Sri Lanka Climate Finance for Renewables Project (P151800)

Environmental and Social Management Framework (ESMF) for Non-Conventional Renewable Energy (NCRE) Development

Carbon Partnership Facility (CPF)

February 2019

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List of Abbreviations

A-RAPs	Abbreviated Resettlement Action Plans
ADB	Asian Development Bank
BOI	Board of Investment of Sri Lanka
CBOs	Community Based Organizations
CEA	Central Environmental Authority
CEB	Ceylon Electricity Board
CPF	Carbon Partnership Facility
CSOs	Civil Society Organizations
DS	Divisional Secretary
DWC	Department of Wildlife Conservation
EA	Environmental Assessment
ECoP	Environmental Code of Practice
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EMC	Environmental Management Committee
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental Social Management Plan
ESMF	Environmental and Social Management Framework
FD	Forest Department
GCF	Green Climate Fund
GHG	Green House Gas
GoSL	Government of Sri Lanka
GRM	Grievance Redress Mechanism
GWh	Giga watt hour
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IPPs	Independent Power Producers
LAA	Land Acquisition Act
LARC	Land Acquisition and Resettlement Committee
LDO	Land Development Ordinance
LOI	Letter of Intent
MASL	Mahaweli Authority of Sri Lanka
MoA	Ministry of Agriculture
MoP	Ministry of Power, Energy and Business Development
MRV	Most Recent Value
MW	Mega watt
NBRO	National Building Research Organization
NEA	National Environmental Act
NCRE	Non-conventional renewable energy
NGOs	Non-Governmental Organizations
NIRP	National Involuntary Resettlement Policy
NRE	New Renewable Energy

OP	Operational Policy
PA	Provisional Approval
PAA	Project Approving Agency
PAC	Project Approving Committee
PIE	Project Implementing Entity
PMU	Project Management Unit
PV	Photo-voltaic
PUCSL	Public Utility Commission of Sri Lanka
RAPs	Resettlement Action Plans
SA	Social Assessment
SEA	Sri Lanka Sustainable Energy Authority
SIA	Social Impact Assessment
SLCF	Sri Lanka Climate Fund
SLLRDC	Sri Lanka Land Reclamation and Development Corporation
SLSEA	Sri Lanka Sustainable Energy Authority
SPA	Standardized Power Purchase Agreement
SPPs	Small Power Producers
TOR	Terms of Reference
WB	World Bank

1. Background and Objectives

1.1 Overview of NCRE sector

1.1.1 Sri Lanka's power sector

Sri Lanka is a rapidly growing lower middle income country. Economic growth between 2009 and 2014 was over 7%, an increase from the average annual growth rate of 6% in the preceding five years. Growth has been accompanied by increased demand for energy, which in turn has led to increased air pollution, greenhouse gas emissions, and growing vulnerability to fluctuations in the cost of fossil fuel supplies. Sri Lanka already spends 50% of its total export income (approximately US$ 5 billion per year) to import fossil fuels, and over 40% of Sri Lanka's primary energy is dependent on imported fossil fuels, mainly coal, fuel oil and petroleum.[1]

Sri Lanka's power demand was almost entirely met by hydro power up to the early 1990s. Since 1997, Sri Lanka has expanded generation capacity, largely by using oil/diesel fired power plants, in response to the completed development of suitable large hydro sites, concerns regarding the intermittent and non-dispatchable nature of renewable power, as well as concerns about the potential impact of drought on hydro power generation.[2] In 2011, recognizing the high cost of oil and diesel based power generation – between US 14c and 40c per kWh (LKR 17.9 - 52.6) – Sri Lanka completed the first phase of a 300 MW coal-fired power plant. In 2014, two more 300 MW coal generation plants were commissioned (LTGEP, 2013-32). Coal-based electricity currently has a levelized cost of US 6c (LKR 7.43) per kWh. Figure 1 shows the share of hydro, oil, coal and other renewables in Sri Lanka's generation mix for the first 6 months of 2014 for a total generation of 6,086GWh.

The share of oil fired plants in Sri Lanka's power sector rose from 6% in 1995 to 54% in 2011. However, according to Sri Lanka's Long Term Generation Expansion Plan (LTGEP 2013-2032)[3], coal-based power is considered the least cost option based on the capital costs and economic lifespan of the plants, and is expected to account for 70% of the total generation mix by 2025, which would significantly raise the country's dependence on coal imports.

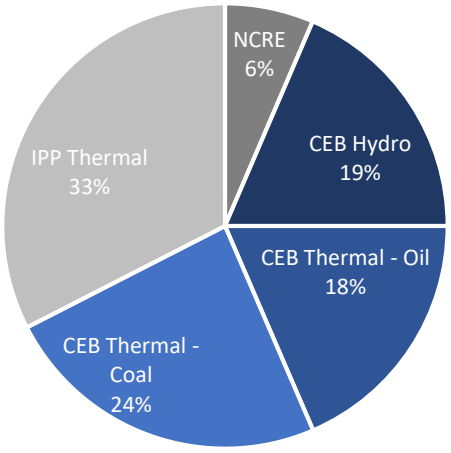
[1] Partnership for Market Readiness – Expression of Interest (2016). Ministry of Mahaweli Development & Environment, Government of Sri Lanka. Retrieved from https://www.thepmr.org/system/files/documents/Sri%20Lanka_Expression%20of%20Interest.pdf

[2] Assessment of Power Sector reforms in Sri Lanka: Country Report (2015). Asian Development Bank (ADB). Retrieved from https://www.adb.org/sites/default/files/institutional-document/173762/sri-power-sector-reforms.pdf

[3] LTGEP is the master plan document for Sri Lanka's electricity generation and expansion. It is updated every two years by Ceylon Electricity Board.

Sri Lanka's current energy mix consists of coal, petroleum, large hydro, biomass, and Non-Conventional Renewable Energy (NCRE).[4] In 2014, coal-based generation accounted for about 27% of total electricity generation in the country. The primary energy supply profile of the country shows that biomass accounts for a majority of the energy supply at 42.5%, followed by petroleum at 39.4%, coal at 8%, major hydro at 7.6%, and NCRE at 2.6%. Trends in the composition of primary energy supply are depicted in Figure 2. Electricity is the main secondary energy source, with an annual generation of 12,848.9 GWh electricity, 62% of which was from thermal plants (SLSEA, 2014).

Figure 1: Sri Lanka's generation mix in 2014 (first half)

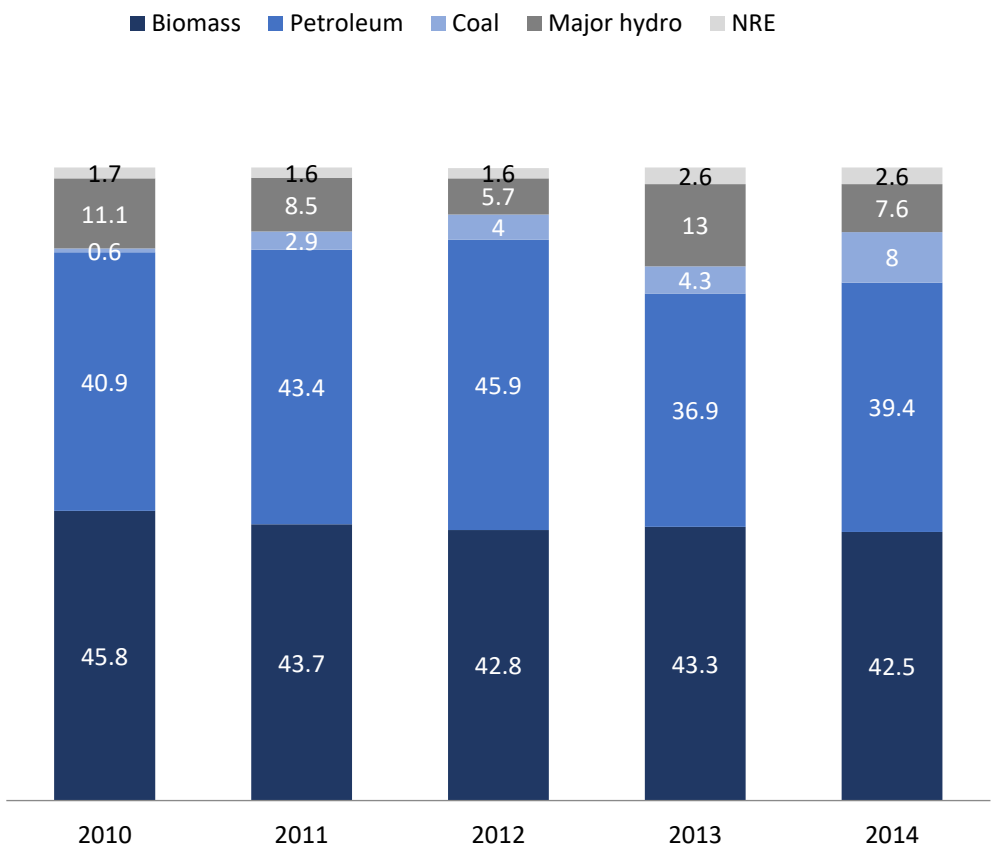


Source: PUCSL (2015)

The state-owned Ceylon Electricity Board (CEB) has a monopoly on transmission and distribution, and owns a majority of the power generation infrastructure. Of the total installed capacity of 3,362 MW in the Sri Lankan energy system, CEB owns and operates 1,361 MW of hydro plants and 863 MW of thermal power stations. CEB also purchases electricity supplied to the national grid by Independent Power Producers (IPPs) under Power Purchase Agreements (PPAs). Several IPPs have entered the Sri Lankan electricity market since 1997.

[4] Under its current definition, NCRE covers wind, solar, biomass, and small hydro.

Figure 2: Primary energy supply by source



Source: Sri Lanka Sustainable Energy Authority (SLSEA), 2014

1.1.2 NCRE sector

Among its neighbors in the region, Sri Lanka stands out for being one of the most progressive, clean and sustainable nations, as well as for its environmental stewardship and accomplishments. Sri Lanka's CO_2 emissions from fossil fuel use and industrial processes was approximately 0.86 tons of CO_2 per capita in 2013, far below the world average of 4.94 tons of CO_2 per capita, and lower than most of its neighboring countries. As part of its efforts to reduce its dependence on fossil fuel imports and address climate change concerns, the Government of Sri Lanka (GoSL) strongly emphasizes the use of NCRE in its energy mix by tapping the country's vast natural resources.

Sri Lanka's power sector regulations restrict private participation in large projects. Under the Electricity Act of Sri Lanka, 100% privately owned companies are not allowed to supply power to the national grid from power plants (using any technology, including wind power projects) that

have a capacity exceeding 25MW. Therefore, only joint venture companies with some percentage of public equity can apply for NCRE development above 25 MW.[5]

The contribution of grid-connected NCRE power plants has gradually risen over the last decade. A number of Small Power Producers (SPPs) with power plants having an installed capacity of less than 10MW have entered the market. Table 1 shows that of the total grid-connected NCRE power generated by SPPs, wind energy has seen the highest rate of growth. While hydro and biomass have grown steadily, solar installations have seen a staggered growth.

Table 1 : Trends in the Grid connected NCRE power plant capacities (MW)

Small Power Producers (SPP)	2005	2010	2011	2012	2013	2014
Hydro	84	175	194	227	256	288
Combined heat and power	0.1	0.1	-	-	-	-
Solar	-	-	1.4	1.4	1.4	1.4
Biomass	2	12	12	10	16	20
Wind	-	30	33	73	78	128
Total SPP	86	218	241	312	352	437

Source: SLSEA, 2014

Table 2 : Installed capacities by type of power station and contribution to NCRE.

Type	No. of Plants	Total installed capacity (MW)	Generation in 2014 (GWh)	Share of generation (%)
Hydro	140	287.5	902.2	74.2
Biomass	6	20.0	41.4	3.4
Solar	3	1.4	1.5	0.1
Wind	15	128.5	270.3	22.2
Total	164	437.4	1,215.4	100.0

Source: SLSEA, 2014

Total installed NCRE capacity has increased from 85.8MW in 2005 to 437.4 MW in 2014, as indicated in Table 1.

In 2014, total NCRE generation in Sri Lanka was 1,215 GWh, of which 902.2 GWh or 74.2% was contributed by small hydro, which continues to be the dominant NCRE technology (SLSEA, 2016), as depicted in Table 2.

Table 3 below shows that SEA has a project pipeline of 267 projects with 180 commissioned projects, 135 projects with issued energy permits, and 87 projects with provisional approvals.

[5] Sri Lanka: AES Kelanitissa Power Project. Performance Evaluation Report (2013). Asian Development Bank (ADB). Retrieved from https://www.adb.org/sites/default/files/evaluation-document/35903/files/sri-aes.pdf

Table 3 : Status of NCRE by the major types or categories

Present Status	Project Type	No. of Project	Capacity (MW)
Commissioned	Mini Hydro	156	313.89
	Wind	15	128.45
	Solar	3	1.36
	Biomass-Dendro	3	10.50
	Agri. Waste-Paddy	3	13.00
	Total	**180**	**467.20**
Energy Permit (EP) Issued	Mini Hydro	103	183.69
	Wind	1	1.1
	Solar	7	70.00
	Biomass-Dendro	19	90.0
	Solid Waste	2	20.00
	Agri. Waste/Biogas	3	2.21
	Total	**135**	**367.00**
Provisional Approval (PA) Issued	Mini Hydro	79	116.95
	Wind	1	100.00
	Biomass-Dendro	3	14.50
	Solid Waste	3	15.90
	Agri. Waste/Biogas	1	10.00
	Total	**87**	**257.35**
Total project pipeline		**267**	**724.55**

Source: SLSEA Unpublished data, June 2016

At the end of 2013, there were about 155 private active independent power producers (IPPs). As of September 2014, a pipeline of 249 approved projects of approximately 600 MW exists. However, the success rate of an NCRE plant being commissioned after receiving provisional approval from SEA is low, for example, at most 53% in the case of mini-hydro. While conducive pre-conditions may exist for NCRE development, each sub-sector faces its own unique challenges and barriers.

The total installed NCRE capacity only accounts for about 16% of Sri Lanka's NCRE resource potential, as depicted in Table 4.[6] Wind and solar could potentially displace a significant amount of fossil fuel based generation. Most small hydro resources have already been exploited, and biomass is marked by several challenges such as supply chain issues and competing resource demands.

Table 4 : Estimated NCRE potential for the period 2013-2032

[6] Capacity development for clean power development (2014). Asian Development Bank (ADB)

RE resource	Likely exploitable potential (MW)
Biomass	2,400
Small Hydro	873
Solar	3,000
Wind	5,600

Source: SLSEA, 2014

1.1.3 Institutional framework for the power sector

At the ministerial level, the power sector falls within the purview of the Ministry of Power & Renewable Energy. Due to its environmental significance, the Ministry of Mahaweli Development & Environment is also a key stakeholder for the development of NCRE resources. The Climate Change Secretariat in the Ministry of Mahaweli Development & Environment is an important counterpart for several climate change-related projects in Sri Lanka. The External Resource Department (ERD) is the focal point for most multilateral initiatives.

Project development may be carried out by private developers or CEB. CEB was established under Act of Parliament No. 17 in 1969 as amended by Act No. 31 of 1969, 29 of 1979, 32 of 1988 and 20 of 2009. Lanka Electricity Company (Pvt) Ltd, LTL Holdings (Pvt) Ltd, Lanka Coal Company (Pvt) Ltd and Sri Lanka Energies (Pvt) Ltd are subsidiaries and Trincomalee Power Company Limited is operating as a joint venture under the group structure of CEB. Of the total installed capacity of around 3,400 MW in the Sri Lankan energy system, CEB owns and operates 65%, including 1,361 MW of hydro plants and 863 MW of thermal power stations. CEB also owns and operates the entire transmission network and performs bulk of the power purchase and delivery functions. CEB reports to the Ministry of Power, Energy and Business Development.

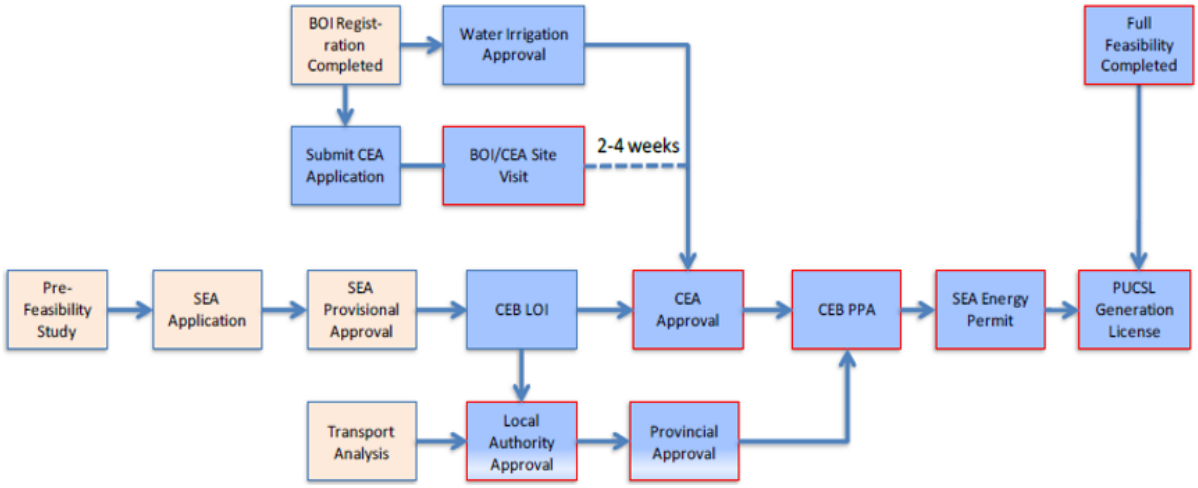
CEB is also responsible for creating a Long-Term Generation Expansion Plan every alternate year covering a period of 20 years. However, while CEB's planning focuses at the project or sector level, country-level plans based on national priorities fall within the ambit of the Department of National Planning, Ministry of National Policies and Economic Affairs.

In October 2007, the government established the Sri Lanka Sustainable Energy Authority (SLSEA; also, SEA) with a mandate to develop and implement policy for renewable energy development, energy efficiency, and energy conservation, including the provision of an institutional framework to promote development of renewable energy projects through private investment. The SEA also reports to the Ministry of Power, Energy and Business Development. According to Part IV (12) of the SEA Act, the Minister can declare an area with renewable resource as an Energy Development Area, and SEA is "responsible for conserving and managing all renewable energy resources within an energy development area and will take all necessary measures to promote and develop such energy resources".

The government established the Public Utilities Commission of Sri Lanka (PUCSL) in 2002 as a regulator for the energy and water sectors. PUCSL is responsible for setting feed-in-tariff for renewables.

Figure 3 below describes the standard approval procedures for a renewable energy project in Sri Lanka.

Figure 3: NCRE approval process in Sri Lanka



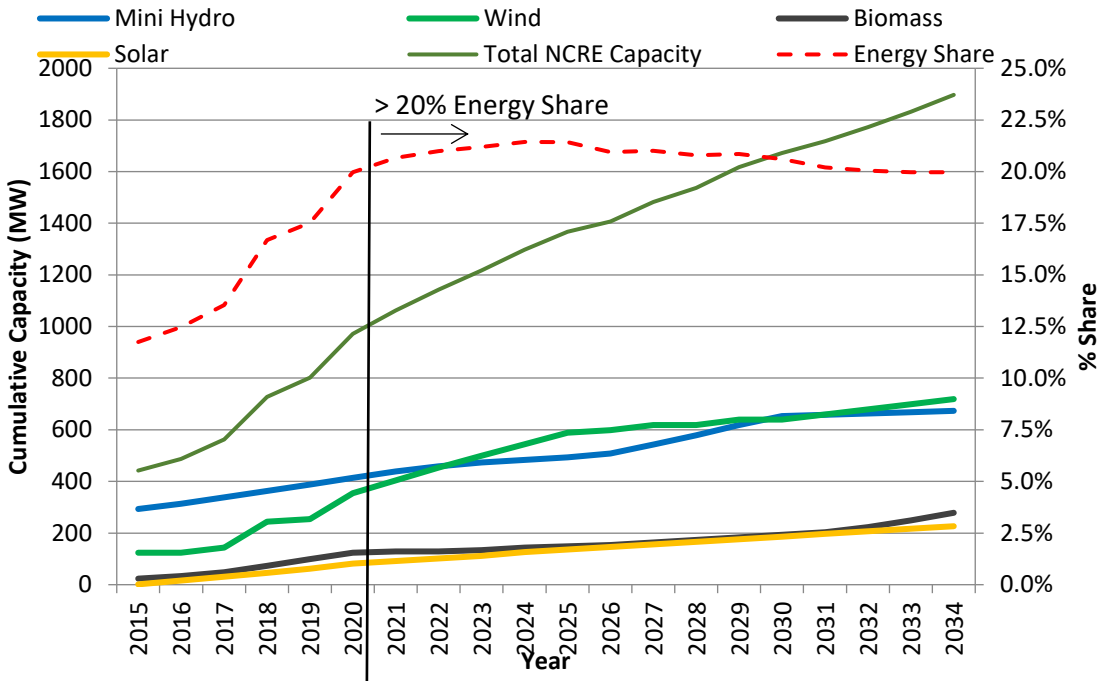
1.1.4 National plans, targets and policies

In its LTGEP 2013-2032, CEB estimated that coal based power would account for 79.8%, and NCRE was expected to contribute 13.3% of total electricity generation by 2022.

In 2013, GoSL announced its aspirational goal of achieving 20% NCRE in the country's electricity generation mix by 2020, and achieving energy self-sufficiency by 2030.[7] Following this announcement, CEB lowered the share of coal based power in the total generation mix to 52% in its new LTGEP (2015-2034) and included 20% energy from NCRE. Figure 4 shows the planned NCRE development from 2015-2034 to achieve 20% by 2020 and maintain the proportion thereafter.

[7] Sri Lanka Energy Sector Development Plan for a Knowledge-Based Economy 2015-2025. Ministry of Power and Energy, Government of Sri Lanka. Retrieved from http://powermin.gov.lk/sinhala/wp-content/uploads/2015/03/ENERGY_EMPOWERED_NATION_2015_2025.pdf

Figure 4: Planned NCRE from 2015 to 2034



Source: Sri Lanka Long-Term Generation Expansion Plan (2015-2034), CEB

One of the challenges in scaling NCRE development in Sri Lanka is the knowledge gap to transform information on physical resources into economically and financially viable interventions by engaging public and private actors. Commercial banks typically lend at short tenors and high interest rates, and the combination of both can significantly impact the financial viability of the project. Sri Lanka also has limited institutional capacity to access international climate finance for the development of large-scale NCRE projects.

1.2 Introduction to CPF

The Carbon Partnership Facility (CPF) is a carbon finance instrument that uses results-based financing to develop emission reductions and support their purchase on a larger scale through the provision of carbon finance to long-term investments. The World Bank purchases emission reductions under the agreed CPF methodology to incentivize low carbon development by providing carbon revenues.

Climate finance is key for increasing renewable energy generation and mitigating barriers to renewable energy development. Sri Lanka needs to build capacity and prepare a robust institutional framework to access international climate finance. With the recent operationalization of the Green Climate Fund (GCF), climate finance is expected to grow rapidly and reach the level of US$100 billion per annum as agreed in the Copenhagen Accord (2009).

Based on lessons learned from Clean Development Mechanism (CDM), scaling up results-based climate finance at the sectoral level would be ideal for supporting the national NCRE target and further accessing a bulk of funds available from GCF or other sources to support the country's NCRE target.

1.2.1 Project objectives

The objective of the World Bank's Climate Finance for Renewables in Sri Lanka is to facilitate the implementation of low-carbon projects by increasing access to international climate financing such as CPF, and support Sri Lanka's effort to increase the contribution of renewables to grid electricity supply. The project has two main components:

i. **Supporting institutional development and capacity building to access international climate finance:** The project will support institutional development and capacity building to access international climate finance. This involves strengthening the capacity of domestic institutions such as Sri Lanka Climate Fund (SLCF) and CEB to play a catalytic role for GHG reduction by accessing climate finance and promoting public private partnerships. This will include support to the Climate Change Secretariat (CCS) of the Ministry of Mahaweli Development and Environment in the preparation, implementation and management of GCF readiness activities funded by the GCF.

ii. **Supporting the development of sectoral methodology and MRV systems for achieving NCRE targets using results-based climate financing:** The World Bank supports GoSL's objective of promoting NCRE generation by demonstrating new applications of results-based financing through CPF. CPF is one of the carbon trust funds managed by the World Bank to promote scaled-up carbon crediting activities via a sector-wide project or an economy-wide policy associated with GHG emission reduction impacts. The World Bank as a Trustee of CPF will purchase emission reductions under the agreed CPF carbon crediting methodology to be developed by the project and as a return generate financial flows to promote further NCRE generation in the country.

1.2.2 Project implementation arrangements

The Coordinating Entity for the overall project will be CEB. CEB is the sole off-taker for all power supplied to the grid, due to which it shares a strong relationship with private sector power developers, and can therefore create the necessary interest and stakeholder support to implement the proposed project. Accordingly, CEB will be responsible for overseeing the implementation of environmental and social safeguards associated with the proposed project. In this it will be supported by the Central Environment Authority (CEA) and the Sustainable Energy Authority (SEA), in accordance with their comparative strengths and established mandates. For instance, CEA will issue the environmental approval/site clearance/environmental

recommendations for the NCRE sub-projects eligible under the overall CPF project, and SEA will identify the locations and issue provisional approvals and energy permissions to the sub-projects when requirements are met.

CEB's implementation of the CPF-supported project (including its safeguards provisions) will be overseen by GoSL through the Ministry of Power, Energy and Business Development and the Ministry of Finance and Planning.

In addition, a Stakeholder Committee will be convened comprising of all the key stakeholders related to the project, to reach agreement on the design and implementation of the proposed results-based climate financing under Component 2. Members will include Ministry of Power, Energy and Business Development, Ministry of Mahaweli Development and Environment (Climate Change Secretariat and Central Environment Authority), Sustainable Energy Authority, Ministry of Finance and Planning, PUCSL, CEB and representatives of renewable energy/ NCRE developers.

1.3 Objective of the ESMF

The Environmental and Social Management Framework (ESMF) covers NCRE sub-projects to be supported under the Climate Finance for Renewable project through CPF in Sri Lanka. The objective of the ESMF is to set out clear guidelines, procedures, and measures that NCRE developers must use to facilitate the adequate management of environmental and social impacts and risks in the sub-projects to be supported under the overall project.

The ESMF will provide guidance to ensure that implementation of NCRE sub-projects is carried out in an environmentally and socially sustainable manner, taking into account Sri Lanka's relevant legislation and regulations, as well as the applicable World Bank safeguard policies. In particular, the ESMF seeks to ensure that:

i The design of NCRE sub-projects takes consideration of the potential environmental and social impacts, and ways to minimize, mitigate and/or manage them;
ii The potential environmental and social implications of introducing sub-project components like the construction of power plants or of transmission and distribution lines are taken into account;
iii Negative impacts during construction and operation are avoided where possible, and where negative impacts are expected, measures to minimize, mitigate and/or manage these impacts are undertaken;
iv Any losses of assets and/or means of livelihood resulting from the acquisition of land for sub-projects are compensated for properly;

v Environmental and social issues, including gender and health and safety aspects, are integrated into the identification, design, and implementation phases of NCRE sub-projects, depending on the energy technology involved and the local context, and into the sub-project monitoring plans to be prepared; and

vi The contributions of sub-projects towards the health and well-being of a society are taken into consideration, and affected people have a chance to participate in decisions that directly affect them.

The project concerns four major NCRE technologies: mini-hydro, wind, biomass (dendro), and solar. The ESMF has been prepared to ensure that the due diligence process is followed by all the entities and agencies—with CEB foremost among them—involved in implementing and monitoring the qualifying NCRE sub-projects.

2 Legal and institutional framework

A framework of policies, legislation, procedures, and institutions currently maintain and manage the environmental and social aspects of NCRE projects in Sri Lanka. The policy and regulatory framework includes:

i **Legislation:** The National Environmental Act (NEA), 1980 is the overarching legislation that mandates an Initial Environmental Examination (IEE) study to be undertaken for each project. In addition, NCRE projects are required to comply with laws specific to the energy resource. The Thirteenth Amendment to the Constitution establishes that it is the responsibility of the Provincial Councils and the provincial-level administration to ensure protection of the environment.

ii **Regulations**: NCRE projects are required to comply with laws and regulations implemented by government agencies responsible for environmental and social safeguards, such as the Department of Wildlife Conservation (DWC)/ Forest Department (FD). Based on the nature of the project (i.e., size, location, construction, etc.), NCRE sub-projects must also comply with applicable regulations for rock quarrying, access road construction, camp site activities, other constructions and establishment of transmission lines.

iii **Permits:** The most commonly required clearances and permits for NCRE development are:

- Environmental clearance from agencies managing the area: Depending on the existing management system under which the proposed project area is located, agencies such as DWC, the Forest Department, and Mahaweli Authority of Sri Lanka, have the authority to issue environmental clearance;
- Provisional approval from Sri Lanka Sustainable Energy Authority: Resource clearance for NCRE projects;

- Letter of Intent from CEB: For construction of the power plant and transmission lines;
- Preliminary project approval from the Divisional Secretary of the respective division;
- Preliminary approval for the proposed project from the respective Pradeshiya Sabha by submitting necessary documents indicating compliance with the Central Environmental Authority regulations;
- Approval from the owner of the land (as appropriate);
- Generation license from the Ministry of Power, Energy and Business Development after receiving environmental clearance; and
- Power Purchase Agreement (PPA) between the company and CEB (after receiving environmental clearance).

iv **Policies:** The Environmental Management Policy was created with support from the 1978 constitution, recognizing the state's responsibility to protect, preserve, and improve the environment for the benefit of the community as a principle of state policy. CEA was established in 1981 as the state agency responsible for the formulation and implementation of the policies and strategies for the protection and management of the environment of the country. Through CEA No. 1, 2006, modalities, policies and guidelines for NCRE are provided in accordance with the National Environmental Act No. 47, 1980.

2.1 Legislations and policies

The policy and the regulatory framework for acquisition of private land, payment of compensation and involuntary resettlement in Sri Lanka is governed by the Land Acquisition Act (LAA) No. 9 of 1950 and its subsequent amendments, Land Acquisition and Payment of Compensation Regulations of 2009 (No. 1596/12 of 7th April 2009), Land Acquisition (Payment of Compensation) Regulations of 2013 (No. 1837/47 of 22nd November 2013) and National Involuntary Resettlement Policy (NIRP) of 2001. As the regulations of 2013 are not being applied consistently and the NIRP of 2001 is at the level of a policy only (i.e. not a law or regulation), this document will focus principally on the applicability of the Land Acquisition and Payment of Compensation Regulations of 2009. For its part, the Sri Lanka Electricity Act No. 20 of 2009 [Chapter VII (52 (1))] refers to acquisition of property in the following manner: "Where the President on a recommendation made by the Minister is of the opinion that any immovable property is required for a power generation project or a transmission project and that such project would serve for the general welfare and benefit of the public, the President may by Order published in the Gazette, declare that such immovable property is required for such purpose, and the property may accordingly be acquired under the Land Acquisition Act and be transferred to the person or persons proposing to carry out such project".

Land Acquisition Act of 1950

The Land Acquisition Act (LAA) No. 9 of 1950 lays down the general procedure for the acquisition of private lands for a "public purpose" (e.g. development projects), the process of which would take about seventy-two weeks for its completion. The law also stipulates that lands acquired for a particular purpose cannot be used for a different purpose, and lands that remain unused be returned to the original owners. The process stipulated in the Act is as follows:

- The entity which is responsible for implementing the proposed project (hereinafter called the project implementing entity, or "PIE"[8]) prepares a proposal for acquiring the identified land.
- The PIE submits the application to the Ministry of Land requesting the acquisition of the needed land (if the PIE is in the public sector, this is done via its line ministry).
- The Minister of Land authorizes the acquisition under Section 2 of the LAA.
- The acquiring officer[9] publishes the Section 2 Notice (intention of acquisition) and sends it to the owner of the land to be acquired.
- The acquiring officer requests the district superintendent of surveys to survey the land.
- The survey department carries out the survey and prepares a plan of the land which is called the "advance tracing".
- The Ministry of Land calls for submission of any objections from the interested parties.
- The owner of the land and/or any other interested parties submits objections to the secretary of the relevant line ministry under Section 4 of the LAA.
- The secretary to the ministry or his/her representative conducts an inquiry into the objections raised by the interested parties and submits his/her recommendations to his/her minister. The minister in turn submits those recommendations to the Minister of Land.
- The Minister of Land decides to accept or reject the objections under Section 5 of LAA.
- The Minister of Land issues the acquisition order if he decided to proceed with the land acquisition.
- The acquiring officer requests the survey superintendent to prepare a "preliminary plan" under Section 6 of LAA.
- The survey department surveys the land and prepares the preliminary plan and submits it to the acquiring officer as well as to the Ministry of Land.
- The acquiring officer issues the notice of land acquisition under Section 7 in Sinhala, English and Tamil.
- The owner of the land submits his/her claims to the acquiring officer.
- The acquiring officer conducts an inquiry to determine the ownership rights of the land and the compensation payable under Section 9 of LAA.

[8] Throughout this document the term "project proponent" is used interchangeably with project implementing entity.

[9] The acquiring officer is the divisional secretary of the area where the proposed land is located.

- The acquiring officer issues the notice of ownership status of the land under Section 10(1)(a) of LAA.
- The acquiring officer requests the valuation department to determine the compensation for the property to be acquired.
- The valuation department conducts the valuation of the land and other properties.
- The valuation department sends the valuation report to the acquiring officer.
- The acquiring officer calls the owner of the land to his office and informs the results of the valuation of the land.
- The acquiring officer issues the Section 17 of LAA award notice which indicates the eligible compensation.
- The owner of the land decides either to accept the compensation or to appeal against the valuation to the Board of Review.
- The acquiring officer takes over the possession of the land under Section 38 of the LAA.
- The acquisition officer hands over the possession of the vested property by way of a certificate under Section 44 of LAA which constitutes a legal title for the land.

The same Act also makes provisions under Section 38(a) proviso to take over the immediate possession of any land on grounds of "urgency", if the Minister of Lands is of the opinion that the land is "urgently" needed for development projects and cannot wait until the compensation inquiry is over. In such a situation, the Minister of Land may issue an order under Section 38(a) proviso after Notices under Section 2 or 4 are published. The acquiring officer will thereafter request the Chief Valuer to prepare a Condition Report of the property, as at the date of taking over, in order to facilitate assessment of compensation to be paid once Section 7 Notice is published later on. The application of Section 38(a) proviso avoids a number of provisions prescribed under the general procedure for land acquisition. This provision in the LAA bypasses the issue of Section 4 Notice, which allows the land owner or any other interested parties to raise their objections to the acquisition of a particular piece of land. Furthermore, Section 38(a) proviso allows the acquiring officer to take over the immediate possession of the land, and vesting it on the entity which has requested the acquisition of such land, before the compensation is paid to the affected parties.

National Involuntary Resettlement Policy of 2001

The LAA does not provide clear guidelines that PIEs can use to address key resettlement planning and implementation issues such as (a) exploring alternative project options to avoid or minimize impacts on people; (b) compensating the non-titled persons who will be affected by a project because they are currently using the needed land; (c) consulting affected persons and resettlement hosts on resettlement options; (d) providing for successful social and economic integration of the affected persons into the host communities; and (e) rehabilitating affected

persons along with income restoration measures. In order to address the gaps in the LAA, the Government introduced the National Involuntary Resettlement Policy (NIRP) in 2001. The NIRP is based on human and ethical considerations and entails the payment of compensation for lost assets at a "replacement cost" standard or otherwise arranges for affected people's resettlement and, where necessary, their economic rehabilitation.

The NIRP is designed to ensure that (i) project-affected persons are adequately compensated, relocated and rehabilitated; (ii) delays in project implementation and cost overruns are reduced; and (iii) better community relations are restored. The NIRP aims at ensuring that people affected by development projects are treated in a fair and equitable manner, and that they are not impoverished in the process. The Ministry of Lands has the institutional responsibility for implementing the NIRP, although in practice this does not always happen as the Policy does not have the binding status of a law or regulation.

Land Acquisition and Payment of Compensation Regulations of 2009

The LAA provides for the payment of compensation on the basis of "market value" defined as the "amount which the land might be expected to have realized if sold by a willing seller in the open market as a separate entity". This "separate entity principle" resulted in hardships particularly when a small part of a larger land was acquired. In the open market such a small area of land fetched a minimum value. The Land Acquisition Regulations of 2009, which were approved by the Cabinet of Ministers and the Parliament and published in the Government Gazette of April 7, 2009, gave the legal status to these Regulations and bound all development projects by the consolidated land acquisition and resettlement/rehabilitation processes outlined in the National Involuntary Resettlement Policy of 2001. The Regulations redefine the valuation approach for market value and states that "in the case of land where part of a land is acquired and when its value as a separate entity deems to realize a value proportionately lower than the Market Value of the main land the compensation should be proportionate to the value of the main land". The Regulations also provides additional compensation beyond "market value" and incorporates compensation for injurious affection, severance and disturbances based on the principle of value to owner (Gazette notification No. 1596 of 7.4.2009). These regulations also provide for payment of compensation to non-titleholders.

Land Acquisition (Payment of Compensation) Regulations of 2013

These regulations provide for development projects to be designated as "specified projects" by the Ministry of Lands with the ratification of the Cabinet of Ministers. The "specified projects" qualify to establish Land Acquisition and Resettlement Committees (LARC) in the divisional secretariat divisions where the persons affected by land acquisition can make their representations. The divisional secretary of the respective region will chair the LARC. Among the

various members of the LARC are representatives from the survey department and the valuation department. The regulations of 2013 provide for a comprehensive compensation package including compensation for non-titleholders. Persons affected by land acquisition can appeal to the LARC if they were dissatisfied with the statutory compensation paid to them under LAA. After hearing the grievances of the affected persons, the LARCs can consider payment of additional compensation in the form of *ex-gratia* payments. Affected parties will also be given the opportunity of appearing before the LARC proceedings and to explain his/her grievances and claims on the acquired property. Persons who are dissatisfied with LARC decisions on compensation may appeal to the Super LARC established at national level.

Although the Land Acquisition Regulations of 2013 are an important part of the national legal framework pertaining to land taking for development purposes, it is equally important to note that, since their adoption, no CEB-directed project has been designated as a "specified project" under these regulations.

The full list of environmental and social policies, acts, and regulations that may be applicable to NCRE projects are provided in Table 5 below.

Table 5: Overview of policies, acts, and regulations that may be applicable to NCRE projects

Policies, acts and regulations	Objectives
Provincial Environmental Statutes **Implementing entity:** Provincial Council	Environmental assessments are required for prescribed projects that have been gazetted in Gazette Extraordinary, or if required by the Project Approving Authority (PAA).
Forest Ordinance, 1907 and amendments **Implementing agency:** Department of Forests, Ministry of Environment & Mahaweli Development	Consolidated and amended law relating to conservation, protection and sustainable management of forest resources and utilization of forest produce, and transport of timber and forest produce.
Buddhist Temporalities Ordinance of 1931 (amended in 2013) **Implementing agency** Ministry of Buddha Sasana	This deals with lands donated to the temples and Dewalas (places of religious significance) by the rulers.
Land Development Ordinance No. 19 of 1935 **Implementing agency:** Ministry of Lands	Systematic development and alienation of crown land.
Fauna and Flora Protection Ordinance No. 2 of 1937 and amendments **Implementing agency:** Ministry of Wildlife Conservation	Conservation of the fauna and flora of Sri Lanka and their habitats, prevention of commercial and other misuses, and the conservation of biodiversity.

State Lands Act No. 13 of 1949 **Implementing agency:** Ministry of Lands	Provides for the grant and disposition of state lands, for the management and control of such lands and the foreshore, for the regulation of the use of the water of lakes and public streams.
Land Acquisition Act No. 9 of 1950 and LA regulations of 2008 and 2013 **Implementing agency:** Ministry of Lands	Makes provisions for the acquisition of land and easements for public purposes, and provides for payment of compensation for acquired properties
Soil Conservation Act No. 25 of 1951 **Implementing agency: Department of** Agriculture	Soil conservation guidelines, conservation of soil resources and productive capacity of land.
Crown Land Encroachment Ordinance No. 2, 8 of 1954	All waste lands, forests, unoccupied and uncultivated lands belong to the state until proven to the contrary.
Monuments and Archaeological Sites and Remains Act No. 24 of 1958 **Implementing agency:** Department of Archaeology	Preservation of ancient and historical monuments and archaeological sites and remains of national importance.
Sri Lanka Land Reclamation and Development Corporation Act No. 15 of 1968 **Implementing agency:** Ministry of Land	Provides for the establishment of a corporation; Sri Lanka Land Reclamation and Development Corporation (SLLRDC).
Prescription Ordinance No. 22 of 1971 **Implementing agency:** Ministry of Land	Confirms rights of people who have had unencumbered possession of private lands for over 10 years through a legal process.
National Policy on Women/ Women's Bureau of Sri Lanka, 1978 **Implementing agency:** Women's Bureau of Sri Lanka	Provisions for promotion of gender equity/equality.
Agrarian Services Act No. 58 of 1979, Agrarian Development Act No 46 of 2000 **Implementing agency:** Ministry of Agriculture and Agrarian Services	Secure farmers and their premises.
State Lands (Recovery of Possession) Act No. 7 of 1979 **Implementing agency:** Ministry of Land	Provisions for the recovery of possession of state lands from unauthorized possession or occupation.
Mahaweli Authority Act No. 23 of 1979 **Implementing agency:** Mahaweli Authority-Ministry of Irrigation and Water Resources.	Established Mahaweli Authority of Sri Lanka, for the implementation of Mahaweli Ganga Development Scheme.

National Environmental Act No. 47 of 1980 **Implementing agency:** Central Environmental Authority (CEA)	Established Central Environmental Authority to provide protection, management and enhancement of the environment. Environmental assessment (EA) is a legal requirement for a range of development projects in Gazette (Extra Ordinary) No. 772/22 dated June 24, 1993.
Coast Conservation Act No 57 1981	Conservation of coastal area; resources and management.
Land Acquisition Act (Amendment) No. 13 of 1986 **Implementing agency:** Ministry of Land	Procedures to be followed by the competent authorities for the acquisition of land for public purposes.
National Heritage Wilderness Areas Act No. 3 of 1988 **Implementing agency:** Ministry of Environment	Declaration of National Heritage Wilderness Areas for the protection and conservation of such areas
National Environmental (Protection and Quality) Regulation No. 01 1990 **Implementing agency:** Central Environmental Authority (CEA)	Prevention and control of water pollution and enhancing the quality of water.
Women's Charter of Sri Lanka, 1993 **Implementing agency:** Ministry of Women's Affairs	Elimination of all forms of Discrimination Against Women (CEDAW), Provisions for women's rights and gender equity/equality.
National Environmental (Ambient Air Quality) Regulations, 1994 **Implementing agency:** Central Environmental Authority (CEA)	Prevention and control of air pollution
National Energy Policies and Strategies, 1995 **Implementing agency:** Ministry of Power and Energy	Basic energy needs, energy security, efficiency, promote indigenous resources, pricing policy, enhance quality of services and management capacity, level playing field and environmental impacts of energy facilities.
National Environmental (Noise Control) Regulation No. 1 of 1996 **Implementing agency:** Central Environmental Authority (CEA)	Maintain permissible noise level at the boundaries of industrial facilities
National Involuntary Resettlement Policy (NIRP) 2001 **Implementing agency:** Ministry of Lands	Protect the rights of people affected by development projects. Ensure that displaced persons are treated in a fair and equitable manner, and that people are not impoverished or suffering as a result of projects.
Public Utilities Commission of Sri Lanka Act No. 35 of 2002	To regulate utilities and industries under a coherent national policy.

Implementing agency: Public Utilities Commission of Sri Lanka	
Sri Lanka Sustainable Energy Authority Act No. 35 of 2007 **Implementing agency:** Sri Lanka Sustainable Energy Authority	To provide for the establishment of SLSEA; to develop renewable energy resources; to implement energy efficiency measures and conservation programs; to promote energy security.
Sri Lanka Electricity Act, 2009 **Implementing agency:** Ceylon Electricity Board	Regulations for the generation, transmission, distribution, supply and use of electricity.
Soil Conservation Regulation No. 1 of 2009 **Implementing agency: Department of** Agriculture	Regulations for conservation areas declared under the Soil Conservation Act.

2.1.1 Preparation of EIA under the National Environmental Act

The National Environmental Act makes EIA a legal requirement for all prescribed projects, which includes large-scale development projects and projects located in environmentally sensitive areas. In cases where the environmental impacts of the project are not very significant, the project proponent may be asked to carry out an IEE instead of an EIA. An IEE assesses the potential impacts of a project, and the extent of these impacts, while an EIA process requires comprehensive information and assessment on the potential environmental impacts of a project, and suitable mitigation measures. Alternatives to the proposed project are also considered during the EIA to identify options with the least environmental impact.

The need for carrying out IEE or EIA is determined through environmental scoping with an assessment of the preliminary information of the proposed project provided by the project proponent. The preliminary information includes a description of the nature, scope and the location of the proposed project and any further information required by the project approving agency (PAA). The PAA is the Ministry/ Department/Authority or other public entity that is responsible for the EIA process for a proposed project.[10] The selection of an IEE or EIA depends on several factors:

i. Environmental sensitivity of the proposed project/ NCRE resource and the proposed project area;
ii. Significance of environmental issues or the likely environmental impacts of the proposed project;

[10] In the case of the CPF-supported project, the PAA will be CEA, unless the Authority should choose to assign this role to another eligible entity.

iii. The magnitude of the likely impacts and the issues that are to be addressed or mitigated through national, regional, and local agencies/authorities and through institutional procedures;
iv. The need for acquiring land and likely displacements that can cause serious negative impacts on the people entailing significant social costs;
v. The need for analyzing the project in greater detail in light of the existing legal and institutional frameworks; and
vi. The need for detailed reports, information, and baseline studies and assessments, analyzing the impacts and proposing mitigation measures, which may require support from several agencies to implement.

The National Energy Policy and Strategies of Sri Lanka (2008) emphasize that necessary steps will be taken to minimize adverse environmental and social impacts caused by energy supply development and operational activities.

According to CEA guidelines, an EIA must include a detailed outline of the requirements for implementing components of the NCRE sub-projects (hydro, wind, solar and biomass) that require constructions, roads and other services and the data on each category.

The guidance for implementing the EIA is provided in two volumes: Volume 1 is "A General Guide for Project Approving Agencies"; and Volume 2 is "A General Guide to Conducting Environmental Scoping." The EIA process is managed and monitored by CEA and implemented through state agencies, including relevant ministries and departments such as agriculture, lands, forests, housing, construction, irrigation, etc. According to the National Environmental Act, the EIA process is to be implemented and managed through PAAs as prescribed by the Minister of Environment referring to the subjects that are covered by the respective ministries. In the case of NCRE projects, private sector proponents might be responsible for implementing EIA. The process also involves the dissemination of basic information to a wide set of people and institutions for feedback and consultation. Differences in the level of understanding of the process pertaining to NCRE development is a barrier to efficient EIA implementation that can be resolved by providing adequate information and field-level analysis. Generic guidance for EIAs for NCRE sub-projects and sample ToRs for each NCRE type are provided in Annex I to this ESMF.

According to CEA, the general steps to follow in preparation of the IEE/EIA are summarized in Table 6 below.

Table 6 : The process for conducting Environmental Impact Assessment

Step	Activity/ instruments	Description
1	Compilation and submission of preliminary information by the project proponent	Description /nature, scope and location of the proposed project accompanied by support documents (may be sufficient to consider as IEE)
2	Environmental scoping Inter-agency scoping meeting (state agencies, public)	Identify issues to be addressed in detail in the IEE/EIA (Environmental issues, range of responsibilities related to water, pollution, soils and land use, forests, wildlife and biological diversity, socio cultural and economic conditions etc.) Inter Agency Scoping meetings identifying mitigation measures. PAA identifies and determines affected and concerned agencies or institutions/individuals.
3	EIA preparation and submission	Preparation of an EIA report is guided by the CEA. All detailed studies are carried out by professional teams with the involvement of local communities is ensured by adopting appropriate methodologies.
4	Public Participation, A notice of availability of EIA report is announced through news papers	Provision for public participation is made in the NEA. The notice of availability of the EIA report for public review must be made in a newspaper. 30 days are allowed for public review through public comments, reviews, and public hearings. The proponent has to respond to public comments by making every effort to modify alternatives including the proposed action, develop and evaluate alternatives not provided, and make factual corrections.
5	Decision making	PAA grants approval for the project subject under specified conditions (for appealing) or refuses approval
6	Monitoring	Monitoring by the PAA involves compliance with conditions and the effectiveness of the mitigation measures

Source: CEA, 2006 (A general guide for conducting environmental scoping)

The CEA provides a checklist of activities to be undertaken by the PAA at the scoping stage for potential environmental impacts of a proposed sub-project:

i. The formal and informal participation of all concerned agencies, the proponent of the action, and other interested persons, representatives of the affected public, and others who might not be in agreement with the action on environmental grounds;

ii. Determination of whether the project proponent should be asked to prepare an IEE or EIA;
iii. Determination of the scope and significant issues to be analyzed in-depth within the IEE/EIA;
iv. Determination of alternatives that should be addressed in the IEE/EIA;
v. Identification and elimination of issues which are not significant or which have been covered by previous studies or environmental reviews through detailed analysis;
vi. Setting the Terms of Reference for the IEE/EIA;
vii. Regular communication with the developer in preparation of the required document;
viii. Identification of the sectors that require expertise for preparing IEE/EIA; and
ix. Schedules and timelines for submitting requisite documents and carrying out project activities.

The Project Approving Agency (PAA) will provide a Terms of Reference (ToR) for preparation of EIA/IEE report depending on the scale of the project, project activities sensitivity of the project site and the potential impact area etc., and the ToR defines the report format among other requirements.

2.1.2 Involuntary Resettlement

The National Involuntary Resettlement Policy of 2001 serves as the most advanced and comprehensive statement to date on how to approach situations of project-induced displacement and resettlement in Sri Lanka, even though it is not binding. The policy was prepared according to the following objectives and principles:

Policy Objectives

- Avoid, minimize and mitigate negative impacts of involuntary resettlement by facilitating the reestablishment of the affected people on a productive and self-sustaining basis.
- Ensure that people adversely affected by development projects are fully and promptly compensated and successfully resettled. The livelihoods of the displaced persons should be reestablished and the standard of living improved.
- Ensure that no impoverishment of people shall result as a consequence of compulsory land acquisition by the State for development purposes.
- Assist adversely affected persons in dealing with the psychological, cultural, social and other impacts caused by compulsory land acquisition.
- Make all affected persons aware of processes, available for the redress of grievances that are easily accessible and immediately responsive.
- Have in place a consultative, transparent and accountable involuntary resettlement

process with a time frame agreed to by the project implementing entity and the affected persons.

Policy Principles

- Involuntary resettlement should be avoided as much as possible by reviewing alternatives to the project as well as alternatives within the project.
- Where involuntary resettlement is unavoidable, affected persons should be assisted to re-establish themselves and improve their quality of life.
- Gender equality and equity should be ensured and adhered to throughout.
- Affected persons should be fully involved in the selection of relocation sites, livelihood compensation and development options at the earliest opportunity.
- Replacement land should be an option for compensation in the case of loss of land; and in the absence of replacement land cash compensation should be an option for all affected persons.
- Compensation for loss of land, structures, other assets and income should be based on full replacement cost and should be paid promptly. This should include transaction costs.
- Resettlement should be planned and implemented with full participation of the provincial and local authorities.
- Participatory measures should be designed and implemented to assist those economically and socially affected to be integrated into the host communities.
- Common property resources and community and public services should be provided to affected persons.
- Resettlement should be planned as a development activity for the affected persons.
- Affected persons who do not have title deeds to land should receive fair and just treatment.
- Vulnerable groups should be identified and given appropriate assistance to improve their living standards.
- Project implementing entities should bear the full costs of compensation and resettlement.

2.2 Relevant institutions and stakeholders

Under the laws of Sri Lanka, several state agencies, through policies, acts, ordinances, and legislations, are charged with ensuring environmental and social management. The agencies that exercise direct responsibilities are the CEA, SLSEA, and the Ministry of Power, Energy and Business Development.

The Sri Lanka Sustainable Energy Authority or SLSEA is the state agency with primary responsibility for the development of NCRE. SLSEA represents the renewable energy sector, electricity generation from RE resources and supply to the national grid.

CEA is responsible for examining the environmental and social impacts of projects with the fully vested mandate provided under the National Environmental Act. CEA is also responsible for providing environmental clearances, and for acting as the PAA for projects in the energy sector.

The decentralized institutional and operational mechanisms are connected through field inspections and the project approval process. The procedure requires clearances, licenses, and permits from relevant authorities, including:

i Decentralized administration of the central government agencies/ministries through which clearance is issued;
ii Preliminary approval from the respective Divisional Secretary;
iii Preliminary approval for the proposed project from the respective Pradeshiya Sabha; and
iv Approval from the owners of the needed lands (as appropriate).

Figure 5 illustrates the current approval process for NCRE projects. As the state agency for developing NCRE resources, SLSEA takes responsibility for implementing the policies and procedures for securing approvals related to NCRE projects. A guide to the Project Approval Process for On-grid Renewable Energy Project Development was produced by the SLSEA in 2011. Project proponents are required to follow these guidelines. CEB is also closely involved in the process of screening, examining technical feasibility, and approving projects.

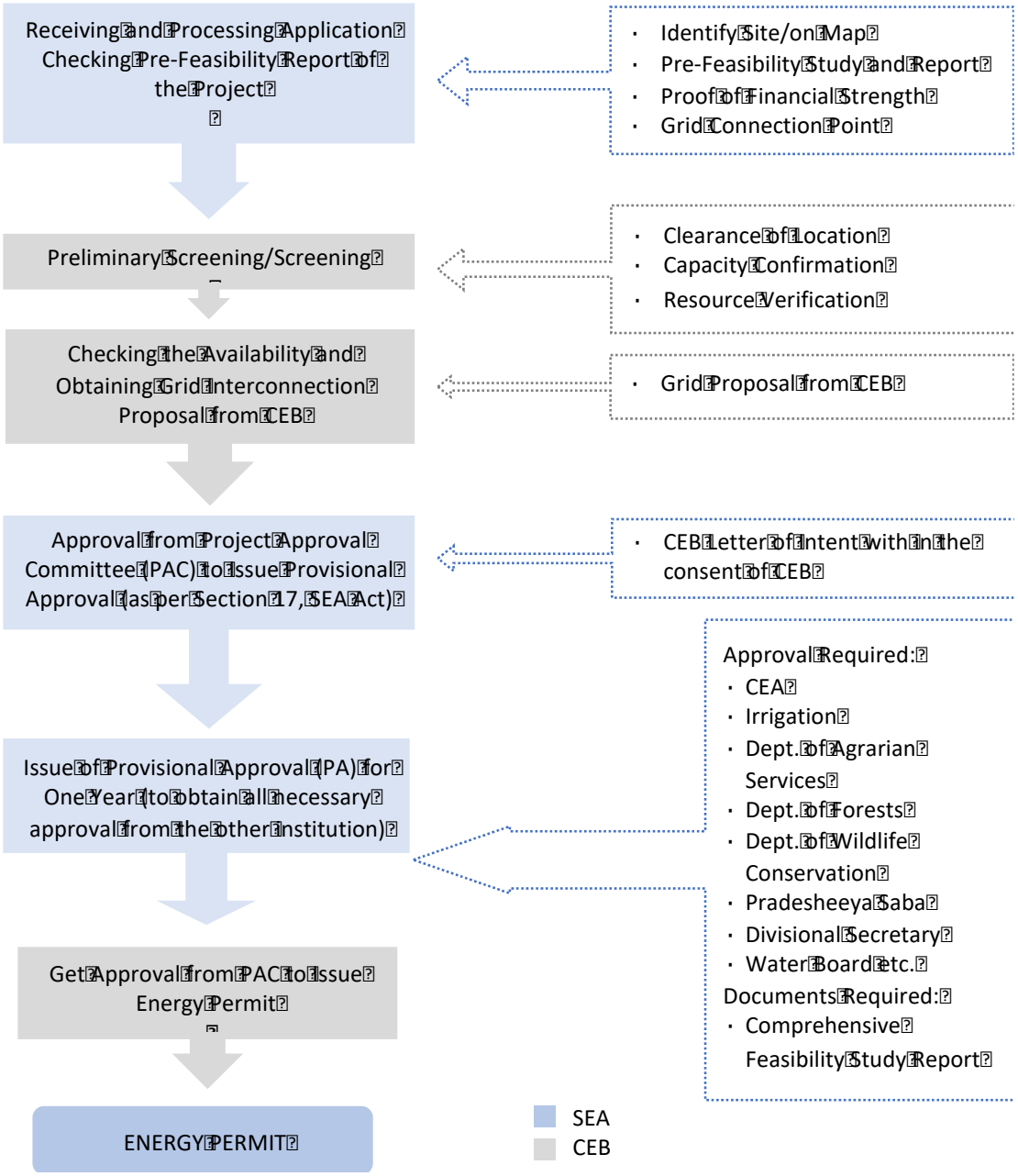
In issuing energy permits, SLSEA obtains the approval from CEB, drawing attention to the technical feasibility and the possibility for getting grid connection. Approval of NCRE projects is provided by SLSEA only if all requirements, including a completed EIA/IEE (as required), are satisfied. These requirements include:

i. **Feasibility studies**: A comprehensive study focused on the availability of renewable energy resources;
ii. **Access to lands**: A list of lands required for project construction and implementation and a survey of the proposed renewable energy resource sites;
iii. **Status of statutory approvals**: A status report on statutory approvals, including a Letter of Intent issued by CEB, approval from the Divisional Secretary of the respective area, approval for construction granted by the Urban Development Authority, and approvals from other relevant line agencies; and

iv. **Environmental clearance**: Documents as proof of progress achieved in realizing the environmental approval from the relevant designated approving authority.

SLSEA uses a marking scheme to capture these four aspects when issuing Provisional approval.

Figure 5 : Main Steps in the NCRE Project Approval Process



2.3 World Bank Safeguard Policies

The World Bank's environmental and social safeguard policies aim to protect the natural environment and people from the likely adverse impacts of Bank-supported projects/programs, to mitigate and manage the risks and to enhance social equity and environmental sustainability. The World Bank's safeguard policies provide guidance on the undertaking of proper due diligence during the identification, preparation, and implementation phases of the Bank-supported projects/programs. Environmental and Social Safeguards of the World Bank include:

- Environmental Assessment OP/BP 4.01
- Natural Habitats OP/BP 4.04
- Pest Management OP/BP 4.09
- Indigenous Peoples OP/BP4.10
- Physical Cultural Resources OP/BP4.11
- Involuntary Resettlements OP/BP4.12
- Forestry OP/BP 4.36
- Safety of Dams OP/BP 4.37
- Projects on International Waterways OP/BP 7.50
- Projects in Disputed Areas OP/BP 7.60

The NCRE sub-projects supported under the proposed Climate Finance for Renewables project have triggered OP 4.01, OP 4.04, and OP 4.12, as detailed in Table 7 at the project concept stage. The project is classified by the Bank as a **Category B** project, because the size and nature of the sub-projects are not expected to have significant negative environmental and social impacts.

Table 7 : World Bank Safeguard Policies and Procedures

Safeguard Policy	Objectives	Procedures/Actions
Environmental Assessment OP 4.01 The Project is classified by the Bank as a **Category B** project, because the size and nature of the sub-projects are not expected to have significant negative environmental impacts. **The Project triggered OP 4.01.** The EA should examine the sub-project's potential negative and	Ensure that proposed projects are environmentally sound and sustainable, screening of sub-projects proposed for improved decision making.	**1.Screening for identifying environmental risk issues**, determining sub-project boundaries and **applying the exclusion criteria.** **2. Determining safeguard instruments to be used**, such that they also fulfill the requirements under the existing regulations (NEA/CEA). An **EA instrument** (Environmental and Social Impact Assessment-ESIA, IEE, or Environmental Code of Practice (ECoP)) will be required. An Environmental and Social Management Plan (ESMP) is an output of the EA process and is prepared for any sub-project having issues and

positive environmental impacts and recommend appropriate environmental mitigation plans.		potential impacts that are consistent with Category B. The ESMP will form part of bidding documents and will be included as **contractual obligation** of the sub-project contractor. The **World Bank's review procedure** will review and clear the safeguard instruments prepared by the Coordinating Entity for impact identification and appropriateness of proposed mitigation measures.
Natural Habitats OP 4.04 The Project is not expected to impact critical natural habitats. However, **the policy is triggered as a precaution.** The ESMF will include screening procedures to ensure that potential sub-projects **do not involve significant conversion or degradation of natural habitats.**	WB supports the protection, maintenance, and rehabilitation of natural habitats and their functions. The Bank expects the clients to apply a precautionary approach to natural resource management to ensure environmentally sustainable development.	**1. Screening** for potential impacts on natural habitats. **2. Environmental assessment** covering impacts.
Forestry OP 4.36 The policy OP 4.36 **is not triggered** as the project is not expected to cause any adverse impacts to health and quality of forests or significant land use changes within forests in the project area.	Management, conservation, and sustainable development of forest ecosystems; reduce deforestation, enhance the environmental contribution of forested areas, promote afforestation, reduce poverty, and encourage economic development.	**1. Environmental assessment** to address the potential impacts of the project on forests and/or the rights and welfare of local communities. **2. Screening for possible forest impacts**, adequacy of land allocation for management, conservation, and sustainable development. **3. Assessments** carried out in accordance with OP 4.04 on Natural Habitats, OP 4.12 on Involuntary Resettlement. Assess the potential impacts on local communities; their legal rights of access to, and use of forest areas.
Safety of Dams OP 4.37 This policy is **not triggered** because it is expected that the project will support run of the river small hydro power projects of less than 10 MW capacity.	Safety assessments including environmental assessments, with a focus on mitigating the possible safety impacts.	**1.Screening for potential impacts** of dams/ sites and construction. 2. **Environmental and social assessment** addressing impacts and also technical assessments for quality. 3. Dam safety reports for **quality assurance**.
Physical Cultural Resources OP 4.11	Avoid or mitigate impacts on physical cultural resources from	**1. Screening -** Integral part of the Bank's EA process; screening of physical cultural resources likely to get

The policy is **not triggered** because sub-project sites close to the known cultural assets will be excluded through the screening process. Measures to safeguard chance finds are included in the format for EIA Report preparation provided in Annex I.	development projects; addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.	affected, identify measures for avoiding or mitigating the impacts. 2**. Cover the potential impacts through EA.** This follows the EA sequence of: screening, development of TORs, collecting baseline data; impact assessments and formulating of mitigating measures and a management plan.
Involuntary Resettlements OP 4.12 The policy **is triggered** as some of the potential projects, especially in the wind energy and mini-hydro sectors, may involve small-scale land acquisition.	Assist displaced persons in their effort to improve, or restore their incomes and standard of living after displacement. Covers direct economic and social impacts caused by the involuntary acquisition of land resulting in relocation or loss of shelter, assets and access to assets, income sources and livelihood.	**1. Project screening** for involuntary resettlement. During sub-project identification, potential involuntary resettlement is identified. Assess the nature and magnitude of likely displacement; screening of impacts on involuntary resettlements on the basis of the possible engineering designs. This process shall be overseen and guided by SLSEA, as needed. **2. Preparation of Resettlement Action Plans (RAPs):** If needed, RAPs will be prepared considering the magnitude of impacts. Full RAPs will be prepared if 200 persons or more are expected to be displaced by a sub-project or if impacts are high; if the affected people are not physically displaced and less than 10 percent of their production assets are lost, an Abbreviated RAP will be prepared. Formulation of these plans should be done in a participatory manner starting with consultations with communities. **3. RAP review:** The World Bank will conduct prior review and clear all full RAPs, which are required when more than 200 persons are displaced or sub-projects have impacts that are not “minor”. This will happen on top of the standard due diligence that the Bank conducts in relation to all land acquisition matters. **4. RAP Implementation:** Implementation will be carried out by the project implementing entity. All compensation at replacement cost will be paid prior to the commencement of civil works.

Main Source: The World Bank

2.4 Gaps between the National System and the World Bank's Safeguard Policies

In this section, we consider the requirements under the World Bank safeguards triggered in the case of this particular project, and the additional steps for fulfilling these requirements relative to existing safeguard requirements under the National Environmental Act of 1988, the Land Acquisition and Payment of Compensation Regulations of 2009, and other national policies and regulations for the NCRE sector.

For government regulations and legislations, the PAAs (CEA in the case of the Climate Finance for Renewables project) are responsible for ensuring that the applicable sustainability rules and procedures are followed. With the support from CEA and SEA, CEB, as the Coordinating Entity for the Carbon Partnership Facility in Sri Lanka, will have ultimate responsibility for ensuring that the World Bank's safeguard policies are followed by the proponents of the NCRE sub-projects that are selected for support by the larger project, although the bulk of the required mitigation and management actions will be taken by the proponents themselves.

The additional requirements under the World Bank's environmental and social safeguard policies are as follows:

i. **Information requirement and filing:** World Bank safeguard reports are required to include information on technical aspects such as site location, capacity and resource verification, the local environmental context associated with the project area/site, land ownership, and resources, as well as information on social issues, impacts or the adverse effects of the project/ sub projects on affected communities. SEA will support CEB in preparing and maintaining the database containing such technical information at the sub-project level.
ii. **Identification of sub-projects**: ESMF implementation requires the generation of an appropriate amount of detail on the identified sub-projects, which should be provided by the EIAs/ IEEs arranged by the sub-project proponents. Integration of environmental considerations and measures at the sub-project level facilitates the identification and introduction of specific mitigation actions into the implementation process.
iii. **Scoping and screening**: Detailed guidelines on the environmental and social scoping process for conducting IEE/EIA for NCRE sub-projects have been adopted by CEA.
iv. **Mitigation measures**: For addressing the impacts of the implementation of projects and related work (powerhouse construction, transmission lines, wind farms, solar systems), mitigation measures are to be included as part of environmental management.
v. **Assistance with livelihood restoration:** In situations where, as a result of the taking of land needed for sub-projects, assets are lost and/or sources of livelihood are negatively affected, a Resettlement Action Plan must be formulated focusing on various categories of affected people, such as land owners, farmers, informal workers, mobile vendors, and others in order

to provide suitable asset replacement and/or livelihood restoration alternatives for each category. The provision of replacement land/assets must take place before the affected people's land and related assets are taken. The Land Acquisition Act prescribes "market value" for acquired assets, which contrasts with the Bank's policy on "replacement cost"; given this discrepancy, the overall project will seek to prioritize those NCRE sub-projects for which 1) the PIE is already in possession of any needed lands; or 2) the PIE can obtain the needed lands via a willing buyer-willing seller market transaction. The lands in question need to be free of all encumbrances, and whatever arrangement is being proposed would be subject to validation, including by the World Bank.

vi. **Assistance to squatters/encroachers:** The lands needed for sub-project may be under occupation and/or use by people who have no legal right or claim to those lands. In these situations, which are normally documented in a plan, the affected people should be provided with resettlement "assistance" in lieu of compensation.

vii. **Timing of resettlement actions:** Where it is required, compensation at replacement cost must be fully paid prior to taking possession of any land or assets or both, not in installments, enabling those losing land and assets to reestablish their homesteads/businesses before civil works start for a sub-project.

viii. **Integration**: Under CEA guidelines, integration of environmental and social issues and considerations in projects is not fully covered in the early stages. Screening for impacts at an early stage helps avoid possible social unrest and feeds into the design of plans to address the concerns of the people to minimize, reduce, mitigate and compensate for losses. "Social screening" may be adopted as a practical tool for identifying the entry point for integration. See Annex IV for information on social screening.

ix. **Consultation with other interested parties and the public:** Provisions for public participation are set out in the National Environmental Act, but participation in decision making it is not fully integrated into the process, particularly in the identification, management, and mitigation of impacts. Public engagement through two-way information sharing and dialogue is crucial to enable affected groups, together with concerned segments of the society including women, children, and elders, to present their views on project design. In addition, the World Bank's safeguard policies require adequate representation from various sections of society, including women's organizations, in baseline discussions. Consultations should be conducted by the project implementing entity and should start at the time of preparing safeguards documents, e.g. ESMPs (see section 3.3). Outcomes of consultations including type of information shared with participants together with list of participants and photographs should be appended to the ESMP. Thereafter, the PIE should ensure that consultations continue during project implementation and post-project construction periods and this should be built into the project monitoring framework to ensure that consultations continue.

x. **Monitoring and reporting**: Monitoring is the last step of the EIA process approved by the CEA. Monitoring by the PIE ensures compliance with conditions and effectiveness of the mitigation measures. At the same time, CEB will be required to capture and process this information in its sub-projects database, for quality oversight purposes and to be able to demonstrate compliance with the triggered World Bank safeguard policies. Capacity building is required to enhance project implementation and meet the World Bank's safeguard monitoring and reporting requirements.

NCRE project applications are to be submitted to the SLSEA along with pre-feasibility reports for preliminary screening. In order to ensure compliance with safeguard requirements, the proposed time frame for assessment of environmental and social consequences should also be provided, identifying expected issues that may emerge.

3 The Environmental and Social screening process

The purpose of the screening process is to determine whether NCRE sub-projects supported by CPF under the Climate Finance for Renewables project are likely to have potential negative environmental and social impacts; to determine appropriate mitigations measures for activities with potentially adverse impacts; to incorporate mitigation measures into sub-project design; to review and approve sub-project proposals; and to monitor environmental parameters during a sub-project's implementation. The extent of environmental and social work that might be required for sub-projects prior to construction, if any, will depend on the outcomes of the screening process described below. Also, in this way, the results of the screening process can complement the national IEE/EIA process while also meeting the World Bank's safeguard policies.

- **Step 1: Screening of sub-project activities and sites:** The purpose of this step is to identify the scale of the likely impacts and to determine appropriate mitigation and management measures (potentially to be incorporated into an "Environmental and Social Management Plan" or ESMP, as discussed in the next section). Screening is an effective tool for understanding the existing environmental and social conditions of a sub-project site, and how to address negative impacts if there are any. Up-front screening will be undertaken by CEB, both for national laws and regulations and for World Bank safeguard requirements. This should align with the review of the pre-feasibility report step that SLSEA takes. The results of this screening will be endorsed by the Project Approving Committee, or "PAC" (see sub-section 3.6).
- **Step 2: Application of the exclusion criteria:** At the center of the preliminary screening undertaken by CEB is the application of the "Negative List of Activities" for NCRE sub-projects set out in section 3.2 below. This is required to ensure that the CPF project does

not incorporate sub-projects having risks and impacts commensurate to a Category A classification under World Bank OP 4.01—that is, impacts that are "sensitive, diverse, or unprecedented".

- **Step 3: Carrying out environmental and social work:** This step involves carrying out the necessary reviews and assessments of the project site and surrounding areas and the preparation of supporting documents, including carrying out EIA/ IEE, SIA, etc. The work must be carried out by the project implementing entity in line with national and World Bank guidelines and requirements.
- **Step 4: Review and approval of the screening outputs:** The review process will result in a clearance of the safeguard instruments prepared by the project proponent for impact identification and appropriateness of proposed mitigation measures. CEA as the project approving agency will grant approval for project implementation, and CEB will review and grant approval for participation in the CPF-supported project.
- **Step 5: Public consultations for sub-projects and documentation disclosure:** The project implementing entity must undertake public consultations for proposed sub-projects and meet documentation disclosure requirements under national and World Bank rules. The results of the consultation process need to be rigorously recorded and reported to CEB.
- **Step 6: Environmental and social monitoring and reporting:** The project implementing entity will carry out environmental and social monitoring and reporting in line with World Bank requirements and submit reports at an agreed frequency to CEB in order to avail of benefits under the CPF.
- **Step 7: Environmental and social indicators:** CEB should use several environmental and social indicators to monitor the performance of the project in order to show how its overall objectives are being met.

3.1 Environmental and social information and analysis

As part of the pre-feasibility and feasibility field investigations, CEB and the project proponent will be required to examine potential environmental and social risks at the proposed project site and nearby areas. Annex II provides a checklist of parameters that may be used for making observations and measurements at the sites, analyzing risks, and identifying potential measures for avoidance, minimization, or mitigation.

3.2 The screening process and exclusion criteria

The current sub-project approval framework indicates that preliminary screening is carried out by CEB with inputs from SLSEA, as appropriate, based on information provided in the pre-feasibility study and report. The initial screening process should ensure that the project does not include any activity that falls within the negative list of activities provided below, thereby

ensuring that sub-projects conform to the World Bank OP 4.01 Category B or C classifications by avoiding any activities that may have significant adverse impacts that are sensitive, diverse, or unprecedented. The screening process can also be instructive for anticipating the type and level of assessment necessary for the proposed sub-project.

Negative List of Activities

i. Activities that involve large-scale conversion or degradation of natural habitats, whether directly or indirectly;
ii. Activities in protected areas, areas proposed for protection, or areas of known high conservation value or nearby such an area;
iii. Activities that require extraction, consumption, or conversion of substantial forest area;
iv. Activities that involve cutting of trees or land clearance within 100m of river banks or the edge of other water sources kept as riparian reserve for conservation;
v. Activities that result in direct discharge of pollutants that degrades air, water, or soil; and
vi. Activities that may adversely impact nationally and/or internationally renowned/listed physical cultural resources (within 50m of its premises).

3.3 Environmental and Social Management Plan (ESMP)

The environmental and social management plan (ESMP) provides a detailed description of the project/ sub-project activity; the physical, biological and socio-cultural environment to develop the baseline; legislative, regulatory and policy considerations; determination of potential adverse environmental and social impacts; outline of mitigation measures to be adopted and parties to be responsible for implementing these mitigation measures; public consultations and key findings and recommendations; timeline of the various proposed measures; a monitoring and reporting protocol; and details of the associated costs. Any sub-project having potential impacts consistent with OP 4.01 B category would require an ESMP. The sub-project specific ESMP may be prepared by the project proponent or by a qualified consultant, depending on the capacity of the project proponent. The terms of reference (TOR) for developing the ESMP should be presented to CEA as the PAA before obtaining necessary clearances.

Table 8 presents sample risks and impacts possibly emerging from the implementation of NCRE sub-projects.

Table 8: Sample Risk/Impact Variables from NCRE Development

Variable	Indicator(s)	Verification methods	Location	Frequency
Air pollution	Dust levels, particulate matter	Site inspections, discussion with residents and workers	At construction sites	Every 3 months during construction
Water pollution	Waste disposal at the project site, water quality	Site inspections, laboratory testing of water samples	Rivers and water sources near project site	Every 3 months during construction & operation
Compensatory plantations	Number of trees planted	Records, field observation	Planted area	Every 6 months during implementation
Soil erosion	Slope failures, fresh gullies, sedimentation of waterways	Site measurements, discussion with locals	Near steep slopes near project site	Continuously during construction
Forest clearance	Number of trees felled, presence of ground vegetation	Records, photos, counting of trees	Construction site and nearby areas	During construction & operation
Natural habitat degradation/change	Number of species affected/removed	Records, field observation	Construction site	During construction & operation
Change in socio-economic structure and dynamics	Number of new businesses & services, social conflict	Records, interviews with local people	Project site and nearby areas	During operation

The ESMP must include:

- **Identification of impacts:** The ESMP will detail all safeguards risks in the form of potential environmental and social impacts arising from sub-project activities, and the magnitude of these impacts.
- **Development of mitigation measures:** The ESMP should include a comprehensive action plan for safeguards risk mitigation by developing suitable measures to avoid, minimize, or mitigate the impacts of identified environmental and social impacts, including a description of the type of measure, the stage in which it will become operable, and conditions for implementation.
- **Monitoring and evaluation:** In order to ensure the efficacy of the proposed mitigation measures, the ESMP should identify suitable monitoring indicators, methodologies, locations, and frequency.

- **Reporting procedures:** The ESMP specifies the reporting mechanisms that will be used for the assessment, implementation and monitoring of the ESMP. It should also specify the specific parameters to be reported and format for presentation and reporting.
- **Institutional arrangements:** The ESMP should clearly delineate the roles and responsibilities of relevant agencies and authorities in the implementation of the proposed ESMP.
- **Timelines:** The ESMP would include detailed implementation schedules describing the timing, frequency, and duration of mitigation measures.
- **Cost:** The cost estimates and sources of funding for implementing the ESMP should be presented in the ESMP.
- **Contracts and documentation:** The necessary legal documentation and contracts to ensure that the ESMP is translated into action will form part of the ESMP.

3.3.1 Safeguard instruments

Sub-project implementing entities can use the following safeguard instruments as part of their safeguards assessment:

i **Feasibility studies/baseline assessments:** The baseline biophysical and socio-economic conditions of a project area provide the basis for deciding the feasibility of the sub-projects that are to be implemented, and the magnitude of issues that need to be addressed. The process includes an inventory of existing infrastructure, collection of secondary information that reflects the existing situation, and field interviews. Scoping and assessment of baseline environmental conditions will enable the identification of sub-projects and the implementation requirements that will help in the approval or rejection of the project and its feasibility.

ii **Environmental and Social Impact Assessments (of the proposed sub-projects):** ESIA carried out at sub-project level in line with the World Bank safeguard policies, while satisfying CEA procedure and requirements. The impacts of the proposed project, both direct and indirect, and temporary and permanent on the people and the environment are to be clearly identified and assessed. ESIA identifies preventive and mitigation measures to minimize the adverse environmental and social impacts of project activities. It will also provide a monitoring system and performance indicators to be applied for carrying out impact assessment during construction, implementation and maintenance.

iii **Resettlement Action Plan (RAP):** The RAP document is prepared upon identification of sub-project locations based on data collected through a census survey of affected people, property, income, livelihoods, resources, and the biophysical linkages; mapping of identified area, and participatory assessments and consultations with relevant stakeholders and

affected communities. It provides a detailed plan of action to mitigate social impacts where the sub-project involves physical displacement of persons, loss of shelter, loss of livelihoods, or loss or restriction in access to economic resources due to land acquisition for project construction. Depending on the previous experience and existing capacity of the project proponent, CEB could guide the preparation of the RAP document, in order to ensure that it contains legally binding requirements for resettling and compensating affected populations, as relevant, before the start of sub-project construction. Project affected populations will be compensated for losses identified (or otherwise provided with assistance) as per the applicable laws and regulations of Sri Lanka and OP 4.12 of the World Bank. See Annex III for some typical RAP formats.

While involuntary land acquisition and resettlement will be avoided to the extent feasible, the course of action to be taken in case they are needed depends on the nature and magnitude of impacts expected under the sub-projects, as summarized in Table 9 below.

Table 9 : Social Safeguard Categories and Required Documents/Actions

Category	Required Documents/Actions
1. As a result of land acquisition for the sub-project, 200 or more people are displaced from their homes or lose 10% or more of their productive assets	Full Resettlement Action Plan (RAP)
2. As a result of land acquisition for the sub-project, fewer than 200 people are displaced from their homes or lose less than 10% of their productive assets	Abbreviated Resettlement Action Plan (A-RAP) commensurate to impacts
3. Sub-project does not require land acquisition, but may still involve population displacement or loss of land, structures, crops and trees, business or income	Mitigation measures commensurate to impacts; these are normally specified in some kind of plan (ESMP is possible)
4. Sub-project does not require land acquisition; no impacts involving loss of land, structures, crops and trees, business or income	Mitigation measures as part of construction management, following the IFC's EHS Guidelines

3.4 Stakeholder consultations

Sub-project implementing entities have the responsibility to engage stakeholders effectively and to create a bridge of communication between the public and the Government. A detailed stakeholder consultation plan, including the responsibility for convening meetings and consultations, the categories of stakeholders and communities to be consulted, measures to ensure adequate representation, number and frequency of consultations, and process for compiling and incorporating feedback received from such consultations, must be included in the ESMP as well as in the relevant safeguards documents.

The public participation and consultation plan should describe the process to be followed for engaging multiple sections of society and relevant interest groups. It should provide information on the groups and/or the stakeholders identified, develop engagement and consultation processes, define assessment procedures, and identify issues and mitigation measures. Different models of public participation may be used to ensure that discussions include adequate representation of all affected groups and relevant stakeholders.

Two systems, one that relates to the formally recognized administrative framework and the other to community based organizations, are important in ensuring the implementation of environmental and social safeguards. The local social systems prevailing in the country are linked with the formal administrative set up, where households are placed under formally recognized administrative divisions, namely the Districts, Divisions, and Grama Niladari Divisions. As a result, data on population and service linkages is available by "division".

Informal systems provide a socially accepted base to approach people in affected areas where communities are being recognized by their place of origin, ancestral relations, and common interest or under social organizations that are social service oriented or livelihoods based.

The divisions that are formally recognized as administrative areas may be suitable for approaching affected communities through the state mechanism, but the informal system may be more helpful in approaching people who live in clusters or in traditional villages and promoting social acceptance of the sub-projects among them.

3.5 Grievance redress mechanism

The LARC and Super LARC provided for under the Land Acquisition Regulations of 2013 have at times served as a form of grievance redress mechanism (GRM) for people affected by project-related land acquisition who have concerns or complaints about compensation issues. And yet the LARC system has distinct limitations. For example, the system can deal only with grievances about underpayment of compensation (statutory), exclusion of entitlements, and so forth. In such situations, use of the LARC can lead to provision of additional compensation in the form of ex-gratia payments. However, the LARC has no powers to deal with grievances that are unrelated to land acquisition, for example in the case of evacuation of squatters or mobile vendors from public lands needed for sub-project construction, which could have a substantial economic impact without involving any acquisitions. The LARC system is further limited in that it can only be used in projects which are designated as "specified projects" via a special approval by the Cabinet of Ministers, something that has not been done to date for any CEB-sponsored project. For all these reasons, grievances that emerge from non-land acquisition-based situations in this project will need to be addressed through a different mechanism.

The Ceylon Electricity (Amendment) Act No. 31 of 2013 empowers the Divisional Secretaries (DSs) with delegation of the powers of the Public Utility Commission of Sri Lanka (PUCSL) to address complaints and grievances of affected persons and the utility companies. Grievances and complaints particularly related to severances and disturbances to private properties caused by energy projects and compensation for lost/affected assets can be brought to the notice of the relevant DS. The DSs, which are located in the divisional secretariat divisions where the renewable energy sub-projects are to be implemented, should be easily accessible to concerned community members. If any aggrieved parties have difficulty accessing their DS, they can forward their complaints via the Grama Niladharis of their respective villages. The relevant DS will hold an inquiry into the complaints/grievances reported to him or her with the participation of the Environment Unit of CEB and the project engineers of the contractors to find an amicable settlement to the issue. This process has to be completed within a period not exceeding two weeks since the submission of the complaint/grievance by the affected person or persons.

3.6 Environmental clearances

The existing approval system for NCRE projects requires that project proponents obtain clearance at several levels. The first step is resource clearance from the SLSEA. SLSEA shares project information with CEB to confirm the viability of the grid interconnection proposal. Upon CEB's concurrence, a provisional approval is issued for the project through the Project Approving Committee (PAC), which includes the General Manager of CEB. The PAC provides Provisional Approval to SLSEA to issue the approval to the proponent in accordance with Section 17 of the SLSEA Act. The project proponent must also obtain a Letter of Intent (LOI) from CEB. This requires the consent of the CEB Chairman. The project proponent would then be required to undertake an EIA/IEE to receive environmental clearance from the CEA. The PAC also gets involved in endorsing any site-specific safeguards work required for a sub-project—such as the decision to prepare an ESMP—and in deciding to approve a sub-project based on the results of such work. This should align with the solicitation of the Energy Permit step that CEB takes.

3.7 Land acquisition and involuntary resettlement

Based on the analysis provided in section 2.4, it is clear that there are substantial differences between the applicable national policy and regulatory framework and the World Bank's Operational Policy 4.12. In view of this, and given the lengthy and cumbersome procedures that tend to be involved in land acquisition, the following principles will be observed in order to avoid the possibility of involuntary land taking and its associated impacts:

- In the selection of NCRE sub-projects for support, first priority will be given to those proposals where the PIE is already in possession of any needed lands. The lands in question need to be free of all encumbrances, and whatever arrangement is being proposed would be subject to validation, including by the World Bank.
- Second priority will be given to the proposals where the PIE can obtain the needed lands via a willing buyer-willing seller market transaction. The lands in question need to be free of all encumbrances. In pursuing this option, the PIE needs to pursue consistency and fairness in its negotiations with land owners, while also ensuring transparency in all related transactions by employing third party validation (including by the World Bank), keeping complete and accurate records, and so on. If, however, a negotiated purchase should fail, PIEs will need to follow the land acquisition procedure prescribed in the LAA and any relevant subsequent legislation (e.g., the Land Acquisition and Payment of Compensation Regulations of 2009), while also ensuring that all eligible PAPs are compensated at replacement cost and in a timely manner, as per the Bank's policy.

At other times, involuntary land acquisition and resettlement may be unavoidable. In these cases, the development and implementation of NCRE sub-projects will be guided by the following safeguard principles:

- Adverse impacts arising from involuntary resettlement will be minimized to the extent possible by exploring design alternatives.
- Project related information including entitlements to project-affected persons (PAPs) will be disclosed in a timely manner and will be made available in places easily accessible to them and in local languages.
- Consultations will be carried out with PAPs and their communities to elicit their views and suggestions on project design and implementation procedures and to ensure their participation in project planning, implementation and monitoring.
- Permanent and temporary loss of crops, standing trees and commercial trees due to project constructions will be compensated at replacement value determined by the Divisional Secretaries of the respective areas.
- Civil construction works will be scheduled for off-farming seasons to minimize adverse impacts on crops and cultivations.
- Vulnerable persons/households affected by land acquisition and physical and/or economic displacement will be provided with particular attention in the course of the resettlement process.
- Absence of legal titles on the part of PAPs will not be considered a bar to the provision of resettlement assistance.

- All entitlements and compensation will be paid to the PAPs prior to the commissioning of the civil works construction.
- Livelihoods and incomes of all displaced persons will be at a minimum restored, and ideally improved.
- Grievance redress mechanisms will be established at different levels, starting with the sub-project level, to receive, process, and resolve or refer any grievances from PAPs within a reasonable time frame.
- Contractual agreements with construction companies will ensure that contractors adopt adequate safety measures and avoid disturbances causing from noise, dust etc.
- As noted in Table 9, in terms of social analytical and planning needs, sub-projects that cause significant resettlement impacts (Category 1.) require a full-scale social impact assessment including a census of all PAPs and a full Resettlement Action Plan (RAP). Category 2. projects tend to require a more limited social assessment and an Abbreviated Resettlement Action Plan (A-RAP). No social assessments or resettlement plans are required for Category 4. sub-projects. Finally, there may be sub-projects that involuntarily displace people or result in a loss of assets, even though they did not involve land acquisition (covered in Category 3.) An example of this would be a wind farm that cannot allow for habitation within a certain distance of the towers due to safety or noise concerns. In these cases, the PIE needs to institute mitigation measures commensurate to the expected impacts. Said measures need to specified in a plan, such as an ESMP.
- Regardless of the type of resettlement plan needed, it will be developed incorporating PAP entitlements, compensation procedures, measures for livelihood and income restoration and improvement, grievance redress mechanisms, etc. The plan will be disclosed in an accessible place and in a form and language(s) understandable to PAPs and other stakeholders.
- Compliance with the safeguards policies and principles by the PIE and the outcomes and impacts of resettlement will be monitored both internally and externally, as well as evaluated upon completion of the resettlement.

Gender Assessment

The gender assessment is a tool that can aid in the evaluation of sub-projects, to promote understanding of whether they might be creating differential impacts on men and women from affected communities—for example, where land acquisition and resettlement disproportionately affects livelihood options for women. A gender assessment would essentially require gender-disaggregated data to be collected for analysis, which would itself feed into the creation of gender-responsive strategies and measures (sometimes in the form of a “Gender Action Plan”)

to avoid or minimize adverse gender impacts from one or another sub-project. It would also require establishing appropriate monitoring measures.

The project implementing entity will be responsible for conducting gender assessment. The exact approach to conducting the assessment will vary, depending on the nature and scope of social impacts associated with the sub-project under consideration. The EIA/IEE step in sub-project preparation would provide a suitable entry point for carrying out gender assessment, and for determining the gender-responsive actions and measures that need to be instituted during sub-project implementation. These would be outlined in the ESMP, if there is one.

3.8 Monitoring and reporting indicators and responsibilities

Arrangements for regular supervision and monitoring of the implementation of safeguard measures must be outlined in the ESMP. The ESMP will develop monitoring indicators, specify the frequency of monitoring, identify the agency that will conduct monitoring, and describe the reports to be developed and submitted to CEB. Monitoring arrangements may include environmental and social audits by an independent entity for complex projects. Table 10 presents a set of monitoring indicators on the social side that are relevant to this ESMF and are necessary for inclusion.

Monitoring indicators help measure the effectiveness of the mitigation measures. This requires participatory instruments as well enabling people to record and report changes that they experience as a result of the sub-project, including in relation to the applicable safeguards. It is also important to draw information and lessons through primary research methods such as site visits and discussions with affected people. Monitoring methods should have the potential to demonstrate the benefits of due compliance with safeguards.

The project proponent is responsible for preparing and submitting the monitoring plans that are part and parcel of the Environmental Management Plans, Resettlement Action Plans, and other instruments that may be required for the sub-project in question. CEA as PAA will play a role in the monitoring process through a “Monitoring Committee” that consists of relevant stakeholders, such as members from various relevant line ministries and related local governmental bodies.

Public monitoring can also be carried out by engaging Community Based Organizations (CBOs), village leaders of the affected/ adjacent villages, heads of public service institutions such as schools, hospitals, and religious places. These approaches and tools serve to strengthen the social responsiveness of sub-projects.

Table 10 : Criteria for reviewing Social Safeguards and means of verification

Criteria	Means of verification
Safeguard categories	List of affected people under above categories List of households by categories Details of losses by households/people
Consultation meetings	Place and schedules Participants' lists Records of meetings
Participation of affected people/ local leaders/ representatives	List of participants and minutes Support of stakeholders Decisions on criteria for deciding entitlements, Survey report on willingness and acceptability
Compensation and assistance (according to the provisions for Resettlement Action Plan)	Compensation details/payment details Livelihoods restoration measures and costs Resettlement plan and schedule
Level of satisfaction (of the resettlement site of the affected people)	Site development plan Relationship with existing infrastructure Reports on people's perception Map of services and infrastructure Resettlement Action Plan (RAP) Site inspections Social conflict
RAP implementation within the subproject implementation	Subproject implementation program/ work schedule Resources allocated/human and other
Due diligence (on donations of affected lands for subprojects)	List of donations, Meetings held and records Agreements for donations Consents for land donation by the right holders Ground plans (approved) showing land area donated for subprojects
Management of cultural property	Information of cultural property within the area/in adjoining areas Management plan responding to social safeguards OP 4.11

Monitoring is to be carried out during the construction phase, operational phase, and during maintenance. The proposed monitoring plan for the project can be designed by stage:

i. **Establishment of baseline conditions** of the project site/area prior to the construction phase, covering all environmental and social aspects, for which a significant impact is anticipated;

ii. **Impact monitoring:** This covers a wide range of impacts caused by the project on hydrological, geological, ecological, climatic, soil, land use and land cover, social, health and sanitation, living conditions, and gender situations; and
iii. **Compliance monitoring:** All the anticipated impacts can be checked for compliance with the recommendations of the monitoring plan, relevant legislations, and other safeguard instruments used in the ESMP.

3.9 Institutional arrangements

The basic institutional arrangements and the roles and responsibilities for ensuring environmental and social safeguards are summarized in this section.

Project Proponent: The primary responsibility for carrying out surveys, collecting information, analysis, preparation of environmental and social safeguards documents, due diligence, submission, and implementation lies with the project proponent. Therefore, the project proponent must ensure accuracy and quality of the information provided and the ESIA documents. In addition, the project proponents are also responsible for complying with the policies, rules, and regulations set out by the Government of Sri Lanka. The sub-projects will receive approval for the EIA/IEE from the CEA upon submission of all necessary documents by the project proponent, along with clearance certificates from all relevant line agencies.

Ceylon Electricity Board (CEB): Project proponents would be required to submit all necessary documentation to CEB for availing of benefits under CPF. As part of the NCRE Project Approving Committee, CEB has the ability to directly link project clearance for sub-projects under CPF with the fulfillment of World Bank safeguard requirements. But it also has responsibility for monitoring said fulfillment during various stages of a sub-project's life (design, construction, and operation/maintenance), and for submitting timely reports to the CPF, World Bank, and other relevant bodies on sub-project performance.

Prior to issuing the Energy Permit to a sub-project proponent, CEB is required to ensure that all safeguards-relevant documentary evidence and plans are approved by the PAC. These documents are examined further as part of the process for obtaining legal clearance from the Chief Legal Officer of CEB, prior to signing "Standardized Power Purchase Agreements" (SPAs).

CEA and SLSEA: The Central Environmental Authority (CEA) and the Sri Lanka Sustainable Energy Authority (SLSEA) have a pre-existing obligation to issue pertinent clearances and approvals upon fulfillment of environmental and social requirements under national policies and regulations. But for the purposes of the CPF-supported project, they are also responsible for supporting CEB in relation to sub-project compliance with the applicable national legislation and World Bank

safeguard policies. CEA, SLSEA, and CEB will among them determine how the provisions of this ESMF can be fully integrated into domestic approval and supervision processes for NCRE sub-projects; for example, they may decide that a series of inter-institutional MOUs are the best means of achieving said integration.

4 Capacity Building

Consultations and interactions with the various agencies involved in implementing the Climate Finance for Renewables project—CEB, SLSEA, and CEA—will help to complete the initial assessment made of the capacity needs for applying the ESMF in line with the World Bank safeguard policies for sub-projects under CPF. CEA maintains records of companies and consultants with experience in the NCRE sector, which can be helpful at various stages of project implementation, whenever institutional resources do not have the necessary time to devote towards these efforts.

Capacity and sensitivity of field staff in the implementing agencies will also be of great importance in effectively integrating environmental and social considerations into project activities. In particular, relevant divisions in CEB and CEA may need to staff up in order for the objectives of this ESMF to be met.

Further training and staffing needs may be identified upon commencement of project implementation, especially with respect to NCRE sub-project proponents. These will be supported through the project, either by the World Bank or by identified safeguard experts/ environmental and social management consultants, as appropriate.

Table 11 : Proposed capacity building and training activities

Stage of the project	Capacity building
Identification	Training workshops on environmental and social safeguards for CEB, SLSEA, CEA and other relevant stakeholders
Proposal preparation for approval	Technical assistance for project proponents in preparation of suitable safeguards documents
Approval	Workshop for CEB to review applications and provide guidance on approval process for first 1-2 projects
Approvals/ clearance from relevant agencies for energy permit	Facilitate dialogue between project proponent and CEB, CEA, SLSEA
Monitoring and coordination	Technical assistance to CEA, PAAs, and CEB during implementation of first 1-2 projects to build capacity, with technical trainings for project proponents as necessary

Annex I: Guidance on Generic Structure and Content of EIA Reports

The following provides an outline of the typical content that should be presented in an Environmental Impact Assessment (EIA) Report, prepared as per the **site-specific** Terms of Reference. It outlines some of the key requisite information that will supplement environmental and social analysis in order to identify and present potential impacts and outline measures and processes via which they can be mitigated for environmentally and socially sound implementation of the project. This outline can supplement generic TORs in order to present further details and guidance on the components of an EIA Report for projects in the Renewable Energy Sector.

Table of Contents

A general Table of Contents for the EIA Report shall be provided. The Table of Contents shall be organized in such a manner as to facilitate the use of the EIA by reviewers and project implementers. EIA Reports for larger projects should have a more detailed Table of Contents than those for smaller projects. At a minimum, the Table of Contents shall include the following:

- Acronyms and Abbreviations
- Executive Summary
- General Information or Objectives and Justification
- Project Proponents
- Project Team
- Legal and Regulatory Framework
- Project and Alternatives Description
- Environmental Setting or Physical Environment
    - Geologic Resources; Soil Resources; Water Resources; Air and Climate; Noise and Vibration; Aesthetic Resources and Biological Environment; Vegetation/Flora; Aquatic and Terrestrial Wildlife/Fauna; Ecosystems: Terrestrial, Wetlands, Aquatic, Marine; Endangered or Threatened Species and Habitat; Protected Areas and Social-Economic-Cultural Environment; Socio-Economic Conditions; Infrastructure; Cultural, Archeological, Ceremonial and Historic Resources; Land Use
- Assessment of Impacts to resources described in the Environmental Setting
- Mitigation and Monitoring Measures
- Environmental Management Plan
    - Overview of Environmental Management Plan Organization and Policy
    - Project-wide Mitigation Plan
    - Project- wide Monitoring Plan
- Management of Other On- or Off-Site Pollution Controls and Infrastructure
    - Contingency Plans
    - Performance-related Contingency Plan; Natural Disaster Risk Response Plan; Other Risk Response Plans
- Signed Commitment Statement

- Annexes
    - Public Consultation; Public Consultation Plan; Summary of Public Outreach Activities; Summary of Responses to Comments; Copies of Written Comments and Technical Supporting Materials; Maps and Plans, in the sequence mentioned in the EIA document; Charts and Figures; Details about predictive modeling used, calculations and assumptions; Special Studies o References

1. Acronyms and Abbreviations

All acronyms and abbreviations used in the EIA must be clearly and succinctly defined and described in this section. This will relieve the reader of the need to search for the first occurrence of a word and the citing of the acronym or abbreviation in the text.

2. Executive Summary

A general summary of the EIA shall be provided in this section. The summary shall be written using a vocabulary that can be easily understood by the public. It shall include at least the following information about the project from the EIA:

- Objectives and Justification
- Location
- Project Proponents
- Project Description
- Other Project Alternatives
- Environmental Setting
- Evaluation of Impacts
- Mitigation and Monitoring Measures
- Environmental Management Plan
- Issues raised by stakeholders and any outstanding issues

3. General Information

3.1 Objectives of and Justification for the Proposed Project

3.1.1 Objectives: A statement of the general and specific objectives (purpose) of the proposed project, including whether it is a new project, an expansion of an existing project (e.g., increase in land area or increase in annual production) or modernization of an existing operation.

3.1.2 Justification for the Project: Provide a justification for the proposed project (need) highlighting the benefits to surrounding communities and economic development of the region and country.

3.2 Project Proponents

3.2.1 Names, addresses, telephone numbers, and applicable legal documentation of proponents (including developers, major equipment suppliers if part of project team, shareholders and providers of financing, and representatives).

3.2.2 Names and contact information for responsible parties within the organization.

3.2.3 Financial viability of the company (including a certified banking statement indicating that the company is financially stable and reputable).

3.2.4 Bonding requirements and proof of ability to meet bonding requirements sufficient to cover the potential costs of environmental management during all phases, as well as the costs, by a third party, of decommissioning and long-term post-closure liabilities associated with the project.

3.3 Project Team

This section shall provide information on the multidisciplinary team that prepares the EIA. The types of professionals included in the team shall be appropriate to the type of project and the type of environment in which the project is located and may include (but not be limited to) engineers, architects, biologists, geologists, hydrologists, air quality experts, archeologists, anthropologists, sociologists and economists. The information provided for each member of the EIA project team includes the following:

3.3.1 Names, addresses and registry numbers of contractors.

3.3.2 Names, contact information, qualifications and registry numbers of key personnel involved in the study; as well as an affidavit indicating their area of participation.

3.3.3 List of professionals/experts participating in the EIA, their areas of expertise, degrees, experience, professional registrations and stamps, seals and signatures.

3.4 Legal and Regulatory Framework

This section of the EIA shall define the legal framework under which the EIA is being completed listing and summarizing requirements or alternatives used as benchmarks, and evidence of non-applicability or compliance, including:

3.4.1 Information that demonstrates rights and access:

3.4.1.1 Ownership with written authorization

3.4.1.2 Governmental authorization (if required)

3.4.1.3 Period of lease/permit

3.4.1.4 Maps showing the lease/permit area

3.4.2 Applicable environmental standards, norms and requirements set forth at the international, national, regional and/or local levels

3.4.2.1 In the absence of such standards, identify a set of benchmarks used in the analysis

3.4.3 Required regulatory approvals and/or permits for all stages and their status

3.4.4 Applicable land use requirements (demonstrate conformity and compliance with applicable plans)

3.4.5 Applicable natural resource management or protected area management plans and responsible agency(-ies) (demonstrate conformity and compliance with all applicable plans)

4 Project and Alternatives Description

The project proponent shall submit a full description and location of the proposed project and reasonable alternatives including ancillary facilities and operations such as the camp/housing for construction and operation phases, borrow and disposal areas, sanitary services, waste disposal and transportation infrastructure, etc. as addressed through 4.1 to 4.3 below. It shall include at a minimum:

4.1 Location

The general location of the project and associated activities in terms of:

4.1.1 Political-administrative location (region, district, town or other relevant political administrative units) with accompanying location map

4.1.2 Means of site access

4.1.3 Latitude and longitude of project area
4.1.4 Maps of project area at a scale of no less than 1:50,000 or as required by the regulatory agency
4.1.4.1 Project plat plan and location on a fold-out 11" X 17" page.
4.1.4.2 Indicate the project area and the direct and indirect areas of influence for the physical, biological and social-economic-cultural impacts
4.1.4.3 All drawings should present scale and key coordinates or benchmarks as latitude/longitude, or local survey plate that can be cross-referenced to latitude/longitude or UTM coordinates
4.2 Summary of Proposed Project and Alternatives
All project alternatives that are reasonable and feasible and meet the purpose and need for the proposed project shall be identified, summarized in this section, and evaluated in the EIA as appropriate. In addition to the proposed project, such alternatives include alternative locations, alternative fuels, alternative site configuration of elements of the project, alternative size and output capacity, and alternative plans for construction, operation and decommissioning of the power plant including best practices that may avoid and/or reduce the adverse impacts to the physical, biological or social-economic-cultural environments.

If the project area or the buffer zone of the project area for an alternative is in an ecologically fragile are, the description of the alternative must include a clear justification for not opting for another site. Identify which alternatives will be carried through the analysis in the EIA and the basis for that decision.
4.3 Project and Alternatives Details
The EIA shall provide specific project details for the proposed project and each alternative as identified in subsections 4.3.1 through 4.3.7. The level of detail presented shall be the same for the proposed project and each alternative evaluated. The following project details shall be provided:
4.3.1 General
4.3.1.1 Type and nature of the project

- Type (wind, solar thermal, solar photovoltaic, solar dish engine, geothermal)
- Capacity: maximum, minimum and average power output as MW, and as MW hrs by month and season

4.3.1.2 Flow diagram for the generation of power showing all components of the plant and their relationships to each other
4.3.1.3 General plan for the facility, showing the location and layout of all project components and their relationship to each other
4.3.1.4 Project operations

- Description of how the project would operate (seasonally, monthly, daily, hourly, as appropriate)
- Mode of operation (peaking, base load, run-of-river, storage)

4.3.1.5 Transmission lines (any connections and new lines associated with the hydropower project)

- Plans to connect to existing transmission lines
- New transmission lines (making following bullets a lower order
    - Line voltage; Total length of line in km; Minimum height of conductors over ground level; Width of the right of way in meters; Source; Destination; Number and types of

towers; Height of towers; Number of circuits, stations and transformer yards; Points of interconnection between existing and new

4.3.1.6 Onsite Support Facilities

Location and design information – composition, dimensions, and configuration including site drawing (digitized) for the following:

- Offices and onsite housing
- Laboratories
- Power generation
- Storage
- Repair shops
- Fuel stations
- Sanitary Facilities
- Water supply
    - Requirements (m3/day); Rights; Sources; Distribution
- Waste handling and disposal
- Fencing

4.3.2 Design details for each power generation component – number, materials of construction, dimensions and configuration. Specific components in the TOR will vary with type of project, as presented below:

4.3.2.1 Wind

- Towers
- Wind turbines
    - Type; Nameplate capacity; Height; Hub height; Rotor diameter; Total height; Foundations
- Electrical collector lines
- System controls
- Collector substation
- Transformers
- Energy storage, if applicable
- Backup energy source, if applicable
- Other works: describe additional works not covered above

4.3.2.2 Solar photovoltaic

- Solar panels
- Type
- Capacity
- Electrical collector lines
- System controls
- Collector substation
- Transformers
- Water sources, amounts and storage for regularly washing the collector surfaces
- Energy storage, if applicable

- Backup energy source, if applicable
- Other works: describe additional works not covered above.

4.3.2.3 Solar dish engine

- Mirror array (concentrators)
    - Type; Design; Foundations; Tracking controls
- Receivers
    - Type; Specifications
- Engines
    - Type; Specifications; Capacity; Cooling system
- Electrical collector lines
- System controls
- Collector substation
- Transformers and/or alternators
- Water sources, amounts and storage for regularly washing the mirrors and reflective surfaces
- Energy storage, if applicable
- Backup energy source, if applicable
- Other works: describe additional works not covered above.

4.3.3 Design Drawings for project facilities

4.3.3.1 Plan (overhead view)

4.3.3.2 Elevations (front view)

4.3.3.3 Profiles (side view)

4.3.3.4 Sections

4.3.4 Access

4.3.4.1 Roads

- Identify all new and existing roads to be used (including closed roads that will be reopened, if applicable)
    - Traffic volume, operating speeds and trip times; Closed roads that will be reopened
- Detailed information on any roads to be constructed or upgraded (Including on-site roads)
    - Location; Timing of construction; Road surface and shoulder width and barriers Grade; Construction methods including clearing and grubbing; Construction materials; Compaction; Stream crossings and associated designs; Animal crossings; Sedimentation and erosion prevention and control structures and practices; Stabilization methods for cuts and fills; Typical elevations for each type and situation of road displaying construction materials, levels of compaction and erosion and sedimentation features; Location and size (area and volume of material) of borrow pits; Operation; Closure plan; Traffic volume, operating speeds and trip times
- Dust control for construction and operation
- Maintenance
- Roster for construction and maintenance equipment, specifying type and quantity by size, motor size, and fuel requirements

4.3.4.2 Other transport systems (if applicable)

4.3.5 Construction phase and timetable

4.3.5.1 Schedule for each phase of construction for all project and ancillary facilities including, but not limited to:

- Mobilization
- Road construction and improvements
- Land clearing
- Drilling
- Blasting
- Borrow and spoil disposal
- Erosion and sediment control
- Excavation and subgrade preparation
- Foundation preparation
- Concrete work
- Construction or installation of each project facility
- Stabilization of disturbed areas

4.3.5.2 A GANTT or critical path management chart for the entire project, from start to finish

4.3.5.3 Equipment

- Equipment Roster specifying type and quantity by size, weight, motor size, and fuel requirements for each piece of equipment or machinery used in each activity
- Transportation mobilization and mobilization frequency
- Machinery and equipment mobilization routes to be used, as well as the features of the ways on which they will be transported, including a map of routes, as applicable, and mobilization.

4.3.5.4 Labor during construction

- Number and type of employees (by local hire and non-local hire) by field of expertise
- Days per week
- Hours per day
- Shifts per day

4.3.5.5 Raw materials to be used for construction

- Give a complete list of the raw materials and construction materials to be used, indicating the amounts per day, month, and the storage means
- Include an inventory of chemical, toxic or hazardous substances, active elements, sites and storage means, safety aspects regarding transportation and handling and any other relevant information

4.3.5.6 Construction camp (if applicable)

Description of the camp including but not limited to:

- A map showing all facilities at a legible scale appropriate to the size of the project
    - Buildings by type (use) and size; Roads; Electrical transmission lines and/or substation; Drainage
- Water supply and distribution
    - Distribution system; Use (m^3/day)

- Rights
    - Sources
- Waste handling and disposal components
    - Sewers; Wastewater treatment; Solid waste facilities
- Energy generation and use requirements
- Closure or transition from construction camp to final onsite housing

4.3.6 Operation phase

4.3.6.1 Pre-operation Phase: cooling pond filling plan (if appropriate) including, but not limited to:

- Proposed filling rate with definite hold periods for observation
- Options to control filling
- Schedule for inspection and evaluation of structures and instrumentation

4.3.6.2 Operation information

- Roster of equipment and machinery to be used during operation, specifying type and quantity by size, weight, motor size, and fuel requirements for each activity
- Labor during operation
    - Number and type of employees (by local hire and non-local hire) by field of expertise; Days per week; Hours per day; Shifts per day
- Overall energy requirements and sources
- Inventory of chemical, toxic or hazardous substances used during operation
    - Active elements; Storage means; Safety aspects regarding transportation and handling; Other relevant information

5 Environmental Setting

Based on information available from the literature, government and special studies and field verification of the project site, the EIA shall provide information on environmental setting for the different types of physical, biological and social-economic-cultural environments for the current situation, important trends and predicted situation in the absence of the proposed project. All sources of data must be cited in the EIA when and where they are used. Indicate the direct and indirect and cumulative impact areas of influence for physical, biological, and social-economic-cultural impacts and basis for defining area. This section shall include at a minimum, the following information:

5.1 Geologic Resources and Hazards

5.1.1 Cross sections of the geology including soil horizons

5.1.1.1 Geologic characteristics at all project facility locations and in the area of influence.

5.1.1.2 Geological map of the project area and area of influence at a scale of 1:10,000. Submit a map of the area displaying all characteristics described. Include geological profiles and cuts, as well as stratigraphic columns.

5.1.2 Topography and slope conditions and geomorphology

5.2 Soil Resources

The EIA shall describe baseline soil resources, and make use of maps, tables and accompanying narrative text to describe the soils at the facility site, along new or reconditioned access routes and along new transmission corridors associated with the facility and included in the EIA.

5.2.1 Types, capacity and uses
5.2.2 Fertility and potential uses of the land for agriculture
5.2.3 Stability and permeability
5.2.4 Erosion and sedimentation potential
5.2.5 Quantity and quality available for revegetating and restoring the disturbed area at time of closure
5.3 Water Resources
5.3.1 Surface water
5.3.1.1 Names and locations on maps of all permanent and intermittent streams, rivers, wetlands, lakes and reservoirs within the area of influence
5.3.1.2 River mile designation or other reference point for the intake and discharge points of the project (if project will be using surface water for cooling)
5.3.1.3 Flow (if project will be using surface water for cooling)

- The monthly minimum, mean and maximum recorded flows in m3/s of the river at the diversion point
- A monthly flow duration curve (i.e., flow exceedance curve) indicating the period of record and location of gauging stations where data were gathered to derive the curves

5.3.1.4 Seasonal fluctuations in area and volume of wetlands, lakes and reservoirs
5.3.1.5 For any proposed or existing cooling ponds, surface area, volume, maximum depth, mean depth, flushing rate, shoreline length, substrate composition
5.3.1.6 Delineation of watersheds and water drainage pattern in the area of influence using cadastral/aerial/remote sensing satellite imageries (map)

- Runoff characteristics of watersheds

5.3.1.7 Inventories of consumptive and non-consumptive use, especially those who are in the floodplain between intake and discharge points and downstream of the discharge (if project will be using surface water for cooling)
5.3.1.8 Surface water balance (if project will be using surface water for cooling)

- Existing uses by type and volume
- Capacity

5.3.2 Groundwater (if project will be using groundwater for cooling and/or will use cooling ponds)
Provide a map and identify and describe aquifers and underground waters adjacent to the project, indicating the depth of the water table along with trend data:
5.3.2.1 Hydrogeological characteristics of the area (vadose zone and aquifers)

- Flow regime
- Flow direction
- Influences of geologic structures (faults, contacts, bedrock fracturing, etc.) and surface water bodies

5.3.2.2 Location and characteristics of all existing springs and wells in the area of influence (on topographic map)

- Flow/yield data for each spring and well (including water levels in wells)
- Depth and construction information for each well
- Existing uses by type and volume

- Capacity available

5.3.2.3 Groundwater recharge data

5.3.2.4 Groundwater potential yield

- Availability
- Water table levels (dry and rainy season)

5.3.3 Water quality (if project will discharge cooling water and/or will use cooling ponds)

5.3.3.1 Existing water quality data

- Locations of all water quality monitoring stations in and around the project area (with direction and distance from the site)
- Water quality data for each station for those parameters likely to be affected by project construction, operation, or maintenance
- Physical, chemical and biological water quality characteristics, including water temperature and dissolved oxygen concentrations
- For any proposed or existing cooling ponds water temperature and dissolved oxygen concentrations, including seasonal vertical profiles

5.3.3.2 Supplemental sampling and analysis (if existing data is not adequate to characterize water quality), with Sampling and Analysis Program outlined in annex

- Water quality information upstream of the location of water intake, at the point of discharge and downstream from discharge point
- Proposed locations of representative monitoring stations upstream and downstream of proposed project activities
- Monitoring program design with at least a year of baseline data being collected
    - Parameters (including as appropriate, physical, chemical and biological); Frequency of collection; Analytic methods

5.3.3.3 Surface water and groundwater standards that apply to the project

- Current uses
- Standards for current uses (in the absence of such standards, identify a set of benchmarks used in the analysis)

5.4 Air and Climate

Baseline information for air resources shall be collected for at least one year or as required by the regulatory agency and shall include at a minimum the following:

5.4.1 Climate and meteorology

5.4.1.1 Source of data (meteorological station(s) from which climatological data have been obtained)

5.4.1.2 Temperature variations

5.4.1.3 Relative humidity

5.4.1.4 Solar radiation and evaporation rates

5.4.1.5 Rainfall (total precipitation, rainfall intensity and duration by month)

5.4.1.6 Wind rose (Wind direction and speed, 24 hourly data)

5.4.1.7 Statistical analysis of the data

5.5 Noise and Vibration

Present a description of the noise and vibration levels for receptors near where noise generating activities of the project may occur. The EIA shall include:

5.5.1 Location of monitoring stations

5.5.2 Daytime and night time noise levels (measured in decibels)

5.5.3 Inventory of existing noise sources

5.6 Aesthetic and Visual Resources

5.6.1 Photos presenting baseline panoramic views of the facility site from potential receptors

5.6.2 View sheds or other aesthetic or landscape resources

5.6.3 Existing sources of light contamination

Biological Environment

The EIA shall provide detailed information on the location and condition of ecosystems in and around the project area in the form of narrative, maps and tables, including the following:

5.7 Vegetation/Flora

5.7.1 Vegetative mapping of terrestrial and wetland habitats (aquatic and marine if appropriate) for project area, including in the area of transmission lines and any downstream area affected by the project

5.7.2 Species and structure (abundance, density, status, plant communities, presence of invasive species, etc.)

5.8 Aquatic and Terrestrial Wildlife/Fauna

5.8.1 Fish and Aquatic Resources

5.8.1.1 Identification of fish, mussel, macroinvertebrate and other aquatic species

- Spatial and temporal distribution
- Species life stage composition
- Standing crop
- Age and growth data
- Spawning run timing
- Extent and location of spawning, rearing, feeding and wintering habitat

5.8.2 Wildlife Resources

5.8.2.1 Species (including status, i.e., endemic, migratory, exotic, endangered, threatened, keystone, etc.), life history, and seasonal use

5.8.2.2 Breeding areas

5.8.2.3 Mating and brooding areas

5.8.2.4 Migratory corridors (if applicable)

5.8.2.5 Important wildlife use areas (roosts, clay licks, etc.)

5.9 Ecosystems: Terrestrial, Wetlands, Aquatic, Marine

Much if not all that will be needed to address the environmental setting for terrestrial, wetlands, aquatic and/or marine ecosystems will have been covered in Sections 5.7 and 5.8. This section is not intended to duplicate that information; rather, it should integrate the information to ensure that the structure and function of each ecosystem is adequately presented.

5.10 Endangered or Threatened Species and Habitats

5.11 Protected Areas

Identify on maps the specific locations and boundaries of relevant national parks, sanctuaries, reserves, etc., as well as any areas proposed for protection. Provide a brief narrative description of each area.

Social-Economic-Cultural Environment

5.12 Socio-Economic Conditions

Identify nearby human settlements including the following information for each settlement:

5.12.1 Population (size, gender and age distribution)

5.12.2 Cultural characteristics (religion, ethnic composition, languages spoken, etc.)

5.12.3 Economic activities (employers, employment and incomes)

5.12.7 Community organizations

5.12.8 Public Health and Safety

5.13 Infrastructure

For each human settlement identified in subsection 5.12, describe the infrastructure in or serving the settlement, including the following information:

5.13.1 Transportation infrastructure

5.13.1.1 Roads

5.13.1.2 Airports or airstrips, and their capacity and trends in use

5.13.1.3 Other transportation infrastructure as applicable such as rail, pipelines, harbors etc.

5.13.2 Public health infrastructure

5.13.2.1 Drinking water supplies and treatment

5.13.2.2 Wastewater treatment and management

5.13.2.3 Solid and hazardous waste management and treatment

5.13.3 Communications Infrastructure

5.13.3.1 Types of communications systems

5.13.3.2 Types of transmission (wired or wireless)

5.13.3.3 Locations of transmission lines (if applicable)

5.13.3.4 Locations of microwave towers and/or antennae (if applicable)

5.13.4 Energy Infrastructure

5.13.4.1 Types of energy

5.13.4.2 Sources including location and description of generating facilities in the area of influence

5.13.4.3 Transmission lines and/or pipelines

5.13.4.4 Fuel storage facilities

5.14 Cultural, Archeological, Ceremonial and Historic Resource

Identify all cultural, archaeological, ceremonial and historic resources within the area of influence, including the following information:

5.14.1 Data and maps relating to archeological, cultural, ceremonial, and historic sites in the direct vicinity of the project

5.14.2 Information on indigenous peoples or other traditional cultures, if any

5.15 Land Use

Actual and potential showing location, size and proximity within and surrounding the project area, including land use maps, and to extent possible, integrated into one map.

5.15.1 Population centers, including information and locations of

5.15.1.1 Schools
5.15.1.2 Cemeteries
5.15.1.3 Churches
5.15.1.4 Other public buildings
5.15.1.5 Housing (including housing density)
5.15.1.6 Commercial areas
5.15.2 Agricultural lands
5.15.3 Forested lands
5.15.4 Protected areas (including but not limited to)
5.15.4.1 National parks
5.15.4.2 Wildlife refuges
5.15.5 Wetlands and Mangroves
5.15.6 Other environmentally sensitive areas
5.15.7 Tourism and recreation areas
5.15.7.1 Recreation facilities
5.15.7.2 Eco-cultural-tourist locations
5.15.8 Culturally sensitive areas
5.15.9 Flood plains and water bodies
5.15.10 Coastal zones
5.15.11 other land uses as appropriate
6 Assessment of Impacts
The EIA shall provide information on potential impacts (direct, indirect and cumulative) and the magnitude and frequency of potential impacts on physical, biological, social-economic-cultural resources resulting from construction, operation and closure of the proposed project and alternatives. The assessment shall use standardized predictive methods, such as models, to determine the specific range of impacts on environmental and socio-economic resources. The EIA shall identify which impacts are significant and the criteria used to make this judgment. Critical data input from project description and environmental setting analysis projecting the conditions in the environmental setting in the absence of the proposed project shall be used as the baseline upon which potential impacts are forecast. The EIA shall also identify sources of data used in the analysis and the uncertainties associated with the outputs of each method used.
Physical Impacts
6.1 Geologic Resources and Hazards
Potential impacts to geologic resources and potential effects on facility shall be described including but not limited to the following:
6.1.1 Geologic hazards and potential effects on facility
6.1.2 Dam failure (if cooling ponds are proposed)
6.1.3 Impacts on mineral resources (current/future mining)
6.1.4 Changes in topography and drainage patterns
6.1.5 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.2 Soil Resources

Potential impacts to soil resources shall be described including but not limited to the following:

6.2.1 Soil quality

6.2.1.1 Contamination (accidental spills of fuel, oil or other hazardous substances)

6.2.1.2 Disposal of heat transfer fluids and component parts of photovoltaic cells

6.2.1.3 Impacts on use

6.2.2 Erosion, slope alteration, vegetation removal and drainage patterns

6.2.2.1 Models for soil erosion should be included using methods like USLE, defining the areas with high erosion potential

6.2.2.2 Sediment accumulation and transport

6.2.2.3 Sediment and hazardous waste removal and disposal

6.2.3 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context

6.3 Water Resources

Potential impacts to surface water and groundwater resources shall be described including but not limited to the following:

6.3.1 Geomorphology

6.3.1.1 Location of all stream or wetland crossings by right-of-ways and access roads

6.3.1.2 Modification/diversion in the existing drainage pattern

6.3.1.3 Downstream scouring and upstream head cutting

6.3.1.4 Bank erosion (surface water discharges, stream crossings and dredging)

6.3.1.5 Potential for increased flash flooding

6.3.2 Quantity (applicable for projects requiring significant cooling water)

6.3.2.1 Water bodies likely to be created

6.3.2.2 Impact of water diversion on surface water and groundwater, including specific uses

- Model results
- Water table levels
- Well production
- Spring and stream flows

6.3.2.3 Effects of dams on downstream seepage

6.3.3 Quality

6.3.3.1 Effects of project construction and operation on water quality parameters in surface water and groundwater, including the results of any water quality modeling

- Description of effects due to runoff, erosion, and sedimentation from roads, disturbed areas, and stream crossings, including sources, receiving waters, and effects on physical, chemical, and biological parameters
- Description of impact from wastewater discharges (if applicable)
- Description of effects of project operations on dissolved oxygen and total dissolved gas concentrations, and other parameters

6.3.3.2 Chemical contamination from agricultural chemicals applied to fields or forests producing biomass for the project

6.3.3.3 Spills and accidents

- Chemical, hazardous waste and fuel spills
- Overflows from cooling ponds during storm events or electricity failures
- Containment failures

6.3.4 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context

6.4 Air and Climate

Potential impacts to air resources shall be described including but not limited to the following:

6.4.1 Impacts on ambient air quality

6.4.1.1 Sources (e.g., off-gases from open geothermal systems, fumes, windblown dust, and fixed and mobile equipment emissions)

6.4.1.2 Concentrations

6.4.1.3 Receptors (e.g., communities, schools, water bodies, ecosystems)

6.4.1.4 Greenhouse gas generation

6.4.2 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context

6.5 Noise and Vibration

Potential impacts from noise shall be described including but not limited to the following:

6.5.1 Noise modeling

6.5.1.1 Basis for model selection

6.5.1.2 Input requirements

6.5.1.3 Modeling results

6.5.2 Potential noise levels at different representative sites in the project area and in communities near the project area

6.5.3 Potential vibration due to blasting and movement of heavy equipment, and related damage to materials and structures

6.5.4 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context

6.6 Aesthetic and Visual Resources

Potential impacts to Aesthetic Resources, including light pollution, shall be described including but not limited to the following:

6.6.1 Impacts on visual resources and landscapes

6.6.2 Increases in light contamination

6.6.3 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context

Biologic Impacts

Potential impacts to biological resources shall be described including but not limited to the following:

6.7 Vegetation/Flora and Associated Ecosystems

Describe and quantify alterations in vegetative cover due to:

6.7.1 Deforestation or wetlands destruction

6.7.2 Inundation of vegetated areas by cooling ponds (if applicable)

6.7.3 Other vegetative type conversions

6.7.3.1 Direct vegetative removal
6.7.3.2 Indirect (e.g., poisoning by dust and air contaminants)
6.7.4 Wildfires
6.7.5 Increased road access in remote areas leading to destruction of existing vegetative cover (land use changes)
6.7.6 Spread of noxious or invasive species
6.7.7 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.8 Aquatic and Terrestrial Wildlife/Fauna and Associated Ecosystems
Describe and quantify alterations in aquatic and terrestrial wildlife populations due to:
6.8.1 Fish and Aquatic Resources
6.8.1.1 Loss in habitat (e.g., spawning, rearing, juvenile, or adult habitats) from changes in water quality (temperature, dissolved oxygen and other parameters) and instream flow
6.8.1.2 Disturbance of aquatic resources during construction, operations, or maintenance activities, including equipment noise, erosion and sedimentation, vehicular movements, or blasting
6.8.1.3 Entrainment and mortality effects on fish populations from water intakes for cooling water
6.8.2 Wildlife Resources
6.8.2.1 Loss of habitat, migratory routes/corridors, and breeding areas due to changes in vegetative cover/wetlands loss
6.8.2.2 Disturbance of habitat, migratory routes/corridors and breeding areas due to project construction, operation, and maintenance, recreational use, and human settlement associated with the project (e.g., noise, vibration, illumination, vehicular movement)
6.8.2.3 Loss or contamination of drinking water for wildlife species
6.8.2.4 Poisoning (e.g., air emissions, direct contact with toxic water/substances)
6.8.2.5 Animals attracted to garbage and food waste at construction camps or onsite facilities
6.8.2.6 Electrocution of large birds
6.8.2.7 Increased hunting
6.8.3 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.9 Endangered or Threatened Species or Habitats
Describe and quantify impacts to endangered or threatened species or habitats
6.9.1 Biodiversity
6.9.2 Individual species (with special emphasis on endemic, rare, threatened and endangered species)
6.9.3 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.10 Protected Areas Social-Economic-Cultural Impacts
The EIA shall assess potential positive and negative impacts to social- economic-cultural resources including but not limited to the following:
6.11 Socio-Economic Conditions
6.11.1 Increased individual incomes
6.11.1.1 Direct employment at the project
6.11.1.2 Indirect employment generated by project activities

6.11.1.3 Increased purchases from local businesses
6.11.1.4 Other economic activities stimulated in the community as a result of the project
6.11.2 Employment opportunities for local residents
6.11.3 Increased tax base
6.11.4 Displacement and relocation of current settlements, residents or community resources
6.11.5 Displacement or disruption of people's livelihoods (e.g., fishing, hunting, grazing, farming, forestry and tourism)
6.11.6 Public finance requirements – will more infrastructure need to be built and maintained to meet the demands of increased population in the areas of public education and public service (water, sanitation, roads, emergency services, etc.)
6.11.7 Reduction in quality of life for residents from visual and noise impacts
6.11.8 Change in crime rates (drugs, alcohol, prostitution, etc.)
6.11.9 Change in population (temporary or permanent)
6.11.10 Change in character of community
6.11.11 Change in religious, ethnic or cultural makeup of community
6.11.12 Impacts of subsidence on houses and other structures (geothermal projects only)
6.11.13 Potential hazard to the public from facility components resulting from accidents or natural catastrophes and how these events will affect reliability
6.11.14 Hazards, environmental impact and service interruptions which could reasonably ensure from failure of proposed facilities
6.11.15 Impacts on public health
6.11.15.1 Creation of new electromagnetic fields near residences, including their strength and extent
6.11.15.2 Health impacts of pesticide and fertilizer use
6.11.16 Impacts on worker health and safety
6.11.16.1 Identification of hazardous jobs and number of workers exposed with duration of exposure
6.11.16.2 Occupational diseases due to exposure to dust and other project related activities such as handling of explosives, solvents, petroleum products, etc.
6.11.16.3 Identification of physical risks and safety aspects
6.11.17 Potential for fires
6.11.18 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.12 Infrastructure
6.12.1 Transportation infrastructure
This section of the EIA addresses impacts of transportation and traffic patterns on existing roads. The impacts of new and existing roads on water quality, biological resources and land use should be addressed in those respective sections. The EIA shall assess potential impacts to transportation systems including but not limited to the following:

6.12.1.1 Potential changes to traffic patterns, densities, and traffic safety issues in area affected by project

- A determination of vehicular traffic density in the project area (before, during, and after the proposed activities)

- Potential for traffic accidents
- Congestion
- Noise

6.12.1.2 Potential impacts to previously inaccessible areas from improvement of roads
6.12.2 Public health infrastructure
6.12.2.1 Increased need for public health infrastructure
6.12.2.2 Alterations to public health infrastructure
6.12.3 Communications infrastructure
6.12.3.1 Increased need for communications infrastructure
6.12.3.2 Alterations to communications infrastructure
6.12.4 Energy infrastructure
6.12.4.1 Increased need for energy infrastructure
6.12.4.2 Alterations to energy infrastructure
6.12.5 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.13 Cultural, Archeological, Ceremonial and Historic and Resources
6.13.1 Destruction during construction
6.13.2 Damage and alteration
6.13.3 Removal from historic location
6.13.4 Introduction of visual or audible elements that diminish integrity
6.13.5 Neglect that causes deterioration
6.13.6 Loss of medicinal plants
6.13.7 Loss of access to traditional use areas
6.13.8 Impacts to previously inaccessible resources from development/improvement of roads
6.13.9 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
6.14 Land Use
6.14.1 Changes in land use by both area and location
6.14.2 Overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in context
7 Mitigation and Monitoring Measures

This section of the EIA must include measures designed to mitigate potential adverse impacts to physical, biological and social-economic-cultural resources from construction, operation and closure of the proposed project and alternatives. These shall include measures to avoid and prevent, and if needed, to reduce or minimize adverse impacts. The project proponent must include measures considered to be "best practices" in the design of all alternatives.

Here and/or in the Environmental Management Plan section, proposed mitigation shall be described in auditable terms and at a level of detail sufficient to demonstrate its effectiveness in addressing the concern or performance criterion, including its anticipated level of effectiveness and/or measurable performance, and design specifications.

The monitoring plan must include monitoring throughout the life of the project for each potential mitigation to confirm the effectiveness of the measure and support contingency plans to provide assurance that the project, at the site preparation, construction, operation, expansion, and closure stages will meet applicable environmental requirements/standards by law, and fall within the limits of impacts deemed acceptable upon approval of the EIA. Some important items to address in the mitigation plan and associated monitoring plans include, but are not limited to the following:

Physical Impacts

7.1 Geologic Resources and Hazards

7.1.1 Pre-excavation, onsite geological inspection and geotechnical study protocols to determine slope stability and landslide risks

7.1.2 Slopes built and maintained to avoid landslides and favor revegetation and soils formation

7.1.3 Slope stabilization by constructing retaining walls, using vegetation, geotextile membranes, or other mechanical methods

7.1.4 Blasting Plan, if applicable (summary of relevant measures with full document in Annex)

7.1.5 Use of signage to mark areas where slopes are not stable as a preventive measure in the event of a landslide

7.1.6 Mitigation measures unique to specific alternatives

7.2 Soil Resources

7.2.1 Topsoil management measures including specifically future use for agriculture

7.2.2 Erosion and sediment temporary and permanent control measures including when each will be installed or implemented, how often it will be checked and the process for and timing of removal of temporary measures

7.2.3 Spoil and disposal measures

7.2.4 Best management practices to minimize soil disturbance

7.2.5 Decommissioning/Rehabilitation Plan-if needed (summary of relevant measures with full document in Annex)

7.2.6 Mitigation measures unique to specific alternatives

7.3 Water Resources

7.3.1 Quality

7.3.1.1 Water Quality Management Plan (summary of relevant measures with full document in Annex)

- Cooling water discharges
- Sewage and domestic wastewater
- Nonpoint sources – runoff, erosion and sediment control prevention measures

7.3.1.2 Spill Prevention and Containment Plan (summary of relevant measures with full document in Annex)

7.3.1.3 Solid Waste Management Plan (summary of relevant measures with full document in Annex)

7.3.1.4 Hazardous Waste Management Plan (summary of relevant measures with full document in Annex)

7.3.1.5 Transport system construction and maintenance to avoid erosion and sedimentation including:

- Elevation or rerouting
- Design for proper run-off control and catchment

- Provision of culverts to allow flow that might otherwise be impeded by roadways or other rights of way
- Appropriate traffic control

7.3.1.6 Off-road vehicle use restrictions
7.3.1.7 Waste minimization practices
7.3.2 Quantity
7.3.2.1 Operational measures, such minimum flows or reservoir level fluctuation limits, to protect important species
7.3.2.2 Flow gauging to monitor water quantity
7.3.3 Mitigation measures unique to specific alternatives
7.4 Air and Climate
7.4.1 Dust control measures
7.4.2 Emissions control measures
7.4.2.1 Emissions reduction equipment
7.4.2.2 Maintenance and inspection of equipment and vehicles using combustion engines to reduce emissions
7.4.3 Spill Prevention and Containment Plan (summary of relevant measures with full document in Annex)
7.4.4 Hazardous Materials Management Plan (summary of relevant measures with full document in Annex)
7.4.5 Mitigation measures unique to specific alternatives
7.5 Noise and Vibration
7.5.1 Noise control measures
7.5.1.1 Noise reduction technologies (suppression equipment, sound-absorbing structures, vibration dampening devices, berms, noise barriers, etc.)
7.5.1.2 Rerouting of traffic and other infrastructure related activities to minimize impacts of noise and vibration
7.5.1.3 Time of day limitations on blasting and movement of heavy equipment when in close proximity to houses not being operated during evening hours
7.5.2 Blasting Plan, if applicable (summary of relevant measures with full document in Annex)
7.5.3 Mitigation measures unique to specific alternatives
7.6 Aesthetic and Visual Resources
7.6.1 Relocation of facilities to another site
7.6.2 Redesign of placement of facilities on site
7.6.3 Redesign height and location of structures blocking view or light
7.6.4 Lighting minimization
7.6.5 Visual/Landscape Management Plan (summary of relevant measures with full document in Annex)
7.6.6 Mitigation measures unique to specific alternatives

Biological Impacts

7.7 Vegetation/Flora and Associated Ecosystems

7.7.1 Control of noxious and invasive weeds
7.7.2 Surface water diversion limitations to maintain in-stream values
7.7.3 Measures to compensate for loss or damage of forests, wetlands or other critical ecosystems, including establishment of new protected areas
7.7.4 Restoration/Rehabilitation Plan for disturbed areas (summary of relevant measures with full document in Annex)
7.7.5 Mitigation measures unique to specific alternatives
7.8 Aquatic and Terrestrial Wildlife/Fauna and Associated Ecosystems
7.8.1 Fish and Aquatic Resources
7.8.1.1 Intake screening
7.8.1.2 Maintain adequate instream flow
7.8.1.3 Scheduling construction to avoid critical or important fish life history periods (e.g., spawning)
7.8.1.4 Flow gauging and water quality monitoring
7.8.1.5 Relocation of sensitive, threatened or endangered species
7.8.1.6 Blasting Plan, if applicable (summary of relevant measures with full document in Annex)
7.8.1.7 Mitigation measures unique to specific alternatives
7.8.2 Wildlife Resources
7.8.2.1 Controls on hunting within the project area
7.8.2.2 Modify facility and activity locations and timing to avoid critical ecosystems, migratory routes and breeding areas
7.8.2.3 Scheduling construction to avoid critical or important wildlife history periods (e.g., breeding, nesting)
7.8.2.4 Transmission line design to minimize or avoid electrocution of raptors and other large birds
7.8.2.5 Relocation of sensitive, threatened or endangered species
7.8.2.6 Blasting plan, if applicable (summary of relevant measures with full document in Annex)
7.8.2.7 Mitigation measures unique to specific alternatives Social-Economic-Cultural Impacts
7.9 Socio-Economic Conditions
7.9.1 Selection of an alternate site for the project, and if not possible then adhering to requirements of an internationally recognized Resettlement Action Plan (RAP)
7.9.2 Rehabilitation Program for people displaced by the project (summary of relevant measures with full document in Annex)
7.9.3 Training local residents for employment in the project
7.9.4 Development of a “Code of Conduct” (with associated training program) for workers to show respect to the local populations and their culture and social rules
7.9.5 Measures proposed to protect public from failure of proposed facilities
7.9.6 Design and operational measures to avoid or reduce risk
7.9.7 Measures to exclude public from hazardous areas
7.9.8 Public Health Program to protect local population from potential health problems caused by the project operation (summary of relevant measures with full document in Annex)
7.9.9 Development of an Occupational Health, Industrial Safety and Accidents Prevention Program with appropriate accident prevention program, reporting and periodic review (summary of relevant measures with full document in Annex) including provision of routine training and testing, and proper

safety equipment such as hearing protection, hardhats, steel-toed shoes, safety railings, fall arrestors, sensors for notification on reaching of warning and action limits for exposure to hazardous gases and liquids or impending catastrophic failures.

7.9.10 Spill Prevention and Containment Plan (summary of relevant measures with full document in Annex)

7.9.11 Hazardous Materials Management Plan (summary of relevant measures with full document in Annex)

7.9.12 Mitigation measures unique to specific alternatives

7.10 Infrastructure

7.10.1 Transportation infrastructure

This section of the EIA addresses mitigation measures for transportation and traffic patterns on existing roads. Mitigation of impacts of new and existing roads on water quality and biological resources and land use should be addressed in those respective sections.

7.10.1.1 Transportation Plan (summary of relevant measures with full document in Annex)

- Placement of traffic signals
- Establishing, posting and enforcing speed limits for the vehicles that transport material
- Training employees, contractors and subcontractors on measures to reduce or avoid potential accidents
- Hiring and training security personnel devoted exclusively to preventing accidents in the access road and controlling the speed of the vehicles transporting project material

7.10.2 Public health infrastructure

7.10.3 Communications infrastructure

7.10.4 Energy Infrastructure

7.10.5 Mitigation measures unique to specific alternatives

7.11 Cultural, Archeological, Ceremonial and Historic and Resources

7.11.1 Modify facility and activity locations to avoid significant archeological, cultural, ceremonial and historic sites

7.11.2 If avoidance is not possible, conduct appropriate resource recovery operations before disturbing the sites

7.11.3 Clearly delineate boundaries and post signs identifying existing archeological, cultural and historic sites on roadsides and within the project area boundaries so that they are easily recognized by the machinery operators and other workers

7.11.4 Development of a training program so that staff recognize and respect culturally and archeological sensitive areas

7.11.5 Development protocols for use during construction and operation stages for identifying and responding to archeological, cultural, ceremonial and historic sites not identified during the preliminary surveys

7.11.5.1 In the event that such a site is encountered by accident (i.e. a “chance find”), the project proponent will stop activities at the site and report to the government the need for relocation of the cultural or historical resources, for their physical protection

7.11.6 Mitigation measures unique to specific alternatives

7.12 Land Use

7.12.1 Criteria and method for calculating compensation for loss of land and crops
7.12.2 Compensation to farmers and ranchers for crop or forage losses and restore lost agricultural lands at the end of the project
7.12.3 Compensation to property owners for relocation of their homes in the event the relocation is unavoidable.
7.12.4 Mitigation measures unique to specific alternatives
8 Environmental Management Plan

The EIA shall include an Environmental Management Plan to prevent, mitigate and monitor each impact identified in the EIA. Plans will describe actions to be taken in sufficient detail to provide a basis for subsequent auditing of compliance with commitments made in the EIA process including who is responsible, how and when it will be implemented, what will be done and what results will be achieved, why it is being done, and how to know whether it is effective in addressing the underlying concerns. The Environmental Management Plan shall have the following elements:
8.1 Overview of Environmental Management Plan Organization and Policy
8.1.1 Describe the project management and how environmental management and organization relates to overall project responsibility. Describe the personnel and performance accountability system for design, operation, maintenance and closure for implementation of mitigation and monitoring measures.
8.1.2 Describe the environmental policy that will govern the Project throughout its implementation, including at least the objectives, scope, commitment to continuous improvement, control and environmental monitoring and good relationship with neighboring populations and countries, as well as the commitment to internal controls such as compliance and environmental monitoring and routine audits.
8.1.3 Identify the persons responsible for the implementation of mitigation measures in each phase.
8.2 Project-wide Mitigation Plan including an implementation schedule. It has two elements:
8.2.1 Environmental resource mitigation (such as air, water)
8.2.2 Socio-economic-cultural mitigation (relocation, etc.)
8.3 Project-Wide Monitoring Plan (usually specific to monitoring of surface and ground water)
8.3.1 Short-term and long-term monitoring of resource condition, including but not limited to:
8.3.1.1 Slope stability
8.3.1.2 Water Quality Monitoring Program

- Where, how and when monitoring shall be conducted
- Parameters to be monitored
- Monitoring frequencies
- Sampling and analytical protocols to be used

8.3.1.3 Air Quality Monitoring Program

- Where, how and when monitoring shall be conducted
- The Parameters to be monitored
- The monitoring frequencies
- The sampling and analytical protocols to be used

8.3.1.4 Noise and Vibration
8.3.1.5 Cultural, ceremonial archeological and historic resources in the vicinity of the mine

8.3.2 Short-term and long-term monitoring to ensure that the mitigation measures are functioning as predicted and that rehabilitation is working

8.4 Management of Other On- or Off-Site Environmental Pollution Control and Infrastructure

This section should address management of critical elements of pollution control and infrastructure that are not otherwise included in the mitigation plan because they were considered an essential part of the proposed project.

8.5 Contingency Plans

Contingency plans shall be prepared and described to address a) failure to meet specific performance criteria established by law or necessary for the project to meet its commitments in the EIA and b) respond to natural and other risks previously identified and mitigated in the EIA in the event reasonable and feasible mitigation measures to address the risks are inadequate.

8.5.1 Performance-related Contingency Plans, indicating the steps that will be taken should monitoring indicate that:

8.5.1.1 Environmental standards are not being met

8.5.1.2 Impacts are greater than predicted

8.5.1.3 The mitigation measures and/or rehabilitation are not performing as predicted

8.5.2 Natural Disaster Risk Response Plan (assumes that risk identification and risk reduction have been addressed in other parts of the EIA)

8.5.3 Other Risks Response Plans (assumes that risk identification and risk reduction have been addressed in other parts of the EIA)

8.5.4 Contingency plans for maintaining service or reducing downtime in the event of accidents or natural catastrophes that disrupt facility operation

9 Signed Commitment Statement

The EIA shall contain a legally binding signed letter of commitment to meeting the terms of the EIA. The statement must be signed by the authorized representative of the proponent company with assurance that all financial surety measures as required by the regulatory agency have been met.

10 Annexes

These shall be numbered and duly referenced in the text.

10.1 Public Consultation

10.1.1 Public consultation plan

10.1.2 A summary of public outreach activities including: audience, number of persons, organizations involved, concerns raised, responses to comments

10.1.3 Summary of response to comments

10.1.4 Actual copies of written comments

10.2 Technical Supporting Documents

10.2.1 Include maps, plans, charts and figures in the sequence mentioned in the EIA document

10.2.2 Zoning maps with resources and results of impacts

10.2.3 Special Studies if relevant but not readily accessible

10.2.4 Detailed materials on predictive tools/models and assumptions used for the assessment but too detailed for the body of the EIA

10.3 References

Submit a list of all references, (books, articles, technical reports and other information sources) cited in the various chapters of the EIA study with full biographic references, and the following conventional procedures cited in the literature: author, year, title, source, number of pages, and city of publication or issuance.

Annex II: Checklist of Parameters for Screening and Reviewing Impacts in NCRE Sub-Projects by Safeguard Type

Safeguard type	Parameters for checking likely impacts	Hydro	Wind	Biomass	Solar
Environmental	Air pollution	**	**	**	**
	Water pollution	**	*	**	***
	Sound pollution	*	***	***	*
	Soil erosion/ compaction, risk of landslides	**	**	**	**
	Sedimentation	*	*	*	*
	Protected areas and known natural habitat[+]				
	Forest (national forest, reserve forest, religious forest, community forest, private forest – core forest or fringe forest)	*	***	*	***
	Known route of wildlife or wild bird movement				
	Flood prone/ river cutting/ low lying areas				
	Water sources/ water bodies such as ponds, lakes, springs, drinking water sources, etc.				
	Land /crop clearance for the project/ piling of non-decomposable materials				
	Tree felling/removing (endemics, localized, exotics)	*	***	.	***
	Clearance of vegetation systems/ crop fields, habitats etc.	**	**	*	**
	Water flow/velocity	***	.	*	.
	Changes in wild life, habitat areas	***	***	*	***
	Loss of/disruptions to Landscapes /aesthetic beauty (waterfalls, coastal fringes, lagoons, landscapes, rock caves, etc.)	***	***	*	***
	Built up area/ extent under constructions /transmission lines/Induced features.	**	***	**	***
Social	Number of families to be displaced	*	**	.	**
	Total population/men/women to be displaced	*	**	.	*
	Number of houses/structures be demolished	**	**	.	*
	Local/ community infrastructures (irrigation canal, water supply, foot trails, trail bridges, religious trees and resting places, electricity poles, telephone poles, etc.)				
	Loss of livelihoods	**	**	.	*
	Job creation	*	*	***	**
	Loss of livelihood/ farms and agricultural land/forest access	**	**	.	*
	Changes in food availability	**	**	**	.
	Health and nutrition	**	**	*	**
	Access to services (schools, health clinics, community centers)	.	*	*	*
	Loss of assets/ land/solid property/crops etc.	*	**	*	**
	Tenants/lessees/ share croppers losing rights	*	**	*	**
	Illegal settlers/ encroachers losing shelters, crops and rights	**	**	*	**

	Indigenous peoples to be displaced	*	*	*	*
	Indigenous property affected	*	***	*	***
	Acquisition of indigenous territories, resorts	*	**	*	**
	Water for domestic use and irrigation and sanitation	**	.	.	**
	Loss of access to and control over land/ fuel wood resources by women	.	**	**	**
	Gender equity, women inclusiveness	.	.	**	.
	Loss of employment and income	*	*	*	*
	Gains of employment and income	*	**	***	**
	Loss of income generated from solid property and structures	*	*	.	*
	Loss of access to forest based products	*	**	*	**
	Erosion of informal/ supplementary income sources	**	**	*	**
	Cost of resettlement/opportunity cost	*	**	*	**
	Financial support secured/ increased security	.	.	**	.
	Livelihood restoration	.	.	**	.
	Number of estuaries/ tourist attractions cleared and reduced/ increased tourist attraction lost,	**	***	.	*
	Historical and cultural places acquired/in the adjacent areas	*	*	.	*
	Business/ enterprise opportunities	*	.	***	*
	Risk of disaster (such as from dam break, fire, etc.)				

*** Highly relevant; ** Relevant; * Less relevant; . Not relevant

+ Includes national parks, wildlife reserve, legally protected area or area proposed for protection, unprotected but of known high conservation value, biodiversity corridor or nearby an area known to be a critical wildlife habitat, areas listed as totally protected species in the Flora and Fauna Protection Ordinance

Annex III: Resettlement Action Plan Templates

Sample Outline of Abbreviated Resettlement Action Plan (A-RAP)

(a) Project Description

Identify Project location and its features.

(b) Census Survey of Displaced Persons and Valuation of Assets

Potential displacement due to proposed sub-project, assets lost and people displaced from homes or livelihood, and methodology to be used in valuing losses to determine their replacement cost.

(c) Legal and Regulatory Framework

Describe key national acquisition, compensation, policies and donor policies, entitlements. Explain how NIRP and WB safeguard policies will be achieved.

(d) Eligibility, Description of Compensation and Other Resettlement Assistance to be provided

Describe the packages of compensation and other resettlement measures and other assistances that will assist each category of eligible displaced persons to achieve the objectives.

(e) Consultations

Discuss the consultation and participation process in the light of NIRP and WB safeguard requirements.

(f) Institutional Responsibility for Implementation and Procedures for Grievance Redress

Identify main tasks and responsibilities in planning, negotiating, consulting, approving, coordinating, implementing, grievance redress, financing, monitoring and evaluation of the resettlement and rehabilitation.

(g) Arrangements for Monitoring and Implementation

Specify the arrangements for M&E

(h) Timetable and Budget

An Implementation schedule will be prepared including all resettlement activities from preparation to implementation.

Sample Outline of full Resettlement Action Plan (RAP)

Abbreviations
Table of Contents

- List of Figures
- List of Tables
- List of Annexures

Executive Summary

1. PROJECT DESCRIPTION

Briefly describe (i) what the overall XXX (program) is and its aims and objectives are; (ii) what the proposed subproject is and its aims and objectives are, subproject's major components and the geographical and administrative boundaries of the project (based on technical designs either preliminary/final and append any maps available showing the project area); (iii) who the project implementing partners are; (iv) total cost of the project; (v) who the financiers are; (vi) starting and completion dates of the project; (vii) project components that result in land acquisition, involuntary resettlement or both; and (viii) the alternatives considered to avoid or minimize resettlement and the justifications for selecting the project for implementation.

The chapter should also include an introduction to the Draft Resettlement Action Plan (RAP) and briefly explain the safeguards policies that guided the preparation of the RAP, why a RAP was needed, approach and methodology followed in the preparation of the RAP, key contents of the RAP and how it would be revised, updated, approved and disclosed after the final engineering designs and detailed measurement surveys are completed.

2. SOCIAL IMPACT ASSESSMENT

Describe and analyze (i) project's impact area/zone (includes technical boundaries as well as the area that will have significant social and economic impacts due to project) with appended maps, (ii) scope of land acquisition and why land acquisition is necessary for the project; (iii) acquisition of common property resources or restrictions on access to common property resources (if any); and (iv) effects of land acquisition and restrictions to common property resources. The analysis on the fourth (iv) section of the social impact assessment can evolve around the following sub-themes. The results should be quantified.

- Extents of land required for the project and types of land to be acquired/obtained (e.g. home gardens, agriculture, commercial, fallow etc.)
- Number of persons and households to be displaced/affected (disaggregated by physically, economically, partially, fully, temporarily, permanently) due to land acquisition
- Ownership of the land to be acquired/obtained (e.g. private land with titles, public property, encroached etc.)
- Losses incurred by displaced/affected persons [an analysis based on a detailed Inventory of Losses (IOL)] in terms of land, residential dwellings, commercial properties/structures, other physical assets (such as auxiliary structures), trees and

crops, employment and livelihood activities, cash incomes, access to services and facilities etc.

- Effects/impacts of land acquisition – e.g. displaced persons who require relocation/resettlement, persons who would be impoverished or become vulnerable due to loss of incomes, experience social disintegration etc.
- A socio-economic profile of the persons/households affected/displaced disaggregated by gender, other social groupings (e.g. poor, middle, rich), vulnerabilities etc. This section should include an analysis of the socio-demographic characteristics of the affected population, their economic and livelihood activities, household incomes and expenditures, household assets and amenities, land ownership and land use patterns, access to health, educational, administrative services, and poverty and gender issues in the project impact area.

3. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

Describe (i) the approach and methodology used for public consultations, (ii) type of stakeholders who were engaged in a consultative process during the preparation of the RAP (include a matrix that presents a summary of key stakeholders consulted, their respective numbers, gender and occupational/social status, locations where consultations were conducted and the dates of consultations) (ii) activities undertaken to disseminate project related information to key stakeholders and the type of information shared with; (iii) summary of the consultation outcomes including key issues discussed/raised and project's response/recommendation to the issues raised (this can be presented in a matrix with details appended to the RAP); and (iv) planned activities for continuous stakeholder consultations and information disclosure during project implementation.

4. LEGAL AND POLICY FRAMEWORK

Describe (i) the national policies, laws and regulations and the policies of the World Bank that apply to the project; (ii) principles and regulatory frameworks that would be followed in land acquisitions (describe the steps in the acquisition process), determining valuations (at replacement cost) for acquired assets, and the provision of compensation, other resettlement and rehabilitation assistance and livelihood and income restoration support; (iii) identify the gaps between national regulatory framework and the WB policy; (iv) strategies/methods to address the gaps; (v) policy and legal commitment of the project executing/implementing agency for restoring/improving the living conditions of the displaced/affected persons.

5. ELIGIBILITY AND ENTITLEMENTS

Define (i) eligibility and entitlements of the displaced/affected persons; (ii) cut-off date/s for eligibility; (iii) methods used for determining entitlements (at replacement cost); and prepare an Entitlement Matrix that incorporates cash compensation, non-cash compensation, other specific resettlement assistance (e.g. vulnerable groups) and opportunities to derive appropriate development benefits to all project affected persons.

6. LIVELIHOODS AND INCOME RESTORARTION AND IMPROVEMENT

Identify (i) displaced/affected persons (including vulnerable groups) whose livelihoods and

other economic activities are at risk (disaggregated by gender and other demographic data) and (ii) describe the livelihood and income restoration and improvement programs that would be implemented by the project e.g. capacity building training, cash grants, access to credit facilities, material support, advice and guidance, employment opportunities in the project etc.

7. GENDER ACTION PLAN

Identify (i) the impacts of the project (positive and negative) on women (this information can be drawn from the analysis in Section 2 and Section 6); and (ii) describe the activities that would be implemented by the project (e.g., consultations, capacity building training, cash grants, access to credit facilities, material support, advice and guidance, employment opportunities in the project, monitoring, etc.) to ensure project benefits to women while also minimizing adverse impacts.

8. GRIEVANCE REDRESS MECHANISM

Describe the mechanisms that would be adopted by the project to receive and address the grievances and concerns of the affected persons. The multi-tier GRMs should specify the composition of the GRM at each level, grievance reporting procedures, their operational locations and time frames for grievance resolution. Include a diagram to show how the GRM would function.

9. INSTITUTIONAL ARRANGEMENTS

Describe the roles and responsibilities of different agencies in the implementation of the RAP and safeguards measures including land acquisition process, payment of compensation, grievance redress, income restoration programs and safeguards monitoring and reporting.

10. IMPLEMENTATION SCHEDULE

Present a time bound implementation schedule for all resettlement, rehabilitation and safeguards management related activities.

11. RESETTLEMENT BUDGET

Provide (i) a cost estimate for the implementation of all resettlement, rehabilitation and safeguards management related activities including land acquisition and payment of compensation; (ii) staff recruitments and training (if any); (iii) RAP updating and monitoring; and (iv) contingencies. The budget should also indicate the basis on which the cost calculations were done and the source of funding for the overall resettlement budget.

12. MONITORING AND EVALUATION

Present a framework for resettlement plan monitoring and evaluation with required benchmarks, indicators, time frames and persons responsible for monitoring and evaluation.

Annex IV: Format for Social Screening

A. Sub-Project Description:

1. Give a brief introduction to the sub-project and its components, their objectives and benefits.
2. Details about existing conditions of the facilities and proposed civil works with scope.
3. Available design maps earmarking site and proposed activities in order to explain work.
4. Whether this is purely rehabilitation of existing facilities or will involve any new works.
5. Is this sub-project closely linked to any other activity not funded under the Climate Finance for Renewables project?
6. Will this sub-project involve any ancillary impact/ activity away from the work site?
7. Time line for completion.

B. Justification of Project Design and Alternative Analysis:

1. Importance of the proposed activities and why it is taken up.
2. Scenario if the work is not taken up.
3. Scenario if the work is taken up with greater scope of work.
4. What kind of natural disasters this corridor is vulnerable to?: (good if this can be answered).
5. How is the proposed work disaster resilient? (good to answer)

C. Corridor of Impact:

1. Where will the activity be taken up, what does it (drain/road, canal) pass through: markets, residential areas, green fields, etc.
2. Brief socio-economic profile of the work site and impact area, beneficiary/affected communities: businesses, livelihoods, etc.
3. Who all will benefit, and welcome the work? Who may oppose the proposed work?

D. Social Impact Screening Report:

(Kindly take into consideration answers to A-5 and A-6 while providing the information below:)

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Details
Will the sub-project include any physical construction work?				
Does the sub-project include upgrading or rehabilitation of existing physical facilities?				
Is the sub-project likely to cause any damage to or loss of housing, other assets, resource use?				
Is the site for chosen for this work free from encumbrances and is in possession of the government/Municipality?				
If the site is privately owned, will this be purchased or obtained through voluntary donation?				
If the land parcel has to be acquired, is the actual plot size and ownership status known?				
Is land for material mobilization or transport for the civil work available within the existing plot/ Right of Way?				
Are there any non-titled people who living/doing business on the proposed site for civil work?				
Will there be loss of /damage to agricultural lands, standing crops, trees?				
Will there be loss of incomes and livelihoods?				
Will people permanently or temporarily lose access to facilities, services, or natural resources?				
Does the Urban Local Body have its own procedures for land acquisition?				
Are there any previous land acquisitions I under this subproject?				
Any indigenous peoples affected?				
Whether the affected land/structure owners likely to lose less than 10% of their land/structure area.				
If so, are these land / structure owners willing to voluntarily donate the required land for this sub-project?				
Is any temporary impact likely?				

E. Estimate of Specific Impacts

Components of the Sub-Project	Site Clearing	Earthwork	Construction of Bridges and Other Structures
Private land required (Sq. m.)			
No. of land owners losing more than 10% of land area			
Government land required (Sq. m.)			
Forest land required (Sq. m.)			
No of houses affected			
No of shops affected			
No of other structures affected			
No of squatters affected			
Public utilities affected			

F. Information on Affected Persons

Any estimate of the likely number of households that will be affected by the sub project?

- [ ] No. [ ] Yes. If yes, approximately how many?
- No. of HHs losing <10% of their productive assets:
    - (land/cowshed/shops):
- No. of HHs losing 10% or more of their productive assets?

Are any vulnerable households affected? [ ] No. [ ] Yes. (If yes, please briefly describe their situation with estimated numbers of HHs.)

What are the needs and priorities for social and economic betterment of vulnerable people who are affected by this project?

Screening Consultant **Authorized Person, Project Implementing Entity**

Date: Date:

Approved by:

Deputy Project Director / Social, PIE

Date:

Approved By:

Project Director / PIE

Date: