular monitoring and review will be required to meet the commitments detailed in the project ESIA, ESMP and ESMS, as well as the Programme ESMS. Auditing will allow the Accredited Entities to monitor and respond to any unanticipated environmental, social and health issues and impacts which arise during construction and/or operation of projects within the Programme. The monitoring and evaluation of the Programme ESMS and project specific procedures will include:

a) Routine monitoring, auditing and reviewing compliance with the Programme ESMS and project specific procedures;

b) Ensuring adequate and appropriate interventions to address any occurrences of non-compliance;

c) Providing a mechanism for the follow-up and resolution of complaints by members of the public and/or contractors and/or workers on site;

d) Ensuring appropriate and adequate record keeping related to compliance;

e) Determining the effectiveness of the specifications and recommending necessary changes and updates based on audit outcomes, in order to enhance the effectiveness of environmental and social management on site; and

f) Managing the effectiveness of communication and giving feedback to authorities and stakeholders.

Monitoring Programme

Reviews of the Programme ESMS and Project specific procedures will be conducted throughout construction and operation of each project and where necessary changes should be made to the documentation to ensure that it remains relevant. For instance, once construction has been completed for a project, the construction related environmental and social aspects will no longer be relevant. An effective monitoring programme in terms of Programme ESMS and project specific procedures will be achieved through:

g) Routine inspections and monitoring of subproject activities by the PIU of Financial Intermediaries;

h) Maintenance of a monitoring schedule of all subproject activities in accordance with the suite of management plans as defined in the ESIAs;

i) Routine review of all environmental, social and health and safety documents produced;

j) Compilation of progress reports that track progress and indicate the effectiveness of the Programme ESMS and project specific procedures in addressing and implementing environmental and social requirements; and

k) Monitoring of the implementation of any preventative action identified as a result of any incident, complaint or non-conformance to ensure the effectiveness of any changed procedures.

5. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

This Chapter provides guideline on how relevant subproject level E&S risks and impacts can be assessed, and establish measures to minimize mitigation, and offset adverse impacts. As stated in Section 3, the scope and depth of the E&S assessment will be proportional to the level of risks and impacts and determined in the screening and by the specific requirements of the applicable E&S safeguards pursuant to the requirements of the AMDAL and the ESS standards and policy of GCF and AE. Therefore, for Category B activities with limited impacts, a fit-for-purpose ESIA, and a simplified ESMP may be appropriate. Category C subprojects does not require any assessments, if its activities are verified to be Category C through pre-assessment or screening.

5.1. Environmental and Social Baseline

Baseline condition of environment indicates the current status of different components of environment in absence of a particular project. The main objective of examining the current environment is to provide an environmental baseline against which potential impacts from construction and operational phases of any project can be compared. Another important function of establishing a baseline for parameters is to ensure that any problems arising from existing sources are not erroneously attributed to the project under study.

The E&S Baseline is usually based on a combination of primary data, i.e. based on surveys on field, and secondary data, i.e. documents and databases review. Among the typical elements that are included in the baseline survey is common to find:

- Ecology and Biodiversity: according to the project surroundings it might be necessary to assess either the terrestrial or the aquatic species and populations for both flora and fauna. The assessment will also identify the habitats of the project surroundings;
- Landscape: geology, relief and topographic character, geology/seismology, land use
- Air: air quality, odour, visual, ambient air temperature
- Sound: measurements of noise levels;
- Water: description of the water surface area including the appearance of the water, odour, presence of floating material;
- Labor and working conditions (e.g. The prevalence of labor and working condition issues in the region where the Sub-project is located)
- Social: economic development, living income, education, gender, crime and safety.

5.2. Environmental Assessment

The impact assessment (IA) phase sets out to identify, predict and evaluate impacts, before considering mitigation and management/ monitoring. The identification, prediction and evaluation of impacts will follow on from:

- the Scoping process which will have examined the activities of the sub-project and identified the key potential E&S impacts to analyse further; and
- the Baseline Data Collection which will have established the existing status of the physical-chemical, biological and other ecosystem components as well as social setting and relevant stakeholders within the sub-Project area.

The objective of the environmental assessment will be to:

- Predict and Evaluate potential adverse impacts of the proposed sub-Project, taking into account the impacts of proposed activities against local laws and international requirements, guidelines and performance standards that relate to E&S impacts.

- Propose appropriate mitigating measures and management plans (where necessary) with the aim of eliminating or minimizing impacts to an acceptable level, or to enhance the situation; and
- Clearly report any residual impacts.

The Impact Assessment phase is be based on the steps shown in **Figure 5.1**.

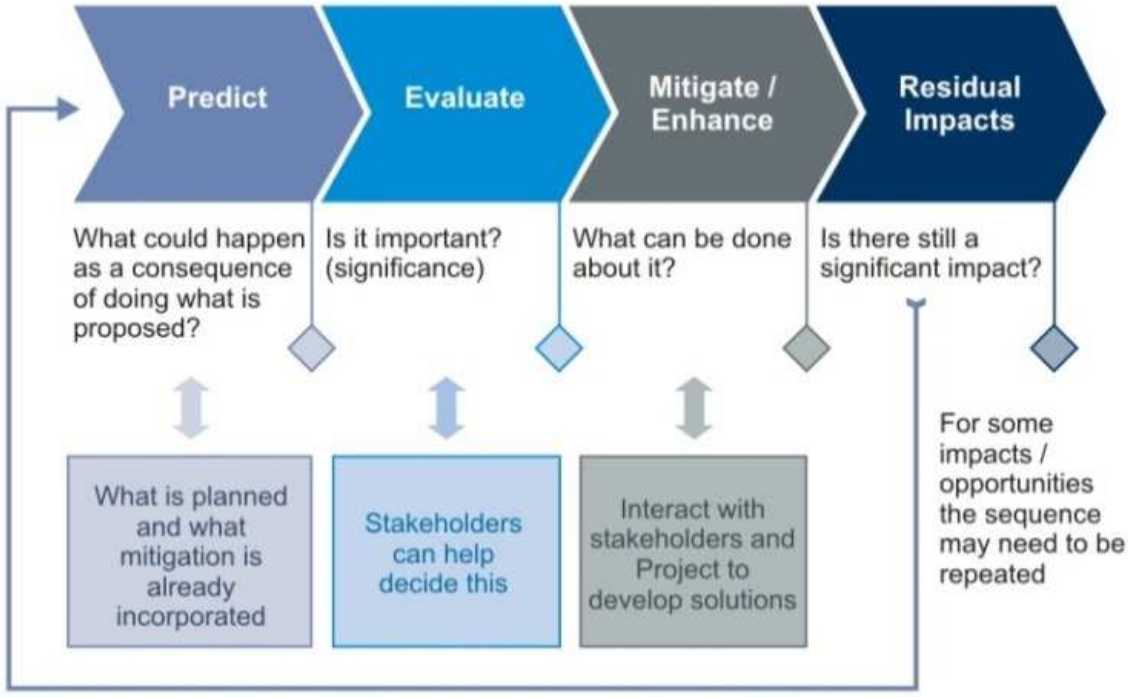


Figure 5.1 Impact Assessment Steps

5.2.1. Prediction of Impacts

Prediction of impacts is essentially an objective exercise to determine what could happen to the environment and relevant stakeholders as a consequence of the subproject and its associated activities. The diverse range of potential impacts considered in the ESIA process results in a wide range of prediction methods. It is important to note that prediction of impacts takes into account measures control measures i.e. measures that are already integrated into the Project design such as those to minimize noise. Additional mitigation measures aimed at further reducing predicted impacts are proposed following the results of the impact assessment, where necessary or appropriate.

The types of potential impacts that will be assessed are as follows:

- **Direct impacts** – potential impacts that result from a direct interaction between the sub-Project and a resource/receptor (e.g. loss of habitat due to site clearance).
- **Indirect impacts** – potential impacts that follow on from direct interactions between the Sub-project and its environment as a result of interactions between different aspects of the environment (e.g. viability of a species population resulting from loss of part of a habitat).
- **Induced impacts** – potential impacts that result from other activities, which are not part of the sub-project, but which may be related to the sub-project (e.g. an increase in stress and reduced wellbeing in the community caused by perceived loss of livelihood impacts).
- **Cumulative impacts** – those that arises as a result of an existing, planned, and/or reasonably anticipated future impact from the sub-project interacting in succession, incrementally, and/or in combination with, the impact from another action, sub-project, to create an additional impact on the same receptor.

- **Trans-boundary impacts** – a potential impact which extends across international boundaries, but which is not global in nature.
- **Unplanned events** – a reasonably foreseeable potential event that is not planned to occur as part of the Sub-project, but which may conceivably occur as a result of Sub-project activities (e.g. turbine fire), even those with a low probability.

5.2.2. Impact Evaluation Methods

In evaluating the significance (i.e. importance) of impacts, the following factors will be taken into consideration:

- **Impact Severity**: The severity of an impact is a function of a range of considerations including impact magnitude, duration, and extent, as well as legal and guideline compliance and the characteristics of the receptor/ resource; and
- **Likelihood of Occurrence**: How likely is the impact (this is a particularly important consideration in the evaluation of unplanned/ accidental events).

Methods for predicting and evaluating impacts cover a spectrum, from those that are quantitative in nature, to those that are qualitative. The term 'quantitative' is used in the sense of anything that is capable of being measured or expressed numerically. The term "qualitative" is used in the sense of anything that requires a subjective description. In the IA Process, qualitative approaches normally require an increased level of professional judgment relative to those that are quantitative. This is illustrated below in **Figure 5.2.**

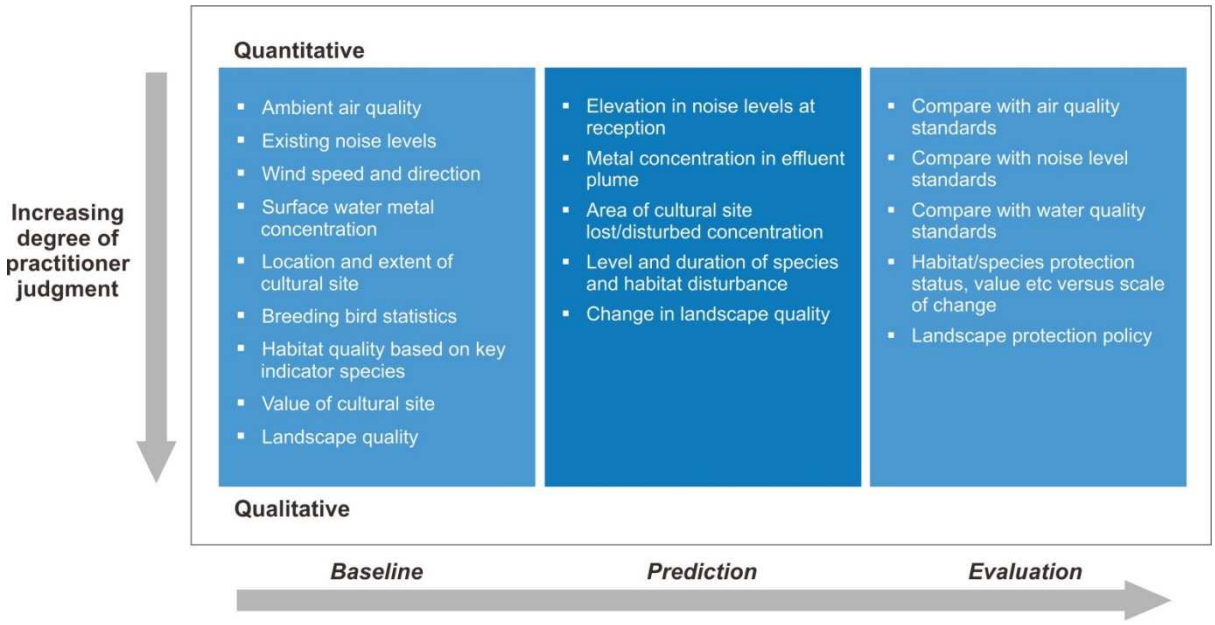


Figure 5.2 Example of Quantitative to Qualitative Evaluation Spectrum Impact Evaluation

5.2.3. Impact Evaluation

Quantitative means of evaluating impacts should be used where possible, employing a modelling approach if appropriate, and otherwise use more qualitative methods. Impacts should be evaluated according to the relevant regulatory framework, including international standards and best practice.

5.2.4. Impact Significance & Mitigation

Once the impact characteristics are understood, these characteristics are used (in a manner specific to the resource/receptor in question) to assign each impact a magnitude. Magnitude is a function of the following impact characteristics: Intensity, Duration, Scale-Size, Frequency and (for unplanned events only) Likelihood. Magnitude essentially describes the degree of change that the impact is likely to impart upon the resource/receptor. The magnitude designations themselves (i.e., negligible, small, medium, large) are held universally consistent across resources/receptors, but the definitions for these designations vary on a resource/receptor basis.

The magnitude of impacts takes into account all the various dimensions of a particular impact in order to make a determination as to where the impact falls on the spectrum (in the case of adverse impacts) from negligible to large. Some impacts will result in changes to the environment that may be immeasurable, undetectable or within the range of normal natural variation. Such changes can be regarded as essentially having no impact, and are characterized as having a negligible magnitude.

In addition to characterizing the magnitude of impact, the other principal step necessary to assign significance for a given impact is to define the sensitivity/vulnerability/importance of the impacted resource/receptor. There is a range of factors to be taken into account when defining the sensitivity/vulnerability/importance of the resource/receptor. Where the resource is physical (for example, a water body), its quality, sensitivity to change and importance (on a local, national and international scale) are considered. Where the resource/receptor is biological or cultural (for example, the breeding area of a bird species), its importance (for example, its local, regional, national or international importance) and its sensitivity to the specific type of impact are considered. Where the receptor is human, the vulnerability of the individual, community or wider societal group may be the primary consideration. Other factors may also be considered when characterizing sensitivity/vulnerability/importance, such as legal protection, government policy, stakeholder views and economic value.

As in the case of magnitude, the methodology should maintain the sensitivity/vulnerability/importance designations themselves universally consistent, but the definitions for these designations vary on a resource/receptor basis. The universal sensitivity/vulnerability/importance designations are low, medium and high.

Impact significance will be determined using a matrix such as the one presented in **Table 5-1.**.

Table 5-1 Preliminary Impact Significance Matrix

		Sensitivity/Vulnerability/Importance of Resource/Receptor		
		Low	Medium	High
Magnitude of Impact	Negligible	Negligible	Negligible	Negligible
	Small	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	Large	Moderate	Major	Major

Typically, for impacts of Moderate or Major significance mitigation measures will be recommended to bring the impact down to a level that is as low as reasonably practicable (ALARP). For the Sub-project, the IFC Mitigation Hierarchy will be applied i.e.:

a. Avoid risks related to Environmental Social and Health impacts by identifying and employing alternative approaches to avoid activity/sub-project goals;

b. Reduce the probability and/or consequences of risks that cannot be avoided; and,

c. Remedy (i.e., reclaim, repair, remediate, offset or compensate, for significant impacts that occur despite avoidance and reduction actions).

Based on consideration of the recommended mitigation measures, it should be provided an additional post-mitigation (i.e., residual) significance rating for each impact.

5.3. Social Assessment

5.3.1. Component of Social Impact Assessment Process

Social Impact Assessment (SIA) will be carried out for proposed projects when social screening will identify potential social safeguard issues.

The principal opportunity of the SIA involves:

- Identifying viable alternatives;
- Integrating affected people feedback;
- Identifying characteristic of social impacts, including the nature of positive or negative impact; the relation of direct or indirect impact; the period of permanent or temporary impact; the physical or economic impact (for land acquisition process if any); the ability to adapt of affected people or social other receptors (public infrastructure);
- Screening (and assessing, if identified) potential SEAH risks;
- Assessing impacts significance as a result of the above combination;
- Designing least-cost mitigation measures and monitoring requirements;
- Formulating institutional arrangements; and
- Ensuring meaningful private consultation and information disclosure procedures.

The relevant beneficiaries and affected people will be consulted during the risk assessment to understand the risks and options for devising mitigation of social impacts. To ensure that social concerns are adequately addressed, specific social analyses will include: (i) Socio-economic analysis; (ii) Stakeholder analysis.

The SIA will utilize a well-planned and all-inclusive communication and consultation strategy and data collection approach to lay out a detailed socioeconomic survey covering the prevailing status of income, employment, education, age, skills and other socioeconomic aspects along with cultural and community aspects in the areas. The following approach may be adopted:

1. The SIA will be carried out for each activity with social safeguards compliance issues in accordance with the feasible period.
2. Community/stakeholder consultations with relevant stakeholder groups and documentation of such consultation.
3. Focus group discussions with beneficiaries.
4. Assimilation and analysis of data and information to address key issues following SMF.

5. The information gathered shall be recorded and computerized, and photograph will be used to document existing technologies and equipment's and other impacts in the corridor of impact.
6. All data will be disaggregated by gender, age and ethnicity where necessary. A gender analysis will also be undertaken.
7. Where Indigenous People are present in the community(s) adjacent to the project location, they will be informed prior the project implementation. If the proposed subproject activity is likely to pose adverse impact to indigenous people, the Programme will not finance the project.

The SIA will consider SEAH risk assessment. Any SEAH related risks or potential adverse impacts on women, men, girls and boys should be identified as early as possible as part of the E&S screening process and reflected in relevant due-diligence requirements. The risks and impacts can be differentiated by gender and age where relevant. If any risks are identified, the relevant mitigation measures should be made to prevent, address and eliminate SEAH relevant risks and impacts. All the measures to mitigate and manage the identified SEAH risks and impacts are consistently monitored and implemented.

5.3.2. Social Receptors Vulnerability

In the social context, vulnerability is the accepted term for describing the social receptor's sensitivity that will experience the impact. Vulnerable receptors are defined as stakeholders who:

- are less resilient than others within their socio-cultural context;
- have a reduced ability to respond, to cope with, and to manage change and 'shocks'; and
- are less able to access resources and opportunities.

It is important to understand the vulnerability context as it will affect the social receptor's ability to adapt to any changes brought about by the Program in a direct or indirect. A higher level of vulnerability can result in increased susceptibility to negative impacts or a limited ability to take advantage of positive impacts. A program may also exacerbate existing vulnerabilities if individuals' and communities' status and their coping mechanisms are not adequately understood or considered. Evaluation is made based on the pre-existing status of receptors, as well as their proximity to the Project components, to define the receptor's level of vulnerability, as presented in the below table.

Table 5-2 Level of Vulnerability of Social Receptor

Ranking	Definition
Low	Minimal vulnerability; consequently, with a high ability to adapt to changes brought on by the Project and opportunities associated with it.
Medium	Some, but few areas of vulnerability; retaining an ability to, at least in part, adapt to change brought on by the Project and opportunities associated with it.
High	Profound or multiple levels of vulnerability that undermine the ability to adapt to changes brought on by the Project and opportunities associated with it.

5.3.3. Potential Key Social Impact and Mitigation Measures

Based on the Program and sub-project activities design, below are identified potential key social impacts and achievable mitigation measure:

Table 5-3 Potential Key Social Impacts and Mitigation Measure

Social Safeguard	Potential the Project / Program Social Impact to be screened	Potential Mitigation Measures	Responsibility
Assessment and management of E&S risks and impacts	1. Potential weak government commitment and capacity to promote industrial energy conservation. Despite the government's EE target, the current policies, financial incentives, and the government's institutional capacity are limited to achieve these targets. 2. Potential social and political instability (social conflict and regulation changes) during sub-projects implementation is likely to happen, as the project will be implemented during post COVID 19 recovery.	1. Program and Sub-project level stakeholder engagement plan to manage the government's commitment. 2. Screening and assessment of E&S impact of Projects, including social risk assessment and mitigation measures in the beginning of proposal planning (e.g. available legal register and digital media monitoring). 3. E&S Impact Assessment to determine whether or not it is aligned with eligibility criteria pre-agreed incl. Due diligence (incl. E&S, Gender) of Sub-project and Site-visit etc.	1. Accredited entities to create program level SEP. 2. Financial Intermediaries to develop SEP in the sub-project level. 3. Financial Intermediaries
	3. Potential limited capacity in sub-project corporate governance that may cause poor social safeguard compliance.	3. Program capacity building for sub-projects to include not only covering EE subject material but also introduce environment and social safeguard implementation	3. Accredited entities
	4. Potential limited women participation in the program/ project activities. The decision maker in the targeted industry sector and energy efficiency topic are generally men.	4. Gender assessment (GA) and gender action plan (GAP) shall be available and implemented in the program and sub-project level. 4. Sub-project level to align with GA and GAP	4. Accredited entities 4. Financial Intermediaries
	5. Potential Non-Government Organisation discontent due to problematic social and environment related sub-project design.	5. The accredited entities and executing entities shall implement the sub-project ESS	5.6.7 Accredited entities

Social Safeguard	Potential the Project / Program Social Impact to be screened	Potential Mitigation Measures	Responsibility
		screening, including SEAH risk screening and project design verification. 6. Sub-Project design process shall involve consultation with GCF Indonesia Observer. 7. Grievance redress mechanism shall be included in program and sub-project design.	5. Executing Entities incl. Financial Intermediaries
Labour and working conditions	8. In case of sub-projects, involve small construction for installation or replacement of energy efficient technologies and equipment. 9. In case of sub-projects, Potential workers discontent due to industry efficiency activities may reduce existing worker numbers.	8.9 In any case, all subprojects will be screened carefully case by case, to determine the appropriate category and social safeguard instruments to manage the worker related impacts in the targeted sector.	8.9 Final beneficiaries of subprojects that apply with guidance from FIs
Community health, safety and security	10. In case of sub-projects, involve small construction for installation or replacement of energy efficient technologies and equipment, potential temporary impact induced by the present of non-local worker influx. This might trigger community discontent, or outbreak communicable disease.	10. Subproject design shall include community health monitoring and practical stakeholder engagement plan. 10. For subprojects that may induce safety accidents for community members, appropriate safety signs, relevant prior information, traffic control plans shall be in place.	10. Final beneficiaries of subprojects that apply
Land acquisition and involuntary resettlement	11. In case of sub-projects, involve small construction for installation or replacement of energy efficient technologies and equipment that may require widening project footprint therefore require land acquisition process.	11. Subprojects that may involve land acquisition that may cause any involuntary resettlement or physical/economic losses will not be financed	11. Financial Intermediaries
Indigenous peoples		12. Subprojects that may adversely affect IPs will not be financed	12. Financial Intermediaries

Social Safeguard	Potential the Project / Program Social Impact to be screened	Potential Mitigation Measures	Responsibility
	12. In case of sub-projects implementation may affect indigenous peoples during land acquisition process or construction process		
Cultural heritage	**13.** In case of sub-projects implementation may affect cultural heritage during land acquisition process or construction process	13. Subprojects that may adversely affect cultural heritage will not be financed 14. In cases of a Chance Find during a potential excavation work, the contractor shall follow the Chance Find Procedure	13. Financial Intermediaries 14. Final beneficiaries with of subprojects that apply with guidance from FIs
Resource Efficiency and Pollution Prevention	14. In case of sub-projects implementation may emit GHG (scope 1 and 2) or discharge waste than E&S standards in Indonesia	14. Subproject design shall include Resource Efficiency and Pollution Prevention plan. 15. For subprojects that may induce any pollution, appropriate prevention or control plans shall be in place.	14. Financial Intermediaries 15. Final beneficiaries with of subprojects that apply with guidance from FIs
Biodiversity Conservation and Sustainable Management of Living Natural Resources	15. In case of sub-projects implementation may have potential adverse impact on ecological diversity and ecosystem around the proposed project site and its surroundings.	15. Subprojects that may have potential adverse impact on ecological diversity and ecosystem will not be financed	15. Financial Intermediaries

6. INSTITUTIONAL ARRANGEMENT FOR SAFEGUARD COMPLIANCE AND CAPACITY BUILDING

6.1. Institutional Arrangement for Safeguard Compliance

In order to effectively monitor the compliance with the stipulations given under ESMS (including monitoring compliance with developed ESMP), a robust institutional arrangement should be present. There will be a Project Implementation Unit (PIU) within each Financial Intermediary (FIs). On the other hand, each Final Beneficiary will have Environmental and Social Focal Point.

Under a two-step lending structure, each of FIs will have its own PIU which will be partly composed of the E&S expert group. As an intermediary, local FI is responsible for periodic monitoring and reporting to KDB on sub-projects they finance, and these duties are to be carried out by the PIU. The PIU will be composed of GCF project managers, focal points, and consultants dispatched from external expert agencies or TA Providers under Component 3 of the Programme. Although some FIs are expected to have an internal ESMS which is not insufficient, consultants dispatched in each PIU under Component 3 support the E&S impact assessment, management, monitoring, and evaluation activities of FIs to conduct programme implementation in line with ESMS, E&S policy of GCF and AE, and AMDAL.

- **Financial Intermediary**

  Each of the Financial Intermediary will have their own PIU. The PIU shall be formed by employees of the Financial Intermediary who would have exposure in environment, social and gender issues. Moreover, the PIU should be gender balanced and ensure female participation.

- **Final Beneficiary**

  The Focal Point will be adequate personnel managing social compliance, occupational health and safety issues, finance related issues and the energy efficiency and environmental issues.

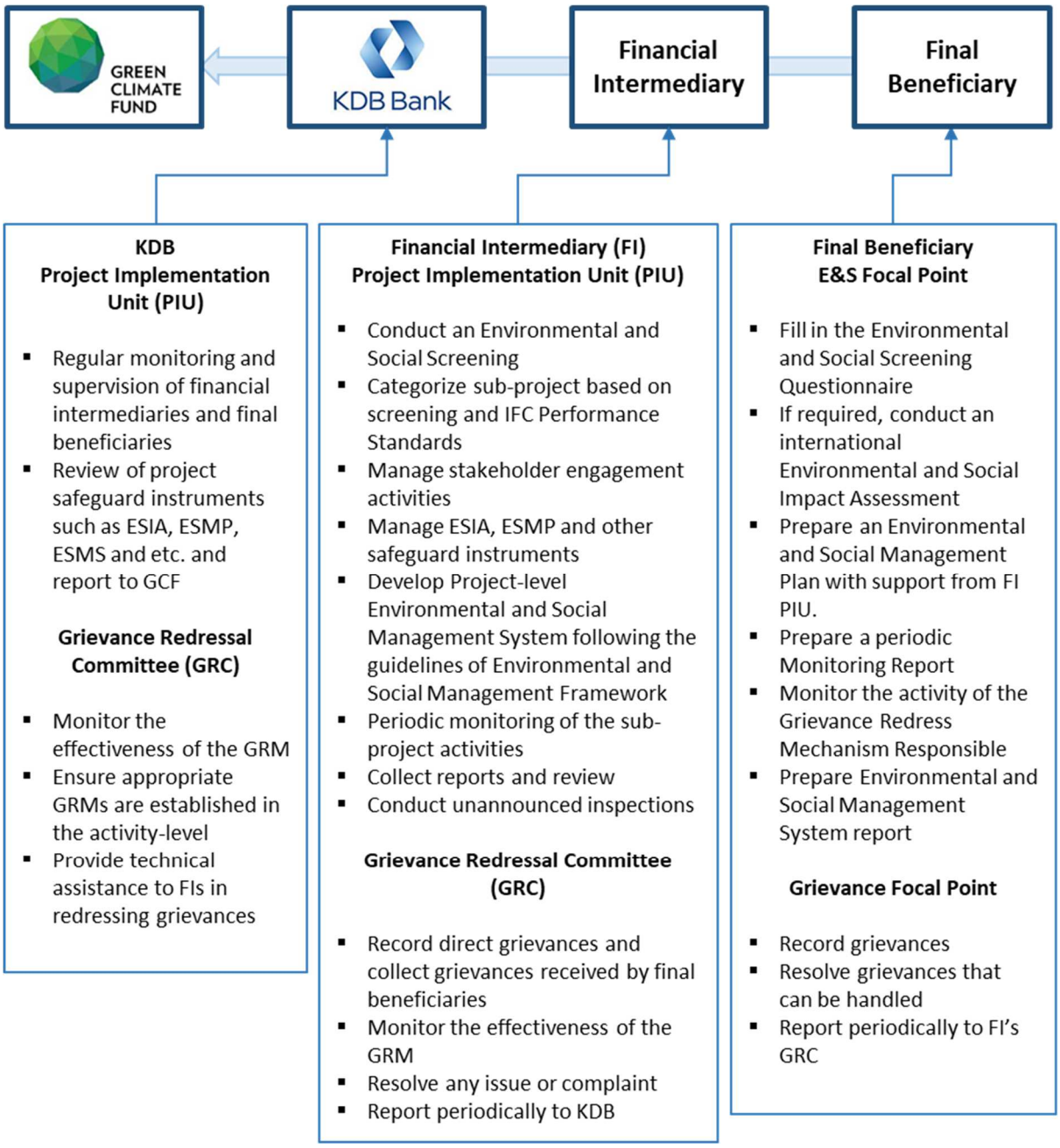
  Depending the capability and number of staff of a Final Beneficiary, it can form a Project Implementation Unit alike the Financial Intermediaries when and as necessary.

  The Focal Point will receive technical support from the Financial Intermediary if they face difficulties in assessing and managing environmental or social issues. Each of the sub-projects will include a monitoring and evaluation plan to ensure proper implementation of the activities.

  While it is recommended to personnel within the organization be chosen, the Final Beneficiary can also hire an external agency exhibiting proven experience in social and environmental management (including undertaking impact assessments, preparing management plans and conducting monitoring of compliance with E&S management plans), instead of an internal staff.

  The Focal Point will keep record of the environment and social issues in accordance with the ESMS. A monitoring report will be submitted half-yearly/yearly after the project implementation.

Figure 6.1 Institutional Arrangement for Safeguard Compliance



6.2. Monitoring, Evaluation and Reporting

The ESMP needs to be monitored to track the progress in implementing the agreed mitigation measures. This should be done half yearly/annually based on the template provided on environment and social monitoring checklist in Appendix F.

The Focal Point at the sub-project level will be responsible for the monitoring of the ESMP if the subproject are classified as Category B. Given below is the list of the activities required for E&S Monitoring and its R&R (Role and Responsibilities) :

Table 6.2 E&S Monitoring and its R&R

E&S Monitoring	R&R
Review all E&S screening, assessment, mitigation measures and costing/budget	PIU within Financial Intermediaries with a support from TA Executing Entities under Component 3
Prepare a brief environmental supervision manual in a partnership with Financial Intermediaries in the beginning of the contract to confirm the environmental supervision procedures and systems parties during the sub-project implementation. The manual will be continuously revised and updated throughout the implementation period to document the best operation/ construction environmental management process.	TA Executing Entities under Component 3 with a guidance from AE(KDB)
Conduct routine monitoring of the compliance of environmental management plan (EMP). A checklist for field monitoring is shown in Appendix E.	Final Beneficiaries with a guidance and support from Financial Intermediaries
Submit the overall half-yearly/ yearly progress report on environment and social compliance as per format given in Appendix G	PIU within Financial Intermediaries with a support from TA Executing Entities under Component 3
Monitoring of community engagement, social screening and impact assessment, the process of obtaining lands for sites, and preparation and implementation of ESMP	PIU within Financial Intermediaries with a support from TA Executing Entities under Component 3
Provide inputs on environment and social management in the project progress reports	PIU within Financial Intermediaries with a support from TA Executing Entities under Component 3
Provide clarifications related to social and environmental issues of the project as identified during independent monitoring commissioned by accredited entity or implementing entity (if any) and also during periodic missions of GCF, as requested	PIU within Financial Intermediaries with a support from TA Executing Entities under Component 3 and guidance from AE (KDB)

Since the programme includes various levels of stakeholders such as final beneficiaries and financial intermediaries, it would be important to determine the appropriate channels for monitoring and reporting in accordance to the accountability of each stakeholder.

First of all, it is anticipated that the final beneficiaries (the borrowers) will report the financials of installing, setting-up and operating the equipment as well as the amount of energy consumed. This data will be used to determine the energy savings of each equipment installed. The borrower will have to ensure that they report the correct type of fuel such as electricity, and the correct input data using identical units for the reporting period. This data will be reported to the executing entities (local financial intermediaries).

The LFIs will then gather all information from their final beneficiaries and check the figures for both energy consumption level and the corresponding total emission savings. After an initial check, all data will be streamlined and reported to both KDB(AE). The summary of all data will be organized and confirmed. After this stage, KDB will report to GCF regarding the programme's overall energy and emission savings level in tandem with the financial aspects. This whole process outlined above will be

discussed and confirmed once the programme has been initiated. In addition, KDB and local intermediaries will endeavour to collaborate so that data is monitored at an appropriate level alongside verification of certain sample data to ensure data reliability and validity.

- Final Beneficiary: Final Beneficiary is the entity that performs an actual energy efficiency project and is obliged to report basic data, such as energy usage/savings and expenses/cost for project monitoring and evaluation. However, due to the nature of the Programme that focuses on SMEs, the vulnerable group of final beneficiaries has realistic barriers and difficulties in establishing a separate business unit for each energy efficiency project or having expertise for project monitoring activities. Therefore, the main obligation of monitoring and reporting to the AE and GCF including information interpretation, impact and assessment besides the basic information reporting is transferred to local FIs under Sub-project Loan Agreement.

- Financial Intermediaries (FI): FI is a local financial institution selected by the AE, as it has provisional track records of high efficiency, effective monitoring, and supervising of country-wide programmes that has the capacity for monitoring and evaluation to support this type of project. However, their experiences with GCF's E&S/gender guidelines, or energy efficiency project may be not sufficient to fulfil the necessary guidelines. Against this backdrop, a Programme Implementation Unit (PIU) will be formed within the local FIs that will be in charge of monitoring, reporting, and evaluation duties. The PIU will be composed of GCF project managers, focal points, and consultants dispatched from external expert agencies or TA Providers under Component 3 of the Programme. Potential external expert agencies are shortlisted in the programme development stage through local stakeholder consultations. Other TA activities under Component 3 support the development of pipeline, technical, E&S monitoring, and evaluation activities of FIs.

- KDB (AE): KDB monitors all information reported by local FIs on a quarterly basis (potentially shift to semi-annually as the Programme matures), evaluates and assesses whether each project is in line with the GCF and KDB guidelines, and provides the supervisory function for the Programme lifespan. KDB also communicates with the GCF throughout the procedures of interim and final evaluation reporting to the GCF. All reporting results will be faithfully delivered to the GCF with assurance of the proper business operation throughout the Programme lifecycle. KDB will have meetings, at least quarterly with each of FIs for more efficient and active project monitoring and evaluation activities..

6.3. Training and Capacity Building Requirements

Since the officials of the financial intermediary will be responsible for carrying out compliance monitoring, as per guidelines of the ESMF, there is need to develop in-house capacity for performing such functions.

Capacity development in financial intermediary and financial intermediary for effective monitoring and evaluation of compliance with the ESMP will be undertaken as part of the Component 3 "Capacity Building & Market Awareness Support" of the Program. Under the Component 3, support in awareness-raising and capacity building to beneficiaries and technical experts will be provided; technical advisory on monitoring and reporting of the projects, will be provided; results will be fed into the regulatory advisory to improve the framework conditions training on regulatory requirements. As part of the procedure, monitoring templates given in this document as Appendixes, will also be explained and method of filling up the templates will also be provided.

