

RECORD OF DISCUSSIONS
FOR
PROJECT FOR DEVELOPMENT OF CLEAN ENERGY TRANSITION
ROADMAP TOWARDS CARBON NEUTRAL SOCIETY

AGREED UPON BETWEEN

MINISTRY OF MINES AND ENERGY

OF

THE KINGDOM OF CAMBODIA

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Dated: 11 January, 2023

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Based on the minutes of meetings on the Detailed Planning Survey for the Project for Development of Clean Energy Transition Roadmap towards Carbon Neutral Society (hereinafter referred to as “the Project”) signed on April 29, 2022 between the Ministry of Mines and Energy of Cambodia (hereinafter referred to as “the Counterpart”) and the Japan International Cooperation Agency (hereinafter referred to as “JICA”), JICA held a series of discussions with the Counterpart and relevant organizations to develop a detailed plan of the Project.

The purpose of this Record of Discussions (hereinafter referred to as “the R/D”) is to establish a mutual agreement for its implementation by both parties and to agree on the detailed plan of the Project as described in the followings and the Annex1, 2 and 3, which will be implemented within the framework of the Agreement on Technical Cooperation signed on 17 June, 2003 (hereinafter referred to as “the Agreement”) and the Note Verbales exchanged on 17 February, 2022 between the Government of Japan and the Royal Government of Cambodia.

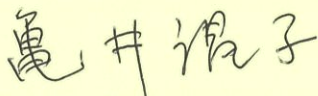
The Counterpart and JICA will be jointly responsible for the implementation of the Project in coordination with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute towards social and economic development of Cambodia.

Both parties also agreed that the Project will be implemented in accordance with the “Basic Principles for Technical Cooperation” published in December, 2016 (hereinafter referred to as “the BP”), unless other arrangements are agreed in the R/D.

The R/D is delivered in Phnom Penh as of the day and year first above written. The R/D, except Annex 4 to 5 may be amended by a minutes of meetings between both parties. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the R/D.

For

JAPAN INTERNATIONAL
COOPERATION AGENCY



Ms. KAMEI Haruko
Chief Representative
JICA Cambodia Office

For

MINISTRY OF MINES AND ENERGY



Dr. Ty Norin
Secretary of State
Ministry of Mines and Energy

Annex 1 Project Description

Annex 2 Main Points Discussed

Annex 3 Draft of TOR for environmental and social considerations studies

Annex 4 Implementation Structure

Annex 5 List of Proposed Members of Joint Coordinating Committee

Annex 6 Environmental and Social Considerations in Detailed Planning Survey

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PROJECT DESCRIPTION

1. Title of the Project

Project for Development of Clean Energy Transition Roadmap towards Carbon Neutral Society

2. Period of the Project

24 months

3. Implementing Agency

The Ministry of Mines and Energy (MME)

4. Impact (Objective that is expected to be achieved in the long run)

Objective of the energy transition roadmap is to realize clean, reliable and economic energy transition towards carbon neutral society

5. Outcomes (Objective that is realized after completion of the Project)

Based on the Energy Transition Roadmap, recommended action plans will be taken into consideration and implementation.

6. Outputs

Development of the energy transition roadmap consisting of action plans and scenarios toward carbon neutrality by mid-century.

7. Activities

The following activities will be jointly conducted by the Cambodian side and the JICA expert team.

(1) Review existing energy related policies and plans, and identify preconditions for the study

- Review current national development policies
- Review energy sector policies
- Review climate policies

(2) Update multiple primary energy demand scenarios for both power and non-power sectors

- Review power demand scenarios based on the power development plan
- Update primary energy demand scenarios based on collected data and a demand forecast model
- Refine the demand scenarios

(3) Study energy transition roadmap scenarios in relevant sectors considering affordability (economy), reliability while securing long-term carbon neutrality, which includes:

- Formulate primary energy roadmap towards carbon neutrality by the mid-21st century
- Review and recommendation on the existing power development plan to reflect the aim of the roadmap towards carbon neutrality by the mid-21st century (with an emphasis on

the period after 2040)

- (4) Study pros and cons of each roadmap scenario and propose one energy transition roadmap scenario to be the Cambodia Energy Transition Roadmap towards Carbon Neutral Society
- Identify priority technologies and measures necessary to be used for the recommended energy transition roadmap from such options as energy efficiency, renewable energy, grid interconnection, utilization of natural gas, biomass, hydrogen/ammonia, and Carbon dioxide Capture, Utilization and Storage (CCUS), etc.
 - Recommend policy actions, institutional frameworks, and investment projects for facilitating introduction of the above priority technologies and measures
 - Develop strategies and guidelines to access and manage energy statistics for the future updates of the roadmap
 - Identify priority areas for international cooperation and financing
- (5) Support preparatory works of natural gas introduction
- Study options of LNG use for power and industrial development in Cambodia (natural gas pipeline option or power transmission line option) and recommend the best option for Cambodia
 - Evaluate natural gas demand scenarios
 - Identify necessary infrastructure and estimate required investments
 - Propose legal and regulatory frameworks to oversee natural gas/LNG utilization in different sectors (Power, Industry and Public) including those for safety, health and environment
 - Identify priority areas for international cooperation and financing
- (6) Prepare the study reports (including summary for policymakers) in Khmer and English

8 Project Inputs

[Japanese side]

1. JICA Experts:
 - Energy transition strategy (scenario analysis)
 - Low Carbon Strategy Development (new technology analysis)
 - Environmental and social consideration and climate change
 - 【Energy supply and demand scenario development】
 - Energy demand forecast
 - Energy data management
 - Energy efficiency and demand side management
 - 【Power development plan】
 - Power sector development plan
 - Low-carbon thermal power generation technology
 - 【Gas utilization】
 - Policy framework for natural gas
 - Gas supply infrastructure
 - LNG procurement strategy
2. Training in Japan: two times (The detail will be determined after the start of the Project)

3. Expenses related to JICA experts' and the Project activities
4. Others

[Cambodian side]

- Assignment of counterparts
- Provision of services, facilities and local expenses for utilities
- Others

9. Environmental and Social Considerations (B)

(under the 'JICA Guidelines for Environmental and Social Considerations (April 2010)')

MAIN POINTS DISCUSSED

➤ **Background of the Project**

Cambodian economy is likely to return to high economic growth and require additional energy supplies after the effect of COVID-19 is contained. It needs to develop reliable and economic energy sources while minimizing CO2 emission to pursue the temperature goal under the Paris Agreement. Although the share of renewable energy such as hydropower and photovoltaic generations is to be increased in the future energy mix, thermal power generation has accounted for substantial amount in order to secure reliability and satisfy economic requirement.

However, financing and development of new fossil fuel generations, in particular coal-fired units, are becoming more challenging because of the growing global pressure on CO2 emissions reduction. A realistic and economic solution to the dilemma of balancing between growing energy demand and CO2 emissions reduction for Cambodia needs to be identified by utilizing various transition technologies and measures. Therefore, the long-term energy transition roadmap that provides a useful guide and a roadmap for the smooth transition towards carbon neutral society is needed in the country. During the summit meeting between the two governments in March 2022, Prime Minister Kishida expressed his intention that, under the Asia Energy Transition Initiative (AETI), Japan would support a realistic energy transition in Cambodia through means including the formulation of a roadmap towards carbon neutrality. With this background, this project aims to support the Royal Government of Cambodia to formulate its long-term energy transition roadmap.

In addition, in order to update and implement policy actions to follow the roadmap, the Counterpart needs to be equipped with sufficient knowledge regarding the various transition technologies that are new to Cambodia. These technologies include natural gas (to be imported as LNG), hydrogen and ammonia, CCUS, etc., but the country has so far only limited experience and expertise to handle and utilize them. Particularly, policy and institutional frameworks for natural gas/ LNG utilization will need to be developed promptly because Cambodia has recently started utilizing these fuels for cooking etc. In order to fill the gap and get prepared for the future adoption of priority transition technologies, this project also aims to provide knowledge regarding policy actions, institutional frameworks, and infrastructure development necessary to implement the transition roadmap.

➤ **Change of the Project title**

The Counterpart requested the change of the Project title by replacing the word of “Masterplan” with “Roadmap” as the latter word is considered more appropriate in the Cambodian context considering the long time-frame towards the middle of this century.

➤ **Authorization process**

In the Cambodian government system, there are three levels for official documentation: (i) policy, (ii) roadmap/ action plan, and (iii) masterplan. For (ii) and (iii), authorization can be

undertaken at the ministry level while (i) requires the government approval through Economic and Financial Policy Committee. Regarding the energy transition roadmap to be formulated under this Project, it would be appropriate to start with (ii) and try to make it upgraded to (i) after the ministerial authorization.

➤ **Net-zero target year**

Although the Cambodian target year for carbon neutrality is set 2050 in the Long-Term Strategy (LTS) under the Paris Agreement, the Counterpart would like to have different scenarios as well in order to assess and seek the best balance among energy security, economy, and environment.

➤ **Annex 4 to 5**

Both parties agreed on the contents of Annex 4 to 5, which is categorized as references of the R/D. Both parties further agreed that the contents of Annex 4 to 5 may be modified by mutual confirmation such as determination of Minutes of Meetings usually after Joint Coordinating Committee.

➤ **Environmental and Social Considerations**

With regard to the Section 10.1 of the BP, since the Project is categorized as "B" under the 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guideline"), the necessary procedures are taken in accordance with the Guideline. Some examples include;

➤ **Strategic Environmental Assessment**

The Project conducts Strategic Environmental Assessment in accordance with the Guideline. The draft terms of reference is indicated in the Annex 3.

➤ **Disclosure of the information regarding environmental and social considerations**

Both parties agreed that JICA discloses the front page of the R/D, drafts of TOR for environmental and social considerations studies attached as Annex 3 as agreement documents designated by the 3.4.2.7 of the Guideline and "Environmental and Social Considerations in Detailed Planning Survey" as Annex 6. The front page of the R/D and drafts of TOR are disclosed on JICA's website promptly after concluding the R/D.

➤ **Gender Equality and Women's Empowerment**

Both parties confirmed that activities to promote gender equality and women's empowerment should be duly practiced for the Project implementation.

**[DRAFT] TERMS OF REFERENCE OF
ENVIRONMENTAL AND SOCIAL CONSIDERATIONS STUDIES
(JICA Guidelines Item 3 of the Section 3.4.2)**

- In the environmental and social considerations study of this Project, the concept of Strategic Environmental Assessment (hereinafter referred to as "SEA") shall be applied, based on JICA Guidelines for Environmental and Social Considerations (April 2010) (hereinafter referred to as "JICA Guidelines"), 'the Law on Environment Protection and Natural Resources Management 1996', which is the main framework on environmental conservation/assessment in Cambodia, and other relevant Cambodian legal framework.
- This document describes a draft framework of the terms of reference for SEA for the Project. The contents of the document are tentative and subject to change. The details of the SEA shall be discussed through the process of Project implementation.
The SEA is environmental assessment at Policy (P), Planning (P), and Program (P), (PPP) level. It has a profound significance in the plans for proactive environmental and social considerations into the higher levels of decision-making processes by early warning on environmental and social impacts, broad and long-term perspective.
- Main items of the environmental and social considerations study shall include, but not limited to, the followings.
 1. Review the goals/objectives for energy development planning;
 2. Conduct comparative analysis of alternatives to realize the goals/objectives
 3. Review the contents of the existing policies/plans/programs and examine the issues on environmental and social aspects for energy development planning;
 4. Conduct scoping (clarify crucially important items on environmental and social impacts and its evaluation methods to be taken into account in the decision making such as policy, plan, and program levels)
 5. Identify baseline data on existing environmental and social conditions of the target area (e.g. land use, environmental pollution, natural environment, socio-economic situation, socio-cultural environment, lifestyle of indigenous people and communities);
 6. Identify legal framework and institutions of the Kingdom of Cambodia on environmental and social considerations, including
 - Laws, regulations, and standards related to environmental and social considerations (e.g. those related to strategic environment assessment, environmental and social impact assessment, resettlement, public participation, information disclosure);

- Gaps between the JICA Guidelines and the legal framework of the Kingdom of Cambodia on environmental and social considerations and how they will be filled in the Project
 - Organizations responsible for implementation of environmental and social considerations including SEA and ESIA and division of their roles;
7. Predict likely environmental and social impacts of each alternative based on the results of scoping;
 8. Evaluate likely impacts and compare alternatives at policy, plan, and program level. Options including "without project option" and "zero option" from technical, financial, and impacts of environmental and social points of view, and select the optimal plan;
 9. Identify measures to mitigate the impacts in the optional plan (i.e. measures to avoid, minimize, or compensate the negative impacts);
 10. Identify monitoring methods based on the mitigation measures;
 11. After the disclosure of the scoping drafts/draft reports, consultations with local stakeholders are conducted based on stakeholder analyses. The results of consultations should be reflected in the project plan.

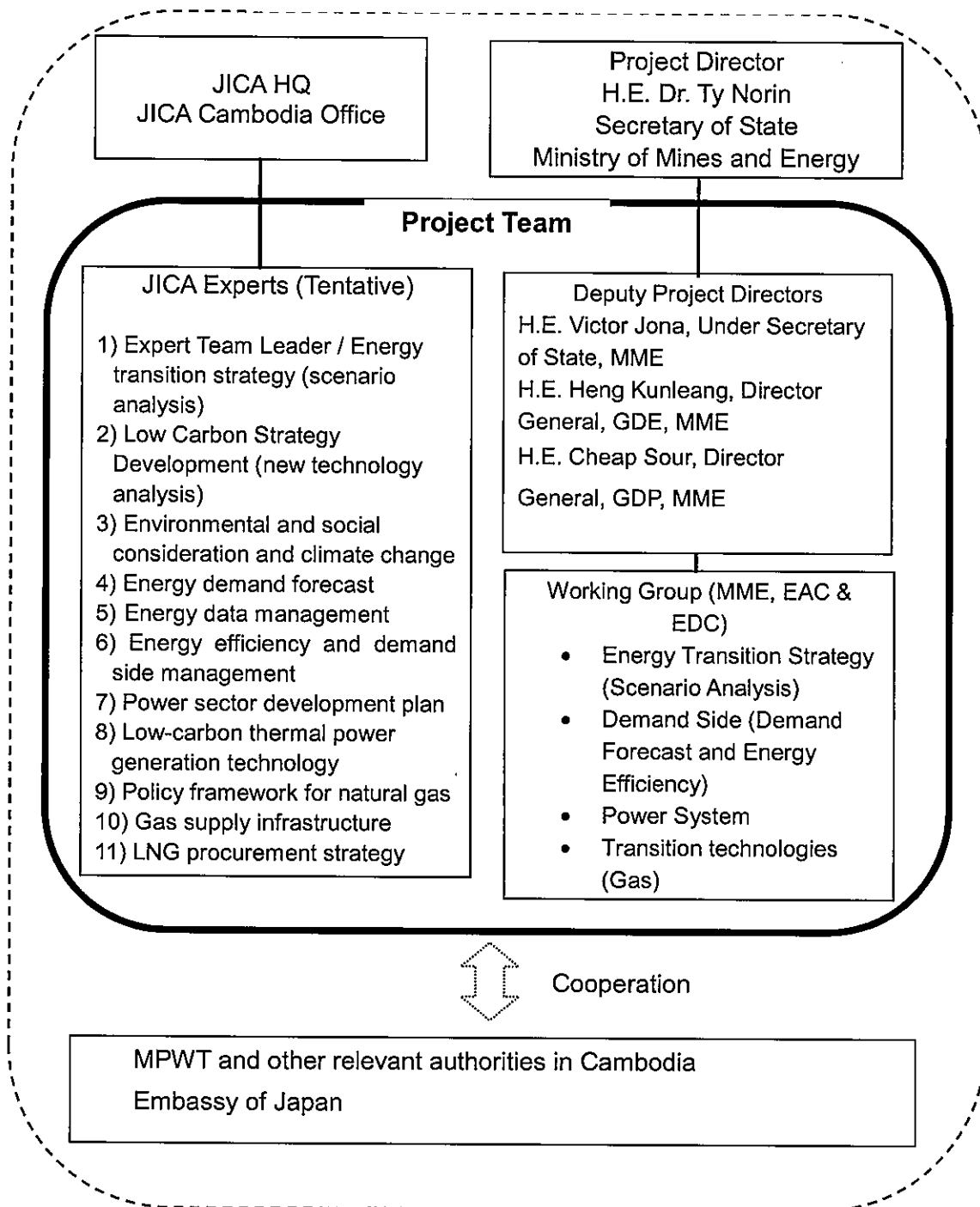
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Annex 4

IMPLEMENTATION STRUCTURE

Joint Coordinating Committee



Annex 5

List of Proposed Members of Joint Coordinating Committee

1. Function

The Joint Coordinating Committee (JCC) will be held at least twice a year or whenever the need arises. The main functions of JCC are:

- (1) To review the overall progress of the Project
- (2) To review and exchange views on major issues that arise during the Project and
- (3) To facilitate coordination with other relevant authorities.

2. Composition

- (1) Project Director:
H.E. Dr. Ty Norin, Secretary of State, Ministry of Mines and Energy (MME)
- (2) Project Team:
 - 1) Deputy Project Directors: H.E. Victor Jona, Under Secretary of State, H.E. Heng Kunleang, Director General, GDE and H.E. Cheap Sour, Director General, GDP.
 - 2) JICA Experts (tentative):
 1. Expert Team Leader / Energy transition strategy (scenario analysis)
 2. Low Carbon Strategy Development (new technology analysis