7. STAKEHOLDER CONSULTATION

The meaningful stakeholder consultation is conducted to gather stakeholders (government, beneficiaries, and affected people) perception. The consultation process is also a way to provide information about the program and sub-project to all stakeholders, particularly the sub-projects affected people in a timely manner, and to provide opportunity to the stakeholders to voice their opinions and concerns on different aspects of the project. The opinions and suggestions of the stakeholders would assist in taking appropriate decisions for effective environmental management of the sub-projects. It would help facilitate and streamline decision making whilst fostering an atmosphere of understanding among individuals, groups and organizations, who could affect or be affected by the sub-projects. Finally, the perception of the program and the sub-project multi stakeholders shall be integrated in the project design and implementation process.

7.1. Objective

An effective public consultation and access to information plan (PCAIP) needs to be developed. The specific objectives of stakeholder consultations are:

i. To keep stakeholders informed about the sub-projects at different stages of implementation;

ii. To address the E&S concerns/ impacts, and device mitigation measures taking into account the opinion/ suggestions of the stakeholders;

iii. To generate and document broad community support for the sub-projects';

iv. To improve communications among interested parties, and

v. To establish formal grievance submittal / resolution mechanisms.

Such consultations will continue to be ensured during further design and implementation stage of the project. These will be undertaken at a minimum, at selection of the sub-projects, during environmental screening, and assessment, if undertaken, and while formulating the EMPs. A comprehensive framework for the participatory consultation including an effective feedback mechanism and information disclosure should be developed and incorporated for implementation during the entire duration of the project.

7.2. Stakeholder Consultation Approach and Timeline

7.2.1. Stakeholder Mapping

The program implementation will also act as a campaign in the EE field. It is essential that the information and lesson learned of the project will be disclosed proactively and efficiently. As such, it is suggested to identify the stakeholders relevant to the sub-project implementation, their interest, their influence and the way to engage in the following groups within program level and sub-project level:

1. Government stakeholders relevant for compliance and promotion of EE

1.1 National government (Ministry level);

1.2 Regional government (Provincial level);

1.3 Local government (Regency/District level); and

1.4 Foreign embassy that has interest in EE program.

2. Non-government stakeholders for promotion of EE and benchmarking

2.1 Companies in similar sector to sub-projects;

2.2 Non-government organisation registered as observers in GCF;

2.3 Financial institution involving in managing the program funding;

2.4 Management and Workers of sub-projects;

2.5 Affected communities surrounding the project location;

2.6 ESCO (energy service company);

2.7 Mass media;

2.8 Business association; and

2.9 Research/education institution.

7.2.2. Stakeholder Engagement Plan

In the beginning of sub-project implementation preparation, the project applicants should prepare stakeholder engagement plan (SEP). The SEP document will cover the following items:

1. Stakeholder mapping information as mentioned above;
2. Each stakeholder consultation should prepare and keep the meeting invitation, meeting material, and meeting documentation (Minutes of Meeting (MoM) and pictures) as part of evidences for stakeholder consultation process;
3. Stakeholders engagement team (roles and responsibility); and
4. Budget plan to do stakeholder engagement activities.

It is assumed that the project applicants (industry owners) of the program should have completed their local EIA process (AMDAL) when applying for the program. Therefore, the engagement with stakeholders is suggested to be implemented only to the key stakeholders and key affected communities in smaller group (5 to 10 people). The regular formal public consultation in EIA or ESHIA will cover 30 to 60 people in one event. The smaller group is suggested to reduce miss understanding on the information delivery. The key stakeholder consultation activities are suggested to disclose any information related to program and to sub-project facility adjustment to do energy efficiency as well as its impact and benefit.

7.2.3. Information Disclosure

It is suggested for the project applicants to regularly disclose their public information as part of stakeholder engagement activities in their companies' website. This information may relate to:

1. Grievance redress mechanism and grievance channel;
2. Stakeholder engagement activities;
3. Environment and social commitment;
4. EIA or ESIA document (by request).

7.2.4. Timeline of Stakeholder Engagement

Table 7-1 Stakeholder Engagement Timeline

No	Stakeholder Engagement Approach	Suggested Timeline
1	Stakeholder Mapping	Pre-project implementation
2	Stakeholder Engagement Plan Implementation	Stakeholder engagement plan should be prepared in the beginning of the sub-project implementation

No	Stakeholder Engagement Approach	Suggested Timeline
		During the program and sub-project implementation
3	Information Disclosure	Before the sub-project implementation; Every 3 months during the sub-project implementation; and After the completion of sub-project implementation.
4	Grievance Log Update	Every 2 months

7.3. Recorded Stakeholder Consultation to Date – Program Level

To date the program has implemented some stakeholders' consultation, the summary of stakeholder consultation (please refer to Appendix A for minutes of meeting full summary) are as follow:

Table 7-2 Stakeholder Engagement Log

No	Stakeholders Engaged	Date	Brief Summary
1	IESR (Institute for Essential Service Reform) – Fabby Tumiwa	Friday, 26 March 2021	There are many EE successfully implemented the program, lesson learned in this project should be adopted. Opportunities to do EE can be seen a lot in cement industries and commercial office building. Each project under the program has to submit an environment and social impact assessment suggested by GCF ES Safeguard.
2	KEHATI (Yayasan Keanekaragaman Hayati Indonesia - Indonesia Biodiversity Foundation) – Rony Megawanto	Friday, 19 March 2021	The program and project implementation of EE should highlight the ability of the program/project to reduce carbon footprint. Human right or gender aspect have not seen as one of the noticeable components of project implementation in EE.
3	WALHI (Wahana Lingkungan Hidup – Friends of the Earth Indonesia) – Oslan Purba	Wednesday, 24 March 2021	WALHI suggested that each program related to energy efficiency should think about the impact that affects the environment and community surrounding the company facilities or down the company's supply chain. Some examples: Pulp and paper companies have been using Indigenous People forestry resource. Mining companies, (cement) has destroyed water conservation area which may impact biodiversity and community livelihood. The textile and food industry has been known to have a problematic approach to their workers' policy. Stakeholder consultation with the observer should not only happen at the beginning of the program designed only. The final draft of the program /screening instrument should allow a discussion with observers as well.

7.4. Information Disclosure

The Programme disclosure procedures for safeguard instruments follows the information disclosure policy of AE and GCF as well as the requirements of the GCF Revised Environmental and Social Policy on disclosure of projects as shown in Table 7-4.

Table 7-4 GCF Information Disclosure Policy

Environmental and social reports With respect to project and programme funding proposals that have an environmental or social impact, the Accredited Entities (AE's) shall disclose and announce to the public and, via the Secretariat, to the Board and Active Observers: (a) in case of Category A projects, the Environmental and Social Impacts Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) at least 120 days in advance of the AE's or GCF's Board decision, whichever is earlier; (b) in the case of Category I-1 programmes, the Environmental and Social Management System (ESMS)2 at least 120 days in advance of the AE's or GCF's Board decision, whichever is earlier; (c) in the case of Category B projects, the ESIA3 and an Environmental and Social Management Plan (ESMP)4 at least 30 days in advance of the AE's or GCF's Board decision, whichever is earlier; and (d) in the case of Category I-2 programmes, the ESMS at least 30 days in advance of the AE's or GCF's Board decision, whichever is earlier. The reports will be available in both English and the local language (if not English). The reports will be available via electronic links in both the AE's and the GCF's website (in the case of the GCF website, upon submission of a funding proposal to the Board) as well as in locations convenient to affected peoples. Funding proposals relating to projects and programmes that do not have any significant environmental or social impact (i.e. Category C project or Category I-3) shall not require any additional advance information disclosure.	
in the case of **Category B Sub-projects**, the fit-for-purpose ESIA and an Environmental and Social Management Plan (ESMP) will be disclosed at least 30 days in advance of the approval decision. The safeguard reports will be available in both English and the local language (if not English). The reports will be submitted to GCF and made available to GCF via electronic links in both the AE and the GCF's website as well as in locations convenient to affected peoples in consonance with requirements of GCF Information Disclosure Policy and Section 7.1 of (Information Disclosure) of GCF Revised Environmental and Social Policy.	

8. GRIEVANCE REDRESS MECHANISM

Grievance Redress Mechanism (GRM) is a valuable tool which will allows affected people to voice concerns regarding E&S impacts, including SEAH risks, for sub-project activities through a predictable, transparent, and credible process, resulting in outcomes that are seen as fair, effective, and lasting[24].

GRM allows to improve the response efficiency and accountability level to the project beneficiaries, ensuring the prompt complaints and feedback consideration and processing, as well as problems identification and finding their solutions together with the stakeholders. By increasing transparency and accountability, GRM seeks to reduce the project risk that unintentionally adversely affects citizens/beneficiaries and serves as an important feedback mechanism that can help to improve the sub-project impact.

A GRM should have a clear set of goals and objectives and a well-defined scope for its interventions:

- What is the necessity of establishing a GRM?
- What are the expectations from the GRM in short- and long-term period?
- What issues are needing to be addressed in the GRM?

The approach of GCF is to provide for grievance and redress at GCF, accredited entity, and activity levels:

- GCF Level: At the GCF level, the independent Redress Mechanism will address the grievances and complaints filed by people and communities who may be or have been affected by the adverse impacts in connection to the potential failures of the GCF-financed activities to implement measures pursuant to the operational policies and procedures of GCF, including its ESS standards. In the event of a complaint being filed with the independent Redress Mechanism, the accredited entities will cooperate with the independent Redress Mechanism and GCF.
- Accredited Entity Level: GCF requires that accredited entities inform the communities affected, or likely to be affected, by the GCF-financed activities about the grievance and redress mechanisms at all three levels, at the earliest opportunity of the stakeholder engagement process and in an understandable format and in all relevant languages. The details for sending complaints containing the contact information and the appropriate modes by which these will be received will be provided by the accredited entities to the communities and disseminated with other involved institutions.

  It is also required that accredited entities identify whether an activity-level grievance redress mechanism exists and ensure appropriate redress mechanisms are established at activity-level.

  If the accredited entities are acting in an intermediary function, the accredited entities will require the executing entities to fulfil the activity-level grievance mechanism requirements discussed in this section while maintaining responsibility for its own grievance redress mechanism and will conduct the necessary due diligence and oversight to confirm that these requirements are fulfilled
- Activity Level: The ESS standards of GCF establish the requirements for setting up of a grievance redress mechanism at the activity level to receive and facilitate the resolution of concerns and grievances about the E&S performance of GCF-financed activities. These mechanisms will seek to resolve complaints in a manner that is satisfactory to the complainants and other relevant parties that will be identified, depending on the nature of the complaint.

GCF recognizes that local or sub-project level grievance mechanism can provide an effective and direct remedy to complainants and encourages the use of such mechanisms whenever possible. This recognition does not limit in any way the ability of complainants to access the GCF independent

[24] Office of the Compliance Advisor/Ombudsman for the International Finance Corporation (CAO). 2008. Advisory Note: A Guide to Designing and Implementing Grievance Mechanisms for Development Projects, Washington, D.C.

Redress Mechanism directly. Persons who allege that they have been affected by activities that do not comply with the accredited entities' own policies and procedures should access the accredited entities' own grievance redress mechanisms and/or those at the project or activity level, if separate. It is the responsibility of the accredited entities to require and ensure that their grievance mechanisms and the activities' grievance mechanisms are functioning effectively, efficiently, legitimately, and independently in a manner that is accessible, equitable, predictable, transparent, rights-based, and that allows for continuous learning.

The accredited entities' and/or executing entities' mechanism should be scaled to the risks and impacts of the activities. The mechanism will facilitate the resolution of grievances promptly through an accessible, fair, transparent and constructive process. It will also be culturally appropriate and readily accessible, at no cost to the public, and without retribution to the individuals, groups, or communities that raised the issue or concern. The mechanism will not impede the access to the independent Redress Mechanism of GCF or to judicial or administrative remedies that may be available through the country systems acknowledging that these localized systems may provide more robust information and reflect better the context of the issues on the ground. The mechanism will take into account the "effectiveness criteria" for non-judicial grievance mechanisms outlined in the United Nations Guiding Principles on Business and Human Rights in order to maximize effectiveness.

In this Program, the Financial Intermediaries ensure that grievance redress procedures are in place and monitor those procedures to ascertain that grievances are handled properly. The Financial Intermediaries will organize a Grievance Redressal Committee (GRC). Generally, the grievance redress committees (GRC) are of two types (i) formal courts of appeal and (ii) a locally constitutes GRC for dispute resolution. The second may not totally avoid but may reduce the problem significantly. The GRC will ensure proper presentation of complaints and grievances, as well as impartial hearings and transparent decisions. A higher level GRC will also be established within KDB to monitor and provide guidance to Financial Intermediaries and Final Beneficiaries.

Each Final Beneficiary have a grievance mechanism and a Grievance Focal Point in place to monitor any grievances raised in accordance with the subproject and report to GRC in a timely manner.

The GRC and Grievance Focal Points will meet periodically to discuss the merit of each case and fix a date for hearing and notify the aggrieved persons to submit necessary documents in proof of her/his claim/case; resolve grievances within one month of receipt of complaint.

In case incidences of SEAH occur there should be established accessible and inclusive survivor-centred and gender-responsive grievance redress mechanisms in place, with specific procedures for SEAH including confidential reporting with safe and ethical documenting of such cases, that indicate when and where to report incidents, and what follow-up actions will be undertaken; and modalities to provide timely services and redress to survivors, including as appropriate, medical care, psychosocial support, legal support, community driven protection measures, and reintegration

The resolution of grievances will be facilitated promptly through an accessible, fair, transparent, and constructive process, that is also a survivor-centred and gender-responsive in the case of SEAH.

8.1. Objective

The structure of the GRM will be designed in a way that it will:

- Create opportunity for all the stakeholders to share their comments/concerns. The project will establish a GRM to answer to queries, receive suggestions and address complaints and grievances about any irregularities in application of the guidelines adopted in this framework for inclusive project design, and assessment and mitigation of social and environmental impacts;
- Provide a structured system to manage comments, responses and grievances, and allow monitoring of the effectiveness of the mechanism. Based on consensus, the procedure will help to resolve issues/conflicts amicably and quickly, saving the aggrieved persons from having to

resort to expensive, time-consuming legal action. The procedure will however not pre-empt a person's right to go to the courts of law; and

- Ensure transparency of comments, responses, and grievances and the handling is done in a fair manner. In this regard, a Grievance Focal Point will cooperate with GRCs to deal with all suggestions and complaints at the subproject level.

8.2. Grievance Redress Committee and Focal Point

Grievance Focal Point will be designated and available at each sub-project site for instant response to an aggrieved person, receiving written complaints or suggestions, report them to the GRC for hearing and resolution. The GRC to be created within the Financial Intermediary will consist of 3-5 members including at least two female members. This GRC will be responsible for periodically reporting to the Accredited Entity.

8.3. Grievance Resolution Process

All complaints and suggestions will be received formally either in the specific sub-project location by the Grievance Focal Point or through the GRC. A format for receiving grievances is given in Appendix H.

An intake register will be maintained at the office of the management of the sub-project and shared with GRCs. The intake registration will have data/information columns including (i) Case no., (ii) date of receipt, (iii) name/type of complaint/grievance, (iv) sex, (v) father's name/husband's name, (vi) complete address of the person raises the complaint/grievance, (vii) main objection (loss of land/property or entitlement), (viii) detailed complaint story, (ix) expectation with documentary evidence and previous records of similar grievances will be documented in the intake register.

The concerned persons will be informed to attend formal hearings at an appointed date. The GRC committee will site for hearing at the sub-project management office and pays patient hearing to the aggrieved persons. The GRC will record salient points to be presented by the aggrieved person and will examine their documentary evidences to be submitted during informal hearings.

A resolution register will be maintained at the GRC secretariat and shared with Grievance Focal Point and KDB GRC. Resolution register will contain (i) serial no., (ii) case no., (iii) name of complaint, (iv) complaint story and expectation, (v) date of hearing, (vi) date of field investigation (if any), (vii) results of hearing and field investigation, (viii) decision of GRC, (ix) progress (pending, solved) and (x) agreement or commitments. Besides, closing register will also be used. Closing register keeps records, such as, (i) serial no., (ii) case no., (iii) name of complaint, (iv) decision and response to complaints, (v) mode and medium of communication, (vi) date of closing, (vi) confirmation of complaints' satisfaction and (vii) management actions to avoid recurrence.

Based on consensus, the procedure will help to resolve issues/conflicts amicably and quickly, saving the aggrieved persons from having to resort to expensive, time consuming legal action. The procedure will however not pre-empt a person's right to go to the courts of law. The convener of the concerned GRC will have the authority to do the following things:

- Reject a grievance redress application with any recommendations written on it by a GRC member or any other person giving sufficient documentary evidence in favor of rejection of the grievance redress application;
- Remove a recommendation by any person that may separately accompany the grievance application;
- Disqualify a GRC member who has made any recommendation on the application or separately before the formal hearing;

- Appoint another person as GRC member for replacing the disqualified GRC member. The new GRC member will be appointed in consultation with the sub-project responsible and keep the Project Coordinator informed of the replacement; and
- The Convener will also ensure strict adherence to the compensation rates determined through market price surveys following approved procedure.

9. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Based on the results of the site-specific assessment, the ESMP will be designed such that the measures are adequately described, roles defined and the corresponding timelines and resources identified. Where the sub-project involves existing facilities, an E&S audit may be required, and the corresponding ESMP may include remediation, recompense or management of any residual E&S issues. The ESMP should have as minimum the following content:

a. Sub-project description including log frame and project activities, location and geographic extent of the sub-project; potential negative impact on environment and society due to sub-project activities.

b. Brief reference to the legal framework of the country, GCF's framework related to E&S management and how the sub-project ensures compliance;

c. Complete list of identified negative effects that specific sub-project activities may cause and their significance;

d. Planned measures to avoid adverse environmental and/or social impacts, to minimize them to acceptable levels or to compensate for them; including responsibilities (staffing) and schedule for implementing the mitigation measures, their technical feasibility, cultural appropriateness, expected effectiveness in providing mitigation to all affected groups;

e. Reference to plans required by the IFC Performance Standards and whether mitigation measures have been included or not in the ESMP;

f. Cost estimates for the proposed mitigation measures and for ensuring compliance, to be included in the budget of the sub-project proposal;

g. Description of the executing entities' capacity to implement the ESMP; where needed, provide for capacity building measures (to be included in the ESMP budget).

The ESMP report should be developed to facilitate the project. It should include all the actions to be undertaken to limit, reduce or eliminate the potential negative impacts identified. These actions should be related to the mitigation measures, control and monitoring measures to be applied as well as the necessary support measures for awareness raising and capacity building.

9.1. General Environmental Policies and Management Practices

The most commonly used standards for environmental management are International Organization for Standardization (ISO) 14001: internationally agreed standards that sets out the requirements for an environmental management system. It is an internationally accepted guideline for organizations to improve environmental performance through more efficient use of resources and reduction of waste, gaining a competitive advantage and the trust of stakeholders. The ISO 14000 family of standards provides practical tools for companies and organizations of all kinds looking to manage their environmental responsibilities. ISO 14001:2015 and its supporting standards such as ISO 14006:2011 focus on environmental systems. The other standards in the family focus on specific approaches such as audits, communications, labelling and life cycle analysis, as well as environmental challenges such as climate change.

An environmental management system is a key for organizations to identify, manage, monitor and control environmental issues in a holistic manner. ISO 14001 is acceptable for organizations of all types and sizes, be they private, not-for-profit or governmental. It considers all of the environmental issues relevant to its operations, such as air pollution, water and sewage issues, waste management, soil contamination, climate change mitigation and adaptation, and resource use.

ISO 14001:2015 sets out the criteria for an environmental management system that can be certified to. It maps out a framework that a company or organization can follow to set up an effective environmental management system. It can be used by any organization regardless of its activity or

sector. The use of ISO 14001:2015 can provide assurance to company management and employees as well as external stakeholders that environmental impact is being measured and improved.

9.2. Structure and Requirements of the Environmental Management Plan

The Environmental Management Plan aims to record environmental impacts resulting from the sub-project activities and to ensure implementation of the “mitigation measures” identified earlier in order to reduce adverse impacts and enhance positive impacts from project activities. Apart from general monitoring of mitigation/enhancement measures, important environmental parameters to be monitored during the construction phase of the sub-projects could include air quality, noise level, water quality, drainage congestion, generation of traffic, etc. The requirement and frequency of monitoring would depend on the nature of sub-project and field situation. The parameters and their frequency of monitoring should be provided along with cost of management plan and institutional arrangements for conducting monitoring.

9.3. Grievance Redress Mechanism

The Grievance Redress Mechanism is a system that allows anyone to file complaints, principally from the affected communities located in the surrounding of the project. It is a system that will enable the responsible organizations and project developer to make fully-fledged environmental improvements for local residents and also lead to environmental improvements within projects. The GRM will answer to queries, receive suggestions and address complaints and grievances about any irregularities in application of the guidelines adopted in this framework for inclusive project design, and assessment and mitigation of social and environmental impacts. The structure of Grievance Redress Mechanism implementing body and the process for grievance redressal is provided in Section 7.

9.4. Climate Risk Management Plan

Climate Risk Management (CRM) is the process by which climate threats are assessed, addressed and managed adaptively. Climate risks are potential negative effects due to changing climatic conditions on programs or operations. CRM's goal is to work more climate resilient (i.e., better able to anticipate, prepare and adapt to changing climatic conditions and resist, respond and recover quickly from disruptions) and avoid maladaptation (i.e., development efforts that inadvertently increase climate risks). By using climate risk assessments to guide decision-making at the level of policy, plan, and operation, it is easier to manage climate threats and fulfil the goal of overcoming extreme poverty and fostering stable, democratic societies thereby pursuing our security and prosperity more effectively.

The main objective of preparing an analysis and a framework is to provide a guidance for achieving environmental sustainability throughout the project cycle under the CRM monitoring on the activities and interventions taken by the project.

9.5. Method of Estimation of Costs for EMPs

Some activities included in EMPs have certain monetary involvement. The cost of the environmental mitigation measures in the EMP should be estimated and as a part of the preparation of EMP and should be included in the bill of quantities of bid document. Many of the activities to be carried out as a part of EMP would not involve any additional direct cost e.g., employing local work force, where appropriate; keeping sub-project vehicles in good operating condition; scheduling deliveries of materials/ goods in off-peak hours; use of fuel; etc. On the other hand, several activities would require additional cost, for example the environmental monitoring during both construction and operational phases. Another example of direct additional cost is the implementation of health and safety measures such as the installation of septic tank/sanitary latrine/portable toilets, installation of health and safety signs, awareness documents (signs/ posters), plantation etc.

9.6. Social Development Guidelines

The local government acts and the Guidelines for Community Involvement in the Process of Analysis of Environmental Impacts and Environmental Permits (State Minister for the Environment Number 17 of 2012) recognize that stakeholders can exercise their rights to access information in context of development programs and the public institutions are obligated to place information in public domain. This creates an enabling environment to develop trust among implementing partners and builds in checks and balances to strengthen the system. Project information should be disclosed in public domain including the social screening/assessment report, social management plan.

The project should implement social accountability tools to improve citizen participation and transparency. Strengthened transparency and accountability includes display of information of all activities including cost, at prominent places in the intervention areas, participation of stakeholders in monitoring and evaluation, and use simple formats for reporting findings at planning and implementation stages. Specific measures should be designed regarding (i) consultation, feedback and grievance-redress mechanisms to alert project staff to problems identified by beneficiaries, and other stakeholders; (ii) participatory planning to ensure the project meets the needs of beneficiaries; and (iii) participatory monitoring and evaluation for identification of problems.

9.7. Communication and Participation Strategy

The communication and participation strategy promote a two-way communication, exchanging knowledge and skills for adoption of sustainable energy saving technologies as well as equipment with facts on the ground.

Communication and participation process should include (i) disclosure and consultation meetings, (ii) need based field visits during planning, design and implementation. Feedback from consultation process should be given due consideration for beneficiary selection, project design, and implementation.

Beneficiary participation and their feedback through consultation will be the key to success of effectiveness of the adoption of energy saving technologies by promoting private sector investment.

9.8. Zero-tolerance to SEAH

The adoption of the SEAH policy is to be incorporated into all the GCF-funded activities. The risk management framework recognises the imperative for mitigation measures to prevent and respond effectively to SEAH, and mainstreams the SEAH consideration at all the relevant steps and procedures. At the risk screening stage, the energy efficiency finance applicant shall be assessed by the E&S and gender experts of the PIUs (see Appendix F.) so as to screen and determine if the sub-projects are likely related to any investment against the zero-tolerance to SEAH policy.

APPENDIX A SUMMARY OF KEY STAKEHOLDER INTERVIEW LOG

I. Focus Group Discussion for Market Assessment

To	KDB
From	ERM
Date	7 January 2021
Reference	FGD Market Assessment
Subject	Minutes of meeting from ERM's point of view

Dudi Rulliadi (BKF Indonesia (NDA GCF)) – focal point from GCF

Explained the expected meeting agenda:
- Policy, Finance, and technical assistance
- Energy efficiency assurance
- Requested ministerial approval through NDA
- Requests for concept notes first conducted in 2019 (195 concept notes screened, 47 concepts notes received)
- These concept notes received assistance to improve their concept notes to be able to meet GCF's standard
- The matchmaking clinic was conducted to propose the winning proposal to GCF
- KDB and ACE with BKF are the organizations that responsible to submit concept notes to GCF as funding proposals). In 2019, FGD has been conducted with technology providers (boiler technology).

Septia (ACE) – We represent 10 energy ministries in ASEAN. We are targeting 30 % energy consumption reduction across ASEAN. We expected to receive input in policy alignment for the energy efficiency program.

Jesuk Lee (KDB) – presented the EE project and partnership scheme.

Zulfikar (ACE- Renewable Energy) – Accepted Program
Program
- Energy Efficiency (EE) insurance to reduce the risk of new technology in EE
- 20M USD KDB, 30M USD GCF assistance
- Capacity building for business actor/industry/ technology provider
- Developing the market and documented lesson learned

Program challenge
- Capacity building challenge
- Limited de-risking mechanism in Indonesia – no insurance for new technology

Market assessment
- Potential industries & technology sector
- Target improvement for market creation

Rio Jon (ACE) – Policy

- EE Law Indonesia: year 2009 presidential decree no 70/2009, year 2014 presidential decree no 79/2014, year 2015 ministerial decree no 07/2015 law energy for efficiency
- EE target and policy: improvement energy is required for high emission industry
- EE National statistical bureau: energy source is heavily relying on high emission

- Discussion points: improvement the regulation on threshold and incentive, support from the government for technology penetration, capacity building, benchmarking with ASEAN industry in EE

Zulfikar (ACE- Renewable Energy) - Technical
- Focus sector: 5 sectors industry
- Discussion points: proposed regulations, approach, the project in pipeline, assistance, and verification bodies

Verena (ACE consultant) - finance breakout session
- Implementation pp 70/2019, energy audit up to 6000 Tonne of Oil Equivalents (TOE)
- Implementation of OJK (Otoritas Jasa Keuangan or Financial Services Authority in English) regulation
- Initiative energy efficiency EXIM, JCM, PT SMI, AFD
- Multiple actors in assisting market penetration (funding) for EE
- Discussion points: incentives program, information on it, de-risking mechanism

****Technical breakout session (Putri)**
Isti (OJK):
- Financing on energy, roadmap sustainable financing 11 January phase 2 and master plan for financial service industry
- Banking needs more capacity building on innovative technology. All banking institutions have different understanding and policy in de-risking the loan/financing. Calculation instruments from finance institutions should be up to the banking institution.
- Banking will need a suitable mechanism for the collateral de-risking process. They will need to calculate the risk of EE projects.
- OJK expects there should be one pilot project de-risking energy for the finance industry (including an insurance company). Capacity building should be given not only for banking but also for the insurance companies. The stock market should be involved as other stakeholders that might give financing or incentive.
- OJK also needs government policy to cover the financing process.

Rustam (PKPN-BKF):
- Government (Ministry of Finance) has provided many incentives for renewable energy. The government is planning to give a roadmap in government assistance. This has been postponed since there is an oversupply for geothermal/renewable energy.
- In the transportation sector, there has been an incentive for those products that utilized batteries. Incentives are in the form of a reduction of tax.
- No incentives related to climate change mitigation action for companies.

****Policy breakout session**
Zulfikar – DEK DJEBT (directorate general in renewable energy)
- We need a replication business model not only pilot or capacity building
- There are too many capacity building in finance service
- We need capacity building on financing instrument creation and insurance capacity building.
- All engineers in the company do not need capacity building in new technology, they need capacity building in standards.

Isti (OJK-Financial Services Authority):
- Stock market for IPO in clean energy is still low interest
- In the sustainable finance roadmap phase 2 will explain more about the green industry sector
- Fix asset 100% collateral de-risking innovative finance instrument is required for financing industry. We need a sample of the de-risking instrument first for EE financing so that the business/industry can start using it in their business.
- Finance institution is ready, but we need a solution to the above financial instrument.

Ilham (Directorate general electricity)
- There is a new regulation for PLN (national electricity company) for energy efficiency projects and specific fuel consumption efficiency.

- EE does not have enough financial policy instruments and incentive policy.
- There will be a carbon-pricing policy; this policy will help to boost energy efficiency.
- For old power plants, which are not very efficient, will deal with the carbon tax policy. Therefore, they need to opt for energy efficiency. Power plant needs/has to think about the solution on how to reduce energy consumption in the plant itself.

Dewa (BKF) – Fiscal policy agency
- Carbon tax/levies will not be ready shortly, given that many fiscal policies need improvements and adjustments.
- There are already a policy for energy efficiency spare part. The policy is to reduce the tax and import levies for these products.

Juniko (Ministry of Energy and Mining-Electricity)
- All regulation in EE should be grouped it into 3 regions, to reflect current local conditions of industries, which are completely different. The grid emission factor is different, the source of energy and business processes are also different.

****Finance breakout session**

Wahyudi – EMI (company)
- My obstacle is usually not the technology of EE itself but it is mainly on collateral instruments of EE.
- EMI business is mainly doing the auditing for potential energy efficiency. Our clients, when they want to replace their technology, they said that the bank would ask for collateral de-risking amount which is quite high.
- Industry always tries to reduce CAPEX in the beginning of business start, but they they forget to consider the OPEX.

Irwan – DEK DJEBT (directorate general in renewable energy)
- Every industry will ask incentive from government after they are doing EE. They do not like when the government says that the benefit is in more revenue and more cost effective technology.
- Consultant – ESCO (energy service companies) still does not have specific policy as part of financing process.
- Measurement energy standard/efficiency is already available in Indonesia. However, there is a need for certified verification body (like ESCO).
- We have PPP example before for traffic: for example the project utilizes the efficiency amount gap to pay back the loan.

Closing Dewa Ekayana
- We are going to give full support all proposals/concept notes for projects in Indonesia. As GCF has the biggest funding available now for climate change related projects/proposals.

II. Observer List

ERM suggested to have three (3) observers included from this list. However, it was noted that these observers are not based on direct appointment. It is based on voluntary intention for each observer in this list. Regardless, some people in the organization could not get the context of GCF program if they were not the person in charge who registered their organization.

ERM has conducted Qualitative In-depth Interview in Bahasa Indonesia to gather observers' suggestion and recommendation. The in-depth interview conducted regularly took 30 to 45 minutes. The GCF Indonesia observer list is provide below.

GCF Indonesia Observer List[1]

No	GCF Observer	Name of Representative Listed	Rationale for selection	Contact Date
1	Wahana Lingkungan Hidup Indonesia / Friends of the Earth Indonesia	Oslan Purba Head of department Walhi Contact: oslan.purba@gmail.com	To be included, as they are a prominent NGO in Indonesia. They have a well experienced people in environment and social advocacy. They are not familiar with ESHIA process.	23 March
2	Yayasan Keanekaragaman Hayati Indonesia / Indonesia n Biodiversity Foundation	Indra Gunawan, he referred to Rony Megawanto (Project Director) indra.gunawan@kehati.or.id	To be included, as they are a prominent NGO in Indonesia for biodiversity, however very limited consideration on social and gender aspect. They are not familiar with ESHIA process.	15 March
4	Institute for Essential Services Reform	Fabby Tumiwa fabby@iesr.or.id	To be included for environment component. They are not familiar with ESHIA process.	25 March
5	Perserikatan Solidaritas Perempuan-Women's Solidarity for Human Rights	Puspa Dewy pdewy@solidaritasperempuan.org Dinda Anisa Yura nisaa@solidaritasperempuan.org	To be included, as they are a prominent NGO in Indonesia for women movement, however very limited consideration on environment. They are not familiar with ESHIA process.	26 March

[1] GCF Observer List, retrieved on : March 2021, retrieved from: https://www.greenclimate.fund/about/partners/observers

III. Engagement Instrument

ERM discussed with the above representatives about:

a. GCF available screening tools;
b. their experience to use it;
c. their feedback on current GCF NDA approach for new projects;
d. KDB's project by sector and possible impact;
    - Possible E&S screening indicator for projects in sectors as follow:

    Industry: Highest Energy-Intensive Industries, which include: Food/Beverage, Textiles/Apparel, Pulp/Paper, Chemical, Non-metallic minerals (mainly cement industry)
    - Possible E&S impact for projects in location as follow:

    Region: likely Jakarta, East/West/Central Java, Banten, East Kalimantan, South/North Sumatra
    - Possible E&S impact and benefit for projects in beneficiaries groups as follow:

    Beneficiary: Industrial Owners, Technology Providers, and/or ESCO (energy Service Company)

Questionnaire List regarding Environment, Social and Gender

Environment	Social	Gender
- What are the potential negative environmental impacts that you envision from the industries above, in relation to improvement in energy efficiency? - What are the potential positive environmental impacts that you envision from the industries above, in relation to improvement in energy efficiency? - Have you experienced (or are you aware of) positive or negative impacts from similar programs? - Which environmental aspects do you believe are key to the successful implementation of the program? - The company applying for such fund, will go through a screening process. Would you recommend specific projects that should be screened out due to potential adverse environmental impacts?	- What are related indicators to social impact in a project that you want to see? - What are the social impacts that you experience on-site caused by the project and might cause by the industries sector above? - What are the social impacts that you experience/observe for energy efficiency project in Indonesia? - What are the affected people's vulnerability that concerned you the most? - What is the project's impact and benefit that the proposal should describe concerning indigenous people and cultural heritage? - What are the effective way of doing social monitoring in the Energy Efficiency project?	- What is the gender aspect that you want to see in the energy efficiency project? - What is the significant gender impact that might be caused by the industries above? - What are the project's gender indicators that you want to see for energy efficiency projects? - What is the inclusive access of information, especially for project-affected women? - What is the minimum number of women representative for the project community information disclosure and decision-making process? - How should the project design show community safety risk assessment specific to women in the affected community? - What is the grievance channel that is accessible for vulnerable group and women?

IV. Minutes of Meeting

1. IESR – Fabby Tumiwa (Friday, 26 March 2021)

Enviro aspect

- Project impact in the industry, as mentioned earlier, should be traced along the supply chain at least tier 1. So that we can understand how do they comply with safeguarding;
- Energy efficiency should work on how to replace coal or reduce coal impact; the probable option should consider co-generation of energy (i.e. Waste to Energy);
- The cement industry can show a good promise in managing their impact, such as fly ash & bottom ash management. Ash has been considered as hazardous wastes and needs to control correctly.
- Each project should submit risk and impact identification to comply with GCF environment and social safeguard.

A good project will include

- Green building;
- Those who have implemented ISO 50001 in energy management;
- Some types that have been piloted under the UNIDO project also covered energy efficiency; and
- Cement Cilacap is one of the samples of good energy management in the cement industry.

Social aspect

- Social impact due to energy efficiency will cause another social aspect, for example: Retrofit Energy reduction of energy consumption will reduce the amount of work as the process become more efficient and streamline. Losing livelihood should be considered as the social cost of EE.
- Pulp and paper industry has been utilizing forest source (Sumatera) fix stock which most of the time consumes Indigenous People forest;
- Monitoring of social and environmental aspect should cover some indicators:
- Result in monitoring framework;
- Monitoring based on ISO 50001 indicators;
- Number of people trained;
- External evaluations process at the end of project completion
- GCF social and environmental safeguard should be common guidance for the GCF-KDB project

2. KEHATI – Rony Megawanto (Friday, 19 March 2021)

Enviro aspect

- GCF standard on CO2 equivalent (climate risk assessment & detail design),
- Feasibility assessment (trends modelling) for project design to confirm project result).
- monitoring on deforestation value,
- forest conversation effort,
- water conservation effort monitoring,
- climate change adaptation should cover effort monitoring (if any),

Social aspect

- Human Right consideration is always minimum,
- Gender indicator (% of gender representation in a meeting, village decision making, organization (man/woman's role))
- Number of affected people
- Vulnerable to CC and reduced number vulnerability
- Energy access benefit for the community without emission or minimum emission
- public disclosure (no project disclosed yet involving Kehati/another GCF observer)
- project micro-hydropower social jealousy – community discontent, grievance mechanism from the community; wind power (island Sulawesi) – community expectation
- Monitoring:
- Specific risk should be monitored, such as (community risk disproportionate benefit plan, health & safety on-site survey),
- Monitoring Evaluation and Learning (MEL) plan for indicator outcome /output (every three month/6 months (result),
- Two years outcome,
- project committee conducted learning case - governance committees meeting of the project annually, it also included public disclosure (UNIPA disclosed through seminar/book))

3. WALHI – Oslan Purba (Wednesday, 24 March 2021)

Enviro aspect

Industry Impact

- The textile and food industry has mainly shown poor management in waste management
- Kendeng Central Java has demonstrated a significant negative precedent of cement industry that cannot be separated from poor governance from province level. Advocacy includes JATAM (Anti – Mining Networks)
- Land used politics has caused the cement industry to be able to reach the Kars area, which full of biodiversity and has a significant role in the water conservation Social aspect

EE Impact

- Land conversion in hydropower project
- Nickel industry booming, as it is considered as raw material for battery, electricity equipment and transmission line
- Indonesia still opts for coal and tried to create a cleaner version of it, but the number burned will be higher every year
- Energy diversification/mix is highly suggested instead of using only one source of energy
- EE should also cover community as the direct operator if possible as the RE technology works best when the community on a small scale manages it
- Labour impact should be considered while doing efficiency

Monitoring

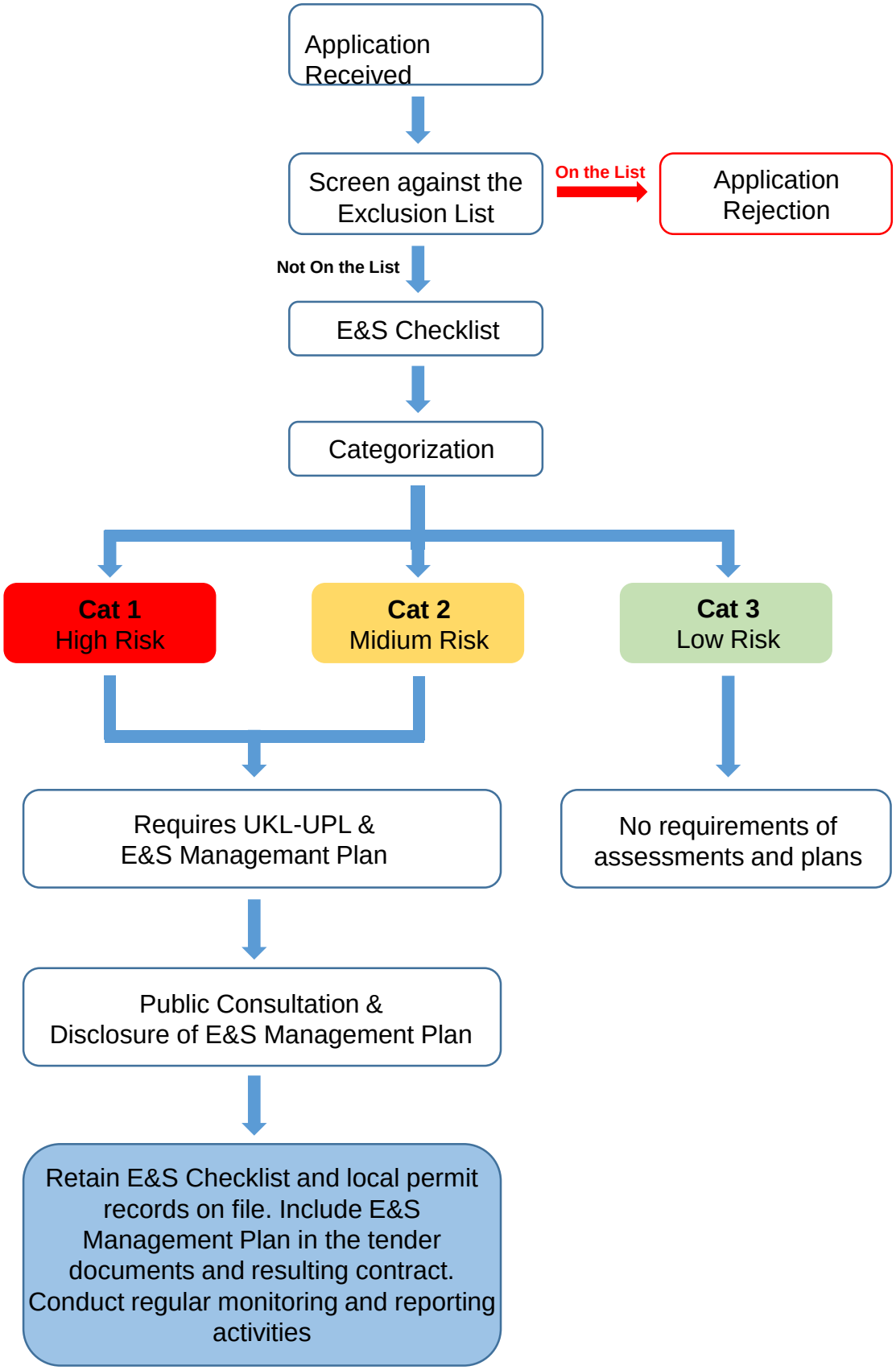
- Monitoring of the project should involve the community in a participatory manner to understand why EE is implemented.
- Women should be informed more as their access to information and decision making have been omitted most of the time.
- Vulnerable people should be covered within project implementation and find a way to involve people with special needs to join the community consultation or participatory exercise during monitoring or information disclosure.
- After the project draft is done, it is suggested to involve CSO or NGO to give feedback, not only trying to get their voice at the beginning of the project as if it is a legitimate action/affirmation to receive all project planning process.

4. **Solidaritas Perempuan (SP) – Puspa Dewi (Friday, 26 March 2021) –**

Through writing instruction in Gender aspect:

- Aligned all action plan with SP guideline to mitigate risk in removing women access to:
- Information;
- Decision making;
- Security and Safety;
- Land;
- Grievance Process.
- Regulation background
- Project Impact assessment should cover risk management, especially social risk such as land acquisition, relocation, ecosystem service change, loss of livelihood, information disclosure, impact to IP women community, grievance mechanism
- SP also has mentioned regarding their strong disagreement in GCF & KDB project in South Pacific http://apwld.org/letter-with-civil-society-concerns-about-the-green-climate-fund-funding-proposal-fp088-kdb-biomass-energy-programme-in-the-south-pacific/

Annex B E&S Screening Procedure



Project Information				
Name of Applicant				
Project Name				
Total Loan Amount		Repayment Period		
Project Location			Industry Sector	

1	**Environmental and Social Risk Management**	
1.1	If the project is subject to AMDAL?	YES | NO | N/A
1.2	Has the applicant identified the major environmental and social (E&S) impacts of the project and established appropriate management measures in consideration of the nature and the scale of the project?	YES | SOME | NO | N/A
1.3	Has the applicant established a project specific E&S Management System with clear roles and responsibilities?	YES | NO | N/A
1.4	Has the applicant or its mother company established an organizational E&S Management System with clear roles and responsibilities? (e.g. ISO 14001, OHSAS 18001)	YES | NO | N/A
1.5	Have the stakeholders been identified and a stakeholder management plan established?	YES | NO | N/A
1.6	Has a grievance mechanism for receiving and addressing complaints or concerns regarding project-related E&S impacts been established?	YES | NO | N/A
1.7	Has an appropriate E&S emergency response plan in consideration of the nature and the scale of the project been established?	YES | NO | N/A
1.8	Has the applicant established an appropriate E&S monitoring plan considering the nature and the scale of the project?	YES | SOME | NO | N/A
2	**Labour and Working Condition**	
2.1	Does the project comply with the employment/labour the Indonesia laws?	YES | NO | N/A
2.2	Does the project establish, maintain, and improve labour-management relations in accordance with Indonesia laws and international standards, and provide non-discriminatory and fair working conditions?	YES | NO | N/A
2.3	Does the project guarantee the working conditions of workers in consideration of the Indonesia safety and health-related legal requirements and international standards?	YES | NO | N/A
2.4	Has the project (including the suppliers and subcontractors) established a management mechanism to protect the project from forced or child labour issues?	YES | NO | N/A
3	**Resource Efficiency and Pollution Prevention**	
3.1	Has a resource efficiency program (energy, water and other resources) been established for the project?	YES | NO | N/A
3.2	Is the combined amount of direct greenhouse gas (GHG) emissions (Scope 1 Emissions) and indirect emissions (Scope 2 Emissions) from the project expected to be less than 100,000 tons of CO_2 equivalent per year?	YES | NO | N/A
3.3	Has the project been designed to ensure that all emissions associated with the project comply with the environmental standards of the Indonesia?	YES | NO | N/A
3.4	Do you have documents to prove that there have been no environmental pollution or leakage incidents/accidents at the project site and surrounding areas for the past 5 years?	YES | NO | N/A
3.5	Has the project established a plan to reduce waste (especially designated waste)?	YES | NO | N/A
3.6	If the project transports, stores, uses, or produces hazardous/toxic chemicals, has an appropriate management plan been established?	YES | NO | N/A

4	**Community Health, Safety, and Security**	
4.1	Has the project identified the health and safety (including infectious diseases) impacts to the local community from the project, and established an appropriate management plan considering the size of the project in accordance with local laws and regulations?	YES | NO | N/A
4.2	If the project transports, stores, uses, or produces dangerous/toxic chemicals, has the project identified potential impact on the local community and conducted alternative assessment, and established emergency response plans?	YES | NO | N/A
4.3	Did the project provide appropriate training to the security team to minimize adverse impacts on the local community, and established a security management plan?	YES | NO | N/A
5	**Land Acquisition and Involuntary Resettlement**	
5.1	Are physical (including land compensation) and economic losses expected due the project and proposed activities?	YES | NO | N/A
5.2	In the event of economic loss due to the project, has the compensation and livelihood restoration plan implemented in accordance with the Indonesia laws/regulation?	YES | NO | N/A
5.3	In the event of physical loss due to the project, has a resettlement plan been established to compensate at least the existing market value provided in accordance with the laws of the country in which it is located?	YES | NO | N/A
6	**Biodiversity**	
6.1	Is the project expected to have no significant adverse impact on ecological diversity and ecosystem around the proposed project site and its surroundings?	YES | NO | N/A
6.2	Is the project expected to have a significant impact on Critical Habitat or protected species/conservation areas as defined by national and international standards?	YES | SOME | NO | N/A
6.3	Has a management plan been established to eliminate/minimize the adverse impacts (applicable only 6.1 was answered as “No”)?	YES | NO | N/A
7	**Indigenous Peoples**	
7.1	Do you expect no indigenous peoples to reside at the proposed project site and its surroundings?	YES | NO | N/A
7.2	If indigenous peoples reside, have indigenous peoples management plans established?	YES | NO | N/A
7.3	Have you obtained free, prior, informed, consent (FPIC) from the indigenous peoples (applicable only 7.1 was answered as “No”)?	YES | NO | N/A
8	**Cultural Heritage**	
8.1	Is it expected that there will be no cultural heritage (defined under the Indonesia laws/regulations, and other relevant internationally accepted standards) that will be affected by the project?	YES | NO | N/A
8.2	Has a Chance Find Procedure been established in case of discovery of cultural heritage?	YES | NO | N/A
8.3	If a Critical Cultural Heritage is discovered, have you established procedures for protecting important cultural heritage?	YES | NO | N/A

Certification

The applicant, in signing this form proves that the project activity will not involve land acquisition that may cause any involuntary resettlement or physical & economic losses, any form of construction, or will promote any activities on the world bank group IFC exclusion list. In addition, the applicant is aware of the AMDAL requirements as per the Indonesian law and certifies that there are no full environmental impact assessment reports required.

We hereby certify that we have thoroughly examined all the potential adverse effects of this project. To the best of our knowledge, the subcomponent does not avoid /avoids all adverse social impacts. In case, the subcomponent does not avoid adverse social impacts list at least two excluding the subcomponent eligibility.

Name:		Title:	
Date:		Signature:	

Appendix D Project Screening Criteria

The environmental and social categorization process of the IFC are:

Category A – Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible or unprecedented;

Category B – Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures2; and

Category C – Projects with minimal or no adverse environmental and social risks and/or impacts.

Once a sub-project brief has been received and reviewed by the Financial Intermediaries, a proposed sub-project is exempted from further compliance with Category B or C requirements if all of the following conditions are satisfied:

1. The sub-project will not substantially use natural resources in a way that pre-empts use, or potential use of that resource for any other purpose.
2. Potential residual impacts on the environment are likely to be minor, of little significance and easily mitigated.
3. The type of sub-project, its environmental impacts and mitigation measures are evident and well understood.
4. Reliable means exist for ensuring that impact management measures can and will be adequately planned and implemented.
5. The sub-project will not displace significant number of people, families or communities.
6. The sub-project is not located in, and will not affect, environmentally-sensitive areas such as:
    a. National parks
    b. Wetlands
    c. Productive agricultural land
    d. Important archaeological, historical and cultural sites
    e. Areas protected under legislation
    f. Areas containing rare or endangered flora or fauna
    g. Areas containing unique or outstanding scenery
    h. Mountains or developments on or near steep hill slopes
    i. Forests
    j. Lakes or their shores
    k. Areas important for vulnerable groups such as fishing communities
    l. Areas near high population concentrations or industrial activities where further development could create significant cumulative environmental problems
    m. Groundwater recharge areas or drainage basins
7. The sub-project will not result in and/or:
    a. Policy initiatives which may affect the environment

   b. Major changes in land tenure
   c. Changes in water use through irrigation, drainage promotion or dams, changes in fishing practices.

8. The sub-project will not cause:
   a. Adverse socioeconomic impact
   b. Land degradation
   c. Water pollution
   d. Air pollution
   e. Damage to wildlife and habitats
   f. Adverse impact on climate and hydrological cycle
   g. Creation of by-products, residual or waste materials which require handling and disposal in a manner that is not regulated by existing authorities.
9. The sub-project will not cause significant public concern because of potential environmental changes. The following are guiding principles:
   a. Is the impact positive, or harmful?
   b. What is the scale of the impact in terms of area, numbers of people or wildlife affected?
   c. What is the intensity of the impact?
   d. What will be the duration of the impact?
   e. Will there be cumulative effects from the impact?
   f. Are the effects politically controversial?
   g. Have the main economic, ecological and social costs been quantified?
   h. Will the impact vary by social group or gender?
   i. Is there any international impact due to the proposed projects?
10. The sub-project will not necessitate further development activity, which is likely to have a significant impact on the environment.

Appendix E Environmental and Social Management Plan

An Environmental and Social Management Plan (ESMP) should state the environmental and social impacts to be mitigated, and activities to implement the mitigation measures, including how, when, and where they will be implemented. Institutional arrangements for implementation should be described. The ESMP will describe the impacts to be monitored, and when and where monitoring activities will be carried out, and who will carry them out. The following table illustrates variety of issues that may be applied for ESMP preparation for a subproject. As there will be no Category A projects, also considering the nature of EE project activities, the impact indicators to be applied to a subproject ESMP shall be designed accordingly.

Potential Environmental and Social Impacts and Proposed Mitigation Measures

Phase	Issues	Potential Impact	Mitigation/Control Measures	Responsible Organiation	
				Implement	Monitor
Pre - Installation Phase	Thermal energy used by factory	CO_2 and greenhouse gas (GHG) emission	▪ Energy conservation through resourse management and behavioral change	Final Beneficiary	PIU of the financial institution (FI)
	Electricity used by factory	CO_2 and GHG emission	▪ Energy conservation through resource management and behavioral change	Final Beneficiary	PIU of the FI
	Surface and ground water pollution	Water pollution due to disposal of waste and chemicals	▪ Baseline information on water quality parameters ▪ Sampling at different points in the project site and nearby areas which are expected to be impacted	Final Beneficiary	PIU of the FI
	Air/Dust pollution	Emission of pollutants from dismantle/ deconstruct/ disassemble of existing equipment/ machineries.	▪ Baseline information on air quality parameters ▪ Sampling at different points in the project site and nearby areas which are expected to be impacted	Final Beneficiary	PIU of the FI
	Noise pollution	Employees and communities exposed to high noise level due to dismantling of existing machineries	▪ Baseline information on noise quality parameters ▪ Sampling at different points in the project site and nearby areas which are expected to be impacted	Final Beneficiary	PIU of the FI

Phase	Issues	Potential Impact	Mitigation/Control Measures	Responsible Organiation	
				Implement	Monitor
	Solid/ Hazardous Waste Management	Solid waste generated from demolition, construction activities containing potentially hazardous materials	▪ Baseline information on waste quality parameters ▪ Sampling at different points in the project site and nearby areas which are expected to be impacted	Final Beneficiary	PIU of the FI
	Suppliers' compliance with labor and environmental standards	Non-compliant labor and equipment can lead to additional hazard	▪ Verify standard certification before hiring	Final Beneficiary	PIU of the FI
Installation Phase	Thermal energy used by factory	CO_2 and GHG emission	▪ Using energy efficient machineries/equipment ▪ Energy conservation through recourse management and behavioral change	Final Beneficiary	PIU of the FI
	Electricity used by factory	CO_2 and GHG emission	▪ Using energy efficient machineries/equipment ▪ Energy conservation through recourse management and behavioral change	Final Beneficiary	PIU of the FI
	Noise	▪ Employees and communities exposed to high noise level ▪ Disturbance of school and education activities during construction works	▪ Installation of sound insulation	Final Beneficiary	PIU of the FI
	Air Quality	▪ Emission of pollutants from mobile (vehicles) and stationary (mixers, generators etc.) sources. ▪ Air pollution from burning of demolition wastes e.g. wood, paper etc.	▪ Introduction of dust reduction measures in construction sites ▪ Safety measures put in place	Final Beneficiary	PIU of the FI
	Water Quality	▪ Potential pollution of surface and ground water though runoff of pollutants e.g. chemical, lubricating oil, diesel fuel etc. from workshop areas etc. ▪ Water pollution due to seepage from tanks (diesel, sanitary wastes etc.)	▪ Appropriate containment measures for all operational areas and proper disposal of used lubrication oil. ▪ Work sites Installed far from waterways ▪ Regular collection of work sites wastes for proper disposal	Final Beneficiary	PIU of the FI

Phase	Issues	Potential Impact	Mitigation/Control Measures	Responsible Organiation	
				Implement	Monitor
			▪ Liquid waste discharged at designated outfalls after effluent treatment to protect water resources		
	Solid/ Hazardous Waste Management	Solid waste generated from demolition, construction activities containing potentially hazardous materials	▪ Quick sorting, collection and disposal of waste removed from the sites in accordance with applicable regulations.	Final Beneficiary	PIU of the FI
Post Installation Phase	Thermal energy used by factory	CO_2 and GHG emission	▪ Proper monitoring and maintenance to maintain the improved condition ▪ Encourage employees towards energy efficiency	Final Beneficiary	PIU of the FI
	Electricity used by factory	CO_2 and GHG emission	▪ Proper monitoring and maintenance to maintain the improved condition ▪ Encourage employees towards energy efficiency	Final Beneficiary	PIU of the FI
	Surface and ground water pollution	Uncontrolled water use	▪ Proper monitoring and maintenance of water usage	Final Beneficiary	PIU of the FI
	Air/Dust pollution	Dust pollution	▪ Proper monitoring and maintenance of dust pollution	Final Beneficiary	PIU of the FI
	Noise pollution	Noise/ vibration	▪ Proper monitoring and maintenance of noise and vibration	Final Beneficiary	PIU of the FI
	Waste disposal/ Management	Waste generation and inappropriate management	▪ Proper monitoring and maintenance of wastes	Final Beneficiary	PIU of the FI
	Operation and Maintenance	Lack of monitoring and maintenance plan	▪ Proper monitoring and maintenance plan to be in place	Final Beneficiary	PIU of the FI

Appendix F Environmental and Social Monitoring Checklist

For Environmental and Social Monitoring, relevant parameters should be measured before the installation phase (baseline value) and once in three months after operation. Parameters will be area specific and vary depending on the sub-project interventions. The local financial institutions will finalize the parameters for the monitoring checklist after consulting with the final beneficiaries of each sub-project.

Monitor(s) Name:	
Contract Number:	
Location:	
Contractor Name:	
Monitoring Dates	

Issue	Monitoring Indicators	Baseline	Monitoring Frequency				Complies (Yes/No)	Monitor
			3 Mths	6 Mths	9Mths	12 Mths		
Environmental Risks and Impacts								
Thermal energy consumed in factory	Average energy consumption per month							
Electrical energy consumed in factory	Average energy consumption per month							
Noise	Noise level							
Air Quality	Air quality							
Water Quality	Water quality							
Solid/ Hazardous Waste Management	Waste management plan and system							
Social Risks and Impacts								
Working condition in terms of employment, compliance with labor and other laws	Wage, overtime, leave, legal contract, longer working hours							

Issue	Monitoring Indicators	Baseline	Monitoring Frequency				Complies (Yes/No)	Monitor
			3 Mths	6 Mths	9Mths	12 Mths		
Equal opportunity despite of gender, race, religion, social status	Wages, facilities, tasks assignments, promotions and decision making							
Workplace facilities and environment	Working space, cleanliness, relationship between employees							
Occupational Health and Safety (OHS)	Fire safety, Hazardous chemical, earthquake safety, emergency exit, safety kit							
Healthcare facilities	First aid service, emergency healthcare and medicine							
Training and capacity building	Technical training, management training, OHS training							
WASH Facilities	Safe drinking water, Hygienic sanitary toilet, separate washroom for men and women							
Sexual exploitation, abuse and harassment inside the factory	Any unpleasant incident inside the factory							
Sexual exploitation, abuse and harassment in the community	Any unpleasant incident in the community because of the factory							
Community health	Health issues caused by air, water, noise, soil pollution by the factory							
Community safety and security	Security arrangements and potential conflicts at the sub-project site							

Issue	Monitoring Indicators	Baseline	Monitoring Frequency				Complies (Yes/No)	Monitor
			3 Mths	6 Mths	9Mths	12 Mths		
	between the workers and the affected community							
Impacts on ecosystem services affecting the local community health and safety	Any damage caused by the factory to the ecosystem services							

Appendix G Illustration of Annual Monitoring Report Contents

An annual monitoring report (or half-yearly as appropriate) should contain the following contents (but not limited to):

1. **Introduction**
2. **Sub-project Background:** Sub-project description including log frame and sub-project activities; Location and geographic extent of the sub-project; Potential environmental and social impacts due to the sub-project activities.
3. **Governing Policies and Legislations:** Briefly mention the policies and legislations that were followed during the monitoring procedure.
4. **Objective of the Monitoring Report**
5. **Environmental Safeguards Monitoring:** Summarize the environmental protection and pollution control/mitigation measures, as recommended in the agreed EMF and sub-project specific EMP.
6. **Social Safeguards Monitoring:** Summarize the social protection and pollution control/ mitigation measures, as recommended in the agreed SMF and sub-project specific SMP.
7. **Stakeholder engagement:** Summarize the meeting and the subsequent decision on the environment management those have been taken in the current period.
8. **Management of Grievances**
9. **Conclusions and Recommendations**
10. **Appendixes**

    Appendix A: Environmental and Social Screening Checklist and Results

    Appendix B: Environment and Social Monitoring Checklist and Results

Appendix H Grievance Redressal Form

Parameter	Details
Full Name *Note: You can remain anonymous if you prefer or request not to disclose your identity to the third parties without your consent.*	First Name: _____ Last Name: _____ ☐ I wish to raise my grievance anonymously ☐ I request not to disclose my identity without my consent
Contact Information *Please mark how you wish to be contacted (mail, telephone, e-mail)*	☐ By Post: Please provide mailing address: _____ _____ _____ ☐ By Telephone: _____ ☐ By E-Mail: _____
Preferred Language for Communication	
Description of Incident or Grievance	What happened? _____ _____ _____ Where did it happen? _____ _____ _____ Who did it happen? _____ _____ What is the result of the problem? _____ _____ _____
Date of Incident or Grievance:	
What would you like to see happen to resolve the problem?	
Signature: _____ Date: _____	
Please return this form to: [name], Health and Safety Manager, [company name], Address: _ _ _ __ _ _ __ _ _ __ _ _ __ : Tel: _ _ _ __ _ _ __ _ _ _ or E-mail: _ __ _ _ __ @ _ _ _ __ _ .com	

Appendix I Illustration of ESMS Report Table of Contents

The below is illustration of typical table of contents for an ESMS Report (but not limited to):

Appendix J World Bank Group Exclusion List

All participating financial intermediaries (PFIs) must apply the following exclusion list of activities:

- Production or trade in any product or activity deemed illegal under host country laws or regulations
- International conventions and agreements, or subject to international bans, such as pharmaceuticals
- Pesticides/herbicides, ozone depleting substances, PCBs, wildlife or products regulated under CITES
- Production or trade in weapons and munitions
- Production or trade in alcoholic beverages (excluding beer and wine)
- Production or trade in tobacco
- Gambling, casinos and equivalent enterprises
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment
- Quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded
- Production or trade in unboned asbestos fibers. This does not apply to purchase and use of bonded asbestos
- Cement sheeting where the asbestos content is less than 20%
- Drift net fishing in the marine environment using nets in excess of 2.5 km in length
- Production or activities involving harmful or exploitative forms of forced labor/harmful child labor
- Commercial logging operations for use in primary tropical moist forest
- Production or trade in wood or other forestry products other than from sustainably managed forests.

Appendix K

ENVIRONMENTAL, HEALTH, AND SAFETY (EHS) GUIDELINES

Performance Standard 2: Labor and Working Condition Rational

Table 1 Risk Ranking Table to Classify Worker Scenarios Based on Likelihood and Consequence

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A. Almost Certain	L	M	E	E	E
B. Likely	L	M	H	E	E
C. Moderate	L	M	H	E	E
D. Unlikely	L	L	M	H	E
E. Rare	L	L	M	H	H

Legend
E: extreme risk; immediate action required
H: high risk; senior management attention needed
M: moderate risk; management responsibility should be specified
L: low risk; manage by routine procedures

Table 2 No Approach Zones for High Voltage Power Lines

Nominal phase-to-phase voltage rating	Minimum distance
750 or more volts, but no more than 150,000 volts	3 meters
More than 150,000 volts, but no more than 250,000 volts	4.5 meters
More than 250,000 volts	6 meters

Table 3 Minimum Limits for Workplace Illumination Intensity

Location / Activity	Light Intensity
Emergency light	10 lux
Outdoor non-working areas	20 lux
Simple orientation and temporary visits (machine storage, garage, warehouse)	50 lux
Workspace with occasional visual tasks only (corridors, stairways, lobby, elevator, auditorium, etc.)	100 lux
Medium precision work (simple assembly, rough machine works, welding, packing, etc.)	200 lux
Precision work (reading, moderately difficult assembly, sorting, checking, medium bench and machine works, etc.), offices.	500 lux
High precision work (difficult assembly, sewing, color inspection, fine sorting etc.)	1,000 – 3,000 lux

Table 4 Acceptable Effective Dose Limits for Workplace Radiological Hazards

Exposure	Workers (min.19 years of age)	Apprentices and students (16-18 years of age)
Five consecutive year average – effective dose	20 mSv/year	
Single year exposure – effective dose	50 mSv/year	6 mSv/year
Equivalent dose to the lens of the eye	150 mSv/year	50 mSv/year
Equivalent dose to the extremities (hands, feet) or the e skin	500 mSv/year	150 mSv/year

Table 5 Summary of Recommended Personal Protective Equipment According to Hazard

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or ear muffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits, aprons etc. of appropriate materials.

Table 6 Occupational Accident Reporting

a. Fatalities (number)	b. Non-fatal injuries (number)[1]	c. Total time lost non-fatal injuries (days)
a.1 Immediate	b.1 Less than one day	
a.2 Within a month	b.2 Up to 3 days	c.1 Category b.2
a.3 Within a year	b.3 More than 3 days	c.2 Category b.3

[1] The day on which an incident occurs is not included in b.2 and b.3.

Table 7 WHO Ambient Air Quality Guidelines[23]

	Averaging Period	Guideline value in µ/m3
Sulfur dioxide (SO_2)	24-hour	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)
	10 minute	500 (guideline)
Nitrogen dioxide (NO_2)	1-year	40 (guideline)
	1-hour	200 (guideline)
Particulate Matter PM_{10}	1-year	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)
Particulate Matter $PM_{2.5}$	1-year	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)
	24-hour	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)
Ozone	8-hours daily maximum	160 (Interim target-1) 100 (guideline)

[2] World Health Organization (WHO). Air Quality Guidelines Global Update, 2005. PM 24-hour value is the 99th percentile

[3] Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines

Table 8 Small Combustion Facilities Emissions Guidelines (3MWth – 50MWth) – (in mg/Nm^3 or as indicated)

Combustion Technology / Fuel	Particulate Matter (PM)	Sulfur Dioxide (SO_2)	Nitrogen Oxides (NO_x)	Dry Gas, Excess O_2 Content (%)
Engine				
Gas	N/A	N/A	200 (Spark Ignition) 400 (Dual Fuel) 1,600 (Compression Ignition)	15
Liquid	50 or up to 100 if justified by project specific considerations (e.g. Economic feasibility of using lower ash content fuel, or adding secondary treatment to meet 50, and available environmental capacity of the site)	1.5 percent Sulfur or up to 3.0 percent Sulfur if justified by project specific considerations (e.g. Economic feasibility of using lower S content fuel, or adding secondary treatment to meet levels of using 1.5 percent Sulfur, and available environmental capacity of the site)	If bore size diameter [mm] < 400: 1460 (or up to 1,600 if justified to maintain high energy efficiency.) If bore size diameter [mm] > or = 400: 1,850	15
Turbine				
Natural Gas =3MWth to < 15MWth	N/A	N/A	42 ppm (Electric generation) 100 ppm (Mechanical drive)	15
Natural Gas =15MWth to < 50MWth	N/A	N/A	25 ppm	15
Fuels other than Natural Gas =3MWth to < 15MWth	N/A	0.5 percent Sulfur or lower percent Sulfur (e.g. 0.2 percent Sulfur) if commercially available without significant excess fuel cost	96 ppm (Electric generation) 150 ppm (Mechanical drive)	15
Fuels other than Natural Gas =15MWth to < 50MWth	N/A	0.5% S or lower % S (0.2%S) if commercially available without significant excess fuel cost	74 ppm	15
Boiler				
Gas	N/A	N/A	320	3
Liquid	50 or up to 150 if justified by environmental assessment	2000	460	3
Solid	50 or up to 150 if justified by environmental assessment	2000	650	6

Table 9 Illustrative Point Source Air Emissions Prevention and Control Technologies

Principal Sources and Issues	General Prevention / Process Modification Approach	Control Options	Reduction Efficiency (%)	Gas Condition	Comments
Particulate Matter (PM)					
Main sources are the combustion of fossil fuels and numerous manufacturing processes that collect PM through air extraction and ventilation systems. Volcanoes, ocean spray, forest fires and blowing dust (most prevalent in dry and semiarid climates) contribute to background levels.	Fuel switching (e.g. selection of lower sulfur fuels) or reducing the amount of fine particulates added to a process.	Fabric Filters	99 - 99.7%	Dry gas, temp <400F	Applicability depends on flue gas properties including temperature, chemical properties, abrasion and load. Typical air to cloth ratio range of 2.0 to 3.5 cfm/ft^2 Achievable outlet concentrations of 23 mg/Nm^3
		Electrostatic Precipitator (ESP)	97 – 99%	Varies depending of particle type	Precondition gas to remove large particles. Efficiency dependent on resistivity of particle. Achievable outlet concentration of 23 mg/Nm^3
		Cyclone	74 – 95%	None	Most efficient for large particles. Achievable outlet concentrations of 30 - 40 mg/Nm^3
		Wet Scrubber	93 – 95%	None	Wet sludge may be a disposal problem depending on local infrastructure. Achievable outlet concentrations of 30 - 40 mg/Nm^3
Sulfur Dioxide (SO_2)					
Mainly produced by the combustion of fuels such as oil and coal and as a by-product from some chemical production or wastewater treatment processes.	Control system selection is heavily dependent on the inlet concentration. For SO_2 concentrations in excess of 10%, the stream is passed through an acid plant not only to lower the SO_2 emissions but also to generate high grade sulfur for sale. Levels below 10% are not rich enough for this process and should therefore utilize absorption or 'scrubbing,' where SO_2 molecules are captured into a liquid phase or adsorption, where SO_2 molecules are captured on the surface of a solid adsorbent.	Fuel Switching	>90%		Alternate fuels may include low sulfur coal, light diesel or natural gas with consequent reduction in particulate emissions related to sulfur in the fuel. Fuel cleaning or beneficiation of fuels prior to combustion is another viable option but may have economic consequences.
		Sorbent Injection	30% - 70%		Calcium or lime is injected into the flue gas and the SO_2 is adsorbed onto the sorbent
		Dry Flue Gas Desulfurization	70%-90%		Can be regenerable or throwaway.
		Wet Flue Gas Desulfurization	>90%		Produces gypsum as a by-product

Table 10 Illustrative Point Source Air Emissions Prevention and Control Technologies (continued)

Oxides of Nitrogen (NOx)	Percent Reduction by Fuel Type				Comments
Associated with combustion of fuel. May occur in several forms of nitrogen oxide; namely nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O), which is also a greenhouse gas. The term NO_x serves as a composite between NO and NO_2 and emissions are usually reported as NO_x. Here the NO is multiplied by the ratio of molecular weights of NO_2 to NO and added to the NO_2 emissions. Means of reducing NO_x emissions are based on the modification of operating conditions such as minimizing the resident time at peak temperatures, reducing the peak temperatures by increasing heat transfer rates or minimizing the availability of oxygen.	**Combustion modification (Illustrative of boilers)**	**Coal**	**Oil**	**Gas**	These modifications are capable of reducing NO_x emissions by 50 to 95%. The method of combustion control used depends on the type of boiler and the method of firing fuel.
	Low-excess-air firing	10–30	10–30	10–30	
	Staged Combustion	20–50	20–50	20–50	
	Flue Gas Recirculation	N/A	20–50	20–50	
	Water/Steam Injection	N/A	10–50	N/A.	
	Low-NOx Burners	30–40	30–40	30–40	
	Flue Gas Treatment	**Coal**	**Oil**	**Gas**	Flue gas treatment is more effective in reducing NO_x emissions than are combustion controls. Techniques can be classified as SCR, SNCR, and adsorption. SCR involves the injection of ammonia as a reducing agent to convert NO_x to nitrogen in the presence of a catalyst in a converter upstream of the air heater. Generally, some ammonia slips through and is part of the emissions. SNCR also involves the injection of ammonia or urea based products without the presence of a catalyst.
	Selective Catalytic Reduction (SCR)	60–90	60–90	60–90	
	Selective Non-Catalytic Reduction (SNCR)	N/A	30–70	30–70	

Note: Compiled by IFC based on inputs from technical experts.

Table 11 Examples of VOC Emissions Controls

Equipment Type	Modification	Approximate Control Efficiency (%)
Pumps	Seal-less design	100[4]
	Closed-vent system	90[5]
	Dual mechanical seal with barrier fluid maintained at a higher pressure than the pumped fluid	100
Compressors	Closed-vent system	90
	Dual mechanical seal with barrier fluid maintained at a higher pressure than the compressed gas	100
Pressure Relief Devices	Closed-vent system	Variable[6]
	Rupture disk assembly	100
Valves	Seal-less design	100
Connectors	Weld together	100
Open-ended Lines	Blind, cap, plug, or second valve	100
Sampling Connections	Closed-loop sampling	100

Note: Examples of technologies are provided for illustrative purposes. The availability and applicability of any particular technology will vary depending on manufacturer specifications.

[4] Seal-less equipment can be a large source of emissions in the event of equipment failure.

[5] Actual efficiency of a closed-vent system depends on percentage of vapors collected and efficiency of control device to which the vapors are routed.

[6] Control efficiency of closed vent-systems installed on a pressure relief device may be lower than other closed-vent systems.

Table 12 Fugitive PM Emissions Controls

Control Type	Control Efficiency
Chemical Stabilization	0% - 98%
Hygroscopic salts Bitumens/adhesives	60% - 96%
Surfactants	0% - 68%
Wet Suppression – Watering	12% - 98%
Speed Reduction	0% - 80%
Traffic Reduction	Not quantified
Paving (Asphalt / Concrete)	85% - 99%
Covering with Gravel, Slag, or "Road Carpet"	30% - 50%
Vacuum Sweeping	0% - 58%
Water Flushing/Broom Sweeping	0% - 96%

Table 13 Indicative Values for Treated Sanitary Sewage Discharges[a]

Pollutants	Units	Guideline Value
pH	pH	6 – 9
BOD	mg/l	30
COD	mg/l	125
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Oil and grease	mg/l	10
Total suspended solids	mg/l	50
Total coliform bacteria	MPN[b] / 100 ml	400[a]

Notes:

[a] Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation.

[b] MPN = Most Probable Number

Table 14 Examples of Industrial Wastewater Treatment Approaches

Pollutant/Parameter	Control Options / Principle	Common End of Pipe Control Technology
pH	Chemical, Equalization	Acid/Base addition, Flow equalization
Oil and Grease / TPH	Phase separation	Dissolved Air Floatation, oil water separator, grease trap
TSS - Settleable	Settling, Size Exclusion	Sedimentation basin, clarifier, centrifuge, screens
TSS - Non-Settleable	Floatation, Filtration - traditional and tangential	Dissolved air floatation, Multimedia filter, sand filter, fabric filter, ultrafiltration, microfiltration
Hi - BOD (> 2 Kg/m^3)	Biological - Anaerobic	Suspended growth, attached growth, hybrid
Lo - BOD (< 2 Kg/m^3)	Biological - Aerobic, Facultative	Suspended growth, attached growth, hybrid
COD - Non-Biodegradable	Oxidation, Adsorption, Size Exclusion	Chemical oxidation, Thermal oxidation, Activated Carbon, Membranes
Metals - Particulate and Soluble	Coagulation, flocculation, precipitation, size exclusion	Flash mix with settling, filtration - traditional and tangential
Inorganics / Non-metals	Coagulation, flocculation, precipitation, size exclusion, Oxidation, Adsorption	Flash mix with settling, filtration - traditional and tangential, Chemical oxidation, Thermal oxidation, Activated Carbon, Reverse Osmosis, Evaporation
Organics - VOCs and SVOCs	Biological - Aerobic, Anaerobic, Facultative; Adsorption, Oxidation	Biological : Suspended growth, attached growth, hybrid; Chemical oxidation, Thermal oxidation, Activated Carbon
Emissions – Odors and VOCs	Capture – Active or Passive; Biological; Adsorption, Oxidation	Biological : Attached growth; Chemical oxidation, Thermal oxidation, Activated Carbon
Nutrients	Biological Nutrient Removal, Chemical, Physical, Adsorption	Aerobic/Anoxic biological treatment, chemical hydrolysis and air stripping, chlorination, ion exchange
Color	Biological - Aerobic, Anaerobic, Facultative; Adsorption, Oxidation	Biological Aerobic, Chemical oxidation, Activated Carbon
Temperature	Evaporative Cooling	Surface Aerators, Flow Equalization
TDS	Concentration, Size Exclusion	Evaporation, crystallization, Reverse Osmosis
Active Ingredients/Emerging Contaminants	Adsorption, Oxidation, Size Exclusion, Concentration	Chemical oxidation, Thermal oxidation, Activated Carbon, Ion Exchange, Reverse Osmosis, Evaporation, Crystallization
Radionuclides	Adsorption, Size Exclusion, Concentration	Ion Exchange, Reverse Osmosis, Evaporation, Crystallization
Pathogens	Disinfection, Sterilization	Chlorine, Ozone, Peroxide, UV, Thermal
Toxicity	Adsorption, Oxidation, Size Exclusion, Concentration	Chemical oxidation, Thermal oxidation, Activated Carbon, Evaporation, crystallization, Reverse Osmosis

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Table 15 Noise Level Guidelines[7]

Receptor	One Hour L_{Aeq} (dBA)	
	Daytime 07:00-22:00	Nighttime 22:00-07:00
Residential, institutional, educational[8]	55	45
Industrial, commercial	70	70

Table 16 Noise Limits for Various Working Environments

Location /activity	Equivalent level LA_{eq}, 8h	Maximum LA_{max}, fast
Heavy Industry (no demand for oral communication)	85 dB(A)	110 dB(A)
Light industry (decreasing demand for oral communication)	50-65 dB(A)	110 dB(A)
Open offices, control rooms, service counters or similar	45-50 dB(A)	
Individual offices (no disturbing noise)	40-45 dB(A)	
Classrooms, lecture halls	35-40 dB(A)	
Hospitals	30-35 dB(A)	40 dB(A)

[7] Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, World Health Organization (WHO), 1999.

[8] For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).

Appendix L Chance Find Procedure

A chance find is archaeological, historical, cultural, and/or remain material encountered unexpectedly during physical investment construction or operation. A chance find procedure is a physical investment-specific procedure which will be followed if previously unknown cultural heritage is encountered during physical investment activities. Such a procedure generally includes a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence off the area of finds or sites to avoid further disturbance; to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with the requirements of the IFC PS, World Bank OPs and Indonesian law; and to train physical investment personnel and physical investment workers on chance find procedures.

Objectives:

- To protect cultural heritages from the adverse impacts of physical investment activities and support their preservation.

- To promote the equitable sharing of benefits from the use of cultural heritage.

Procedure:

If the proposed activity discovers archaeological sites, historical sites, remains, and/or objects, including graveyards and/or individual graves during excavation or construction, the following procedure shall be followed:

(i) Halt the construction activities around the chance find;
(ii) Delineate and fence the discovered site or area;
(iii) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the district/provincial Department of Culture, or the local Institute of Archaeology, if available, can take over;
(iv) Forbid any removal of the objects by the workers or other parties;
(v) Notify all physical investment personnel of the finding and take the preliminary precaution of protection;
(vi) Record the chance find objects and the preliminary actions;
(vii) Notify the responsible local authorities and the relevant Institute of Archaeology immediately (within 24 hours or less);
(viii) Responsible local authorities would oversee protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the local Institute of Archaeology. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; these include the aesthetic, historic, scientific or research, social, and economic values;
(ix) Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the physical investment layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration, and/or salvage;

(x) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities;

(xi) The mitigation measures could include the change of proposed Project design/layout, protection, conservation, restoration, and/or preservation of the sites and/or objects;

(xii) Construction work at the site could resume only after permission is given from the responsible local authorities concerning safeguard of the heritage; and (xiii) The physical investment proponent is responsible for cooperating with the relevant local authorities to monitor all construction activities and ensure that the adequate pr

Appendix M Glossary

Action plan	Mitigation measures and actions necessary for the project to comply with applicable laws and regulations and to meet the requirements of the Performance standards. The Action Plan may range from a brief description of routine mitigation measures to a series of specific plans.
Adverse impacts	Include impacts from loss of access to assets or resources or restrictions on land use resulting from project activities.
Affected communities	Local communities that are subject to risks or impacts from a project.
Alternative site	Relocation of informal settlers in urban areas may involve trade-offs. For example, the relocated families may gain security of tenure, but they may lose advantages of location. Changes in location that may affect livelihood opportunities should be addressed in accordance with the principles of this Performance Standard.
Ambient quality guidelines	Ambient quality levels primarily developed through clinical, toxicological, and epidemiological evidence.
Ambient quality standards	Ambient quality levels established and published through national legislation and regulatory processes.
Associated facilities	Facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.
Baseline data	Data gathered during the social and environmental assessment used to describe the relevant existing conditions of the project, such as physical, biological, socio-economic, and labor conditions, including any changes before the project commences.
Basic services	Basic services requirements refer to minimum space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services.
Biodiversity	An integrating concept that includes the ecosystems within which the people of the world live, as well as the multitude of species that are used by humankind for food, fiber, medicines, clothing and shelter. Biodiversity is the variety of life in all its forms, including genetic, species and ecosystem diversity.
Biodiversity offsets	Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization and restoration measures have been taken.
Biodiversity values	Biodiversity values and their supporting ecological processes will be determined on an ecologically relevant scale.
Biological oxygen demand (BOD)	Standard method for indirect measurement of the amount of organic pollution (that can be oxidized biologically) in a sample of water. BOD test procedure is based on the activities of bacteria and other aerobic microorganisms, which feed on organic matter in presence of oxygen. The result of a BOD test indicates the amount of water-dissolved oxygen consumed by microbes. Higher the BOD, higher the amount of pollution in the test sample.
Chance find procedure	A project-specific procedure that outlines what will happen if previously unknown heritage resources, particularly, archaeological resources, are encountered during project construction or operation. The procedure includes record keeping and expert verification procedures, chain of custody instructions for movable finds, and clear criteria for potential temporary work stoppages that could be required for rapid disposition of issues related to the finds.

Child labor	Any kind of labor that is economically exploitative, or is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.
Chemical oxygen demand (COD)	The standard method for indirect measurement of the amount of pollution (that cannot be oxidized biologically) in a sample of water. The chemical oxygen demand test procedure is based on the chemical decomposition of organic and inorganic contaminants, dissolved or suspended in water. The result of a chemical oxygen demand test indicates the amount of water-dissolved oxygen consumed by the contaminants. The higher the chemical oxygen demand, the higher the amount of pollution in the test sample.
Collective bargaining	Discussions and negotiations between employers and representatives of workers' organizations for the purpose of determining working conditions and terms of employment by joint agreement. Collective bargaining also includes the implementation and administration of any agreements that may result from collective bargaining and the resolution of other issues that arise in the employment relationship with respect to workers represented by the workers' organizations.
Commercial purposes of cultural heritage	Examples include, but are not limited to, commercialization of traditional medicinal knowledge or other sacred or traditional technique for processing plants, fibers, or metals.
Communicable disease	Illnesses which are attributable to specific infectious agents or their toxic products that arise through transmission of these agents or their products from an infected person, animal, or inanimate reservoir to a susceptible host. Examples include water-borne, water-related, food-borne, respiratory diseases, and sexually transmitted diseases.
Community engagement	Part of the Social and Environmental Assessment, community engagement is an on-going process involving disclosure of information, consultation with affected communities, and the establishment of a grievance mechanism.
Compensation framework	Establishes the procedures for determining and awarding compensation. The compensation framework: 1. Identifies all affected people; 2. Provides an inventory of affected assets; 3. Describes the methods applied for valuing land and other affected assets at full replacement costs; 4. Indicates the rates of compensation to be paid; 5. Outlines a schedule of land take and compensation payments; and 6. Describes the process whereby affected people can appeal property valuations they deem to be inadequate.
Compulsory procedures	Customary or traditional rights recognized or recognizable under the laws of the host country. The negotiations may be carried out by the government or by the company (in some circumstances, as an agent of the government).
Consultation	Consultation involves two-way communication between the client and the affected communities. The consultation process should be undertaken in a manner that is inclusive and culturally appropriate and that provides the affected communities with opportunities to express their views on projects risks, impacts and mitigations measures, and allows the client to consider and respond to them. The consultation process will ensure free, prior and informed consultation.
Cost-effectiveness measures	The capital and operational cost and financial benefits of the measure considered over the life of the measure. For the purpose of this performance Standard, a resource efficiency or GHG emissions reduction measure is considered cost-effective if it is expected to provide a risk-rated return on investment at least comparable to the project itself

Credible certification system	A system which is independent, cost-effective, based on objective and measurable performance standards and developed through consultation with relevant stakeholders, such as local people and communities, Indigenous Peoples, and civil society organizations representing consumer, producer and conservation interests. Such a system has fair, transparent and independent decision-making procedures that avoid conflicts of interest.
Critical cultural heritage	1. The internationally recognized heritage of communities who use, or have used within living memory the *Replicable* for long-standing cultural purposes; or 2. Legally protected cultural heritage areas, including those proposed by host governments for such designation.
Critical habitat	Areas with high biodiversity value, including 1. Habitat of significant importance to Critically Endangered and/or Endangered species; 2. Habitat of significant importance to endemic and/or restricted-range species; 3. Habitat supporting globally significant concentrations of migratory species and/or congregatory species; 4. Highly threatened and/or unique ecosystems; and/or 5. Areas associated with key evolutionary processes.
Critically endangered species	Species that are under threat of extinction.
Cultural heritage	1. Tangible form 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; 2. unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls; and 3. 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 lifestyle.
Cumulative impacts	Impacts that are generally recognized as important on the basis of scientific concerns and/or concerns from Affected Communities. Examples of cumulative impacts include: incremental contribution of gaseous emissions to an airshed; reduction of water flows in a watershed due to multiple withdrawals; increases in sediment loads to a watershed; interference with migratory routes or wildlife movement; or more traffic congestion and accidents due to increases in vehicular traffic on community roadways.
Cut-off date	Date of completion of the census and assets inventory of persons affected by the project. Persons occupying the project area after the cut-off date are not eligible for compensation and/or resettlement assistance. Similarly, fixed assets (such as built structures, crops, fruit trees, and woodlots) established after the date of completion of the assets inventory, or an alternative mutually agreed on date, will not be compensated.
Degraded natural habitats	1. The elimination or severe diminution of the integrity of a habitat caused by a major and/or long-term change in land or water use; or 2. A modification that substantially minimizes the habitat's ability to maintain viable populations of its native species.
Displaced people	Classified as people 1. Who have formal legal rights to the land or assets they occupy or use; 2. Who do not have formal legal rights to land or assets, but have a claim to land that is recognized or recognizable under national law; or 3. Who have no recognizable legal right or claim to the land or assets they occupy or use.

Economic displacement	Loss of assets or access to assets that leads to loss of income sources or means of livelihood.
Ecosystem services	Organized into four types: 1. Provisioning services, which are the products people obtain from ecosystems; 2. Regulating services, which are the benefits people obtain from the regulation of ecosystem processes; 3. Cultural services, which are the nonmaterial benefits people obtain from ecosystems; and 4. Supporting services, which are the natural processes that maintain the other services.
Effective environmental and social management system	A dynamic and continuous process initiated and supported by management, and involves engagement between the client, its workers, local communities directly affected by the project (the Affected Communities) and, where appropriate, other stakeholders.
Effluent	Wastewater - treated or untreated- that flows out of a treatment plant, sewer, or industrial outfall; generally refers to wastes discharged into surface waters.
Emergency response plans	Plan to address contingencies associated with process upset and accidental circumstances. They include clearly assigned responsibilities for the assessment of the degree of risk to life and property with procedures on whom to communicate different types of emergencies with and how.
Endangered species	As listed on the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species. The determination of critical habitat based on other listings is as follows: 1. If the species is listed nationally/regionally as critically endangered or endangered, in countries that have adhered to IUCN guidance, the critical habitat determination will be made on a project by project basis in consultation with competent professionals; and 2. In instances where nationally or regionally listed species' classifications do not correspond well to those of the IUCN (e.g., some countries more generally list species as "protected" or "restricted"), an assessment will be conducted to determine the rationale and purpose of the listing. In this case, the critical habitat determination will be based on such an assessment.
Environmental and social management system (ESMS)	A dynamic and continuous process initiated and supported by management, and involves engagement between the client, its workers, local communities directly affected by the project (the Affected Communities) and, where appropriate, other stakeholders.
Environmental and social review procedure	Procedure for the application of the Performance standards through its different types of investments and operations.
Environmental and social risk	A combination of the probability of certain hazard occurrences and the severity of impacts resulting from such an occurrence.
Finite assimilative capacity	The capacity of the environment for absorbing an incremental load of pollutants while remaining below a threshold of unacceptable risk to human health and the environment.
Forced evictions	The permanent or temporary removal against the will of individuals, families, and/or communities from the homes and/or lands which they occupy without the provision of, and access to, appropriate forms of legal and other protection.
Forced labor	Any work or service not voluntarily performed that is exacted or coerced from a person under threat of force or penalty. Forced labor includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor arrangements. Prison labor should also be considered forced labor unless the prison inmate volunteers for work assignments.
Free, prior, and informed consent (FPIC)	Consultation that is free of intimidation or coercion, provides timely disclosure of information and is relevant, understandable and information is accessible. Consultation should continue through the entire life of the project and not only during the early stages of the project.

Full replacement cost	Market value of assets plus transaction costs. Depreciation of structures and assets should not be taken into account.
Good faith negotiation	Documented process of negotiation and outcomes of negotiation that generally involves: 1. Willingness to engage in a process and availability to meet at reasonable times and frequency; 2. Provision of information necessary for informed negotiation; 3. Exploration of key issues of importance; 4. Mutual acceptable procedures for the negotiation; 5. Willingness to change initial position and modify offers where possible; and 6. Provision for sufficient time for decision making.
Good international industry practice (GIIP)	The exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally.
Greenhouse gases (GHG)	The six greenhouse gases that form the Kyoto Protocol to the United Nations Framework Convention on Climate Change: Carbon Dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_20), Hydro fluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF_6).
Grievance mechanism	1. Mechanism to receive and facilitate resolution of concerns and grievances about the client's environmental and social performance; 2. Mechanism for workers (and their organizations, where they exist) to raise reasonable workplace concerns; and 3. Mechanism to receive and address specific concerns about compensation and relocation that are raised by displaced persons or members of host communities.
Habitat	A terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment.
Hazard analysis	Study that allows clients to systematically identify systems and procedures that could result in accidental pollutant release and also helps to prioritize the allocation of resources for emergency response equipment and training programs. Hazard Analysis is often conducted in conjunction with the Hazard and Operability Study.
Hazardous waste	Substances classified as hazardous wastes possess at least one of four characteristics-ignitability, corrosivity, reactivity, or toxicity - or appear on special lists.
Hazardous work	1. With exposure to physical, psychological, or sexual abuse; 2. Underground, underwater, working at heights, or in confined spaces; 3. With dangerous machinery, equipment, or tools, or involving handling of heavy loads; 4. In unhealthy environments exposing the worker to hazardous substances, agents, processes, temperatures, noise, or vibration damaging to health; or 5. Under difficult conditions such as long hours, late night, or confinement by employer.
Host communities	Any communities receiving displaced persons.
Human resources policy	Statement of the client's practices regarding management of its employees. The statement contains, at a minimum, information on the employees' rights under national labor and employment law.
Impacts	Any change, potential or actual, to 1. The physical, natural, or cultural environment, and 2. Impacts on surrounding community and workers, resulting from the business activity to be supported.

Indigenous peoples	As social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalized and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their rights to, and interests in, lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development.
Information disclosure	The process of providing information to the affected communities and other stakeholders that is timely, accessible, understandable, and in the appropriate language(s). For projects with potential adverse impacts, information on the purpose, nature and scale of the project, the duration of proposed project activities, and any potential risks to and potential impacts on such communities should be included.
Informed consultation and participation (ICP) process	A more in-depth exchange of views and information, and an organized and iterative consultation, leading to the client's incorporating into their decision-making process the views of the Affected Communities on matters that affect them directly, such as the proposed mitigation measures, the sharing of development benefits and opportunities, and implementation issues. The consultation process should 1. Capture both men's and women's views, if necessary through separate forums or engagements, and 2. Reflect men's and women's different concerns and priorities about impacts, mitigation mechanisms, and benefits, where appropriate.
Internationally recognized area (PS8)	Exclusively defined as UNESCO Natural World Heritage Sites, UNESCO Man and the Biosphere Reserves, Key Biodiversity Areas, and wetlands designated under the Convention on Wetlands of International Importance (the Ramsar Convention).
Invasive alien species	Non-native species of flora and fauna that are a significant threat to biodiversity due to their ability to spread rapidly and out-compete native species.
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. 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 physical or economic displacement.
IUCN Red List	List of species that are designated by the World Conservation Union (IUCN) to be critically endangered or endangered. The Red List website is http://www.redlist.org.
Land acquisition	Both outright purchases of property and acquisition of access rights, such as easements or rights of way.
Land-based	The term includes livelihood activities such as subsistence cropping and grazing of livestock as well as the harvesting of natural resources.
Legally protected areas (PS6)	Areas that meet the IUCN definition: "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." For the purposes of PS6, this includes areas proposed by governments for such designation.
Legal owners	Those who, prior to the cut-off date, have formal legal rights to land (including customary and traditional rights recognized under the laws of the country.
Legally protected cultural heritage areas	Examples include world heritage sites and nationally protected areas.
Like-for-like or better	The principle of "like-for-like or better" indicates that biodiversity offsets must be designed to conserve the same biodiversity values that are being impacted by the project (an "in-kind" offset). In certain situations, however, areas of biodiversity to be impacted by the project may

	be neither a national nor a local priority, and there may be other areas of biodiversity with like values that are a higher priority for conservation and sustainable use and under imminent threat or need of protection or effective management. In these situations, it may be appropriate to consider an “out-of-kind” offset that involves “trading up” (i.e., where the offset targets biodiversity of higher priority than that affected by the project) that will, for critical habitats, meet the requirements of paragraph 17 of IFC Performance Standard 6.
Livelihood	Refers to the full range of means that individuals, families, and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource-based livelihoods, petty trade, and bartering.
Local markets	Livelihoods are not land-based; 1. Livelihoods are land-based but the land taken for the project is small fraction of the affected asset and the residual land is economically viable; or 2. Active markets for land, housing, and labor exist, displaced persons use such markets, and there is sufficient supply of land and housing.
Management Program	A combination of operational policies, procedures and practices that provide a program of mitigation and performance improvement measures and actions that address the social and environmental risks and impacts identified in the Assessment and resulting from consultation with affected communities.
Measurable conservation outcomes	Measurable conservation outcomes for biodiversity must be demonstrated in situ (on-the-ground) and on an appropriate geographic scale (e.g., local, landscape-level, national, regional).
Modified habitat	Areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area’s primary ecological functions and species composition.
Monitoring reports	Periodic reporting of the social and environmental performance pursuant to the project's management program, including the Action Plan and any other key social and environmental criteria.
Natural habitat	Areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area’s primary ecological functions and species composition.
Natural resources/areas of importance (PS7)	They refer to those services over which the client has direct management control or significant influence, and those services most likely to be sources of risk in terms of impacts on Affected Communities of Indigenous Peoples.
Net gains	Additional conservation outcomes that can be achieved for the biodiversity values for which the critical habitat was designated. Net gains may be achieved through the development of a biodiversity offset and/or, in instances where the client could meet the requirements of paragraph 17 of PS6 without a biodiversity offset, the client should achieve net gains through the implementation of programs that could be implemented in situ (on-the-ground) to enhance habitat, and protect and conserve biodiversity.
Net reduction	A singular or cumulative loss of individuals that impacts on the species’ ability to persist at the global and/or regional/national scales for many generations or over a long period of time. The scale (i.e., global and/or regional/national) of the potential net reduction is determined based on the species’ listing on either the (global) IUCN Red List and/or on regional/national lists. For species listed on both the (global) IUCN Red List and the national/regional lists, the net reduction will be based on the national/regional population.
No net loss	The point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project’s impacts, to undertake on-site restoration and finally to offset

	significant residual impacts, if any, on an appropriate geographic scale (e.g., local, landscape-level, national, regional).
Nonreplicable cultural heritage	May relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the: 1. Cultural heritage is unique or relatively unique for the period it represents, or 2. Cultural heritage is unique or relatively unique in linking several periods in the same site.
Occupational health and safety	Refers to the range of endeavors aimed at protecting workers from injury or illness associated with exposure to hazards encountered in the workplace or while working.
Other stakeholders	Those not directly affected by the project but that have an interest in it.
Physical Displacement	Relocation or loss of shelter.
Particulate matter (PM_x)	Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Fine particles that are 10 micrometers in diameter and smaller are referred as PM_{10} and fine particles that are 2.5 micrometers in diameter and smaller are referred as $PM_{2.5}$.
Pollution	Both hazardous and non-hazardous chemical pollutants in the solid, liquid, or gaseous phases, and includes other components such as pests, pathogens, thermal discharge to water, GHG emissions, nuisance odors, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts including light.
Pollution prevention	This term does not mean absolute elimination of emissions, but the avoidance at source whenever possible, and, if not possible, then subsequent minimization of pollution to the extent that the PS objectives are satisfied.
Parts per million (PPM)	Commonly used as a measure of small levels of pollutants in air, water, body fluids, etc. Parts per million is a value that represents the part of a whole number in units of 1/1,000,000.
Primary suppliers (PS2)	Suppliers who, on an ongoing basis, provide goods or materials essential for the core business processes of the project
Primary suppliers (PS6)	Suppliers who, on an ongoing basis, provide the majority of living natural resources, goods, and materials essential for the core business processes of the project.

Priority ecosystem service	1. Those services on which project operations are most likely to have an impact and, therefore, which result in adverse impacts to Affected Communities; and/or 2. Those services on which the project is directly dependent for its operations (e.g., water).
Project	A defined set of business activities, including those where specific physical elements, aspects, and facilities likely to generate risks and impacts, have yet to be identified
Project life cycle	The progression of a project from design and planning, construction, operations, and decommissioning or closure.
Reasonable period of time	The timeframe in which clients must demonstrate “no net reduction” of Critically Endangered and Endangered species will be determined on a case-by-case basis in consultation with external experts.
Reasonable working conditions and terms of employment	Could be assessed by reference to 1. Conditions established for work of the same character in the trade or industry concerned in the area/region where the work is carried out; 2. Collective agreement or other recognized negotiation between other organizations of employers and workers’ representatives in the trade or industry concerned; 3. Arbitration award; or 4. Conditions established by national law.
Reclaimed area	Process of creating new land from sea or other aquatic areas for productive use.
Related natural resources	Examples include marine and aquatic resources timber, and non-timber forest products, medicinal plants, hunting and gathering grounds, and grazing and cropping areas. Natural resource assets, as referred to in this Performance Standard, are equivalent to provisioning ecosystem services as described in Performance Standard 6.
Relocation assistance	Support provided to people who are physically displaced by a project. Assistance may include transportation, food shelter, and social services that are provided to affected people during their relocation. Assistance may also include cash allowances that compensate affected people for the inconvenience associated with resettlement and defray the expenses of a transition to a new locale, such as moving expenses and lost work days.
Replacement cost	The market value of the assets plus transaction costs. In applying this method of valuation, depreciation of structures and assets should not be taken into account. Market value is defined as the value required to allow affected communities and persons to replace lost assets with assets of similar value.
Replicable cultural heritage	Tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archeological or historical sites may be considered replicable where the particular eras and cultural values they represented by other sites and/or structures.
Resettlement action plan	The document in which a project sponsor or the responsible entity specifies the procedures that it will follow and the actions that it will take to mitigate adverse effects, compensate losses, and provide development benefits to persons and communities affected by an investment project.
Resettlement framework	Establishes the principles, procedures, entitlements and eligibility criteria, organizational arrangements, arrangements for monitoring and evaluation, the framework for participation, and mechanisms for redressing grievances by which the client will abide during the project implementation.

Retrenchment	The elimination of a significant number of employee positions or the dismissal or layoff of a significant number of employees by an employer.
Retrenchment plan	A plan to address the adverse impacts on workers and their community. The retrenchment plan should address issues such as the schedule of cutbacks, retrenchments methods and procedure, selection criteria, severance payments, offers of alternative employment or assistance in retraining efforts and job placement.
Risks	A combination of the probability of certain hazard occurrences and the severity of impacts resulting from such an occurrence.
Security of tenure	Resettled individuals or communities are resettled to a site that they can legally occupy and where they are protected from the risk of eviction.
Semi volatile organic compounds (SVOC)	Organic compounds which have a boiling point higher than water and which may vaporize when exposed to temperatures above room temperature. They include some pesticides, ingredients in cleaning agents and personal care products, and additives to materials such as vinyl flooring, furniture, clothing, cookware, food packaging and electronics.
Services	1. Provisioning services may include food, freshwater, timber, fibers, medicinal plants; 2. Regulating services may include surface water purification, carbon storage and sequestration, climate regulation, protection from natural hazards; 3. Cultural services may include natural areas that are sacred sites and areas of importance for recreation and aesthetic enjoyment; and 4. Supporting services may include soil formation, nutrient cycling, and primary production.
Set-asides	Land areas within the project site, or areas over which the client has management control, that are excluded from development and are targeted for the implementation of conservation enhancement measures. Set-asides will likely contain significant biodiversity values and/or provide ecosystem services of significance at the local, national and/or regional level. Set-asides should be defined using internationally recognized approaches or methodologies (e.g., High Conservation Value, systematic conservation planning).
Social and environmental assessment	The process of evaluating and addressing potential social and environmental impacts and risks of a proposed project and identifying any mitigation or corrective measures that will enable the project to meet the requirements of the Performance Standards, applicable local laws and regulations, and any additional priorities and objectives for social or environmental performance identified by the client. Social and environmental assessment is the responsibility of the client.
Social and environmental impact assessment	The social and environmental impact assessment report focuses on the significant issues of a project and predict and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. Examines global, transboundary, and cumulative impacts as appropriate. Impact assessment includes baseline data, alternatives analysis and management program.
Social and/or environmental audits report	Report focuses on 1. Compliance of existing facilities and operations with relevant laws and regulations, and applicable IFC Performance Standards; and 2. The nature and extent of significant adverse environmental impacts.
Species diversity	The frequency and diversity of different species, i.e., a population of organisms which are able to interbreed freely under natural conditions.
Stakeholders engagement	An ongoing process that may involve, in varying degrees, the following elements: stakeholder analysis and planning, disclosure and dissemination of information, consultation and participation, grievance mechanism, and ongoing reporting to Affected Communities.

Stakeholders engagement plan	Scaled to the project risks and impacts and development stage, and be tailored to the characteristics and interests of the Affected Communities.
Supply chain	Refers to both labor and material inputs of a good or service. A supply chain of goods may include suppliers of raw material and suppliers of pieces or components for assembly and production.
Total dissolved solids (TDS)	Term used to describe the inorganic salts and small amounts of organic matter present in solution in water. The principal constituents are usually calcium, magnesium, sodium, and potassium cations and carbonate, hydrogencarbonate, chloride, sulfate, and nitrate anions.
Technical feasibility	Based on whether the proposed measures and actions can be implemented with commercially available skills, equipment, and materials, taking into consideration prevailing local factors such as climate, geography, infrastructure, security, governance, capacity and operational reliability.
Terms of employment	Terms of employment include wages and benefits, hours of work, overtime arrangements and overtime compensation, and leave for illness, vacation, maternity or holiday.
Total suspended solids (TSS)	A measure of the turbidity of water. Suspended solids cause the water to be milky or muddy looking due to the light scattering from very small particles in the water.
Worker	Refers to employees of the client, as well as to certain types of non-employee workers.
Workers' organizations	Any organization of workers for the purpose of furthering and defending the interests of workers with regard to working conditions and terms of employment.
Working conditions	Conditions in the workplace and treatment of workers. Conditions in the workplace include the physical environmental, health and safety precautions and access to sanitary facilities. Treatment of workers includes disciplinary practices, reasons and process for termination of workers and respect for the worker's personal dignity.
Volatile organic compounds (VOC)	Any compound of carbon which participates in atmospheric photochemical reactions (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate).

Appendix N. Stakeholder Engagment Plan

STAKEHOLDER ENGAGEMENT PLAN[1]

No	Activity	Stakeholder	Key Information	Approach
Pre-Project Implementation				
1	Consultation and information disclosure	The potential stakeholder groups to be involved has been identified in the section 6.2.1 Stakeholder Mapping of ESMF (p. 67-8). Each sub-project has to identify the most relevant stakeholders.	▪ Project description, key entities involved and timeline; ▪ Potential environmental, health and social impacts and the proposed mitigation measures; ▪ The Grievance Mechanism and key sub-project personnel that will have responsibility for consultation and grievance management.	Focus Group Discussion Consider to conduct FGD with a small group of people (5-10) by considering its position and role. It is to ensure a safe space for vulnerable groups to participate.
Project Implementation				
2	Socialization and information disclosure	The potential stakeholder groups to be involved has been identified in the section 6.2.1 Stakeholder Mapping of ESMF (p. 67-8). Each sub-project has to identify the most relevant stakeholders.	▪ Information related to project activities include but not limited to EE benefit & impact; ▪ Project's commitment to environmental and social management and monitoring	Public announcement through mass media, internet, poster, etc. Public socialization targetting relevant stakeholders
3	Consultation and information disclosure	The potential stakeholder groups to be involved has been identified in the section 6.2.1 Stakeholder Mapping of	▪ Project development, impacts and opportunities;	Focus Group Discussion

[1] The following SEP is prepared in a generic format. Each sub-project must develop a tailor-made SEP according to its own specific context.

No	Activity	Stakeholder	Key Information	Approach
		ESMF (p. 67-8). Each sub-project has to identify the most relevant stakeholders.	▪ Project's social investment / local economic and community development (if any)	Consider to conduct regular consultation (every 3 months). It is suggested that the FGD is carried out with a small group of people and grouped based on their position and role. For instance, women-only consultation round. It is to provide safe space for vulnerable groups to participate.
4	Grievance Mechanism Implementation	The potential stakeholder groups to be involved has been identified in the section 6.2.1 Stakeholder Mapping of ESMF (p. 67-8). Each sub-project has to identify the most relevant stakeholders.	▪ Validation of any grievance raised; ▪ Provide options for grievance resolution; and ▪ Progress on Grievance resolution process	Direct one-on-one meeting
After the project completion				
5	Information disclosure	The potential stakeholder groups to be involved has been identified in the section 6.2.1 Stakeholder Mapping of ESMF (p. 67-8). Each sub-project has to identify the most relevant stakeholders.	▪ Project's EE impact and benefits	Public announcement through mass media, internet, poster, etc. Public socialization targetting relevant stakeholders

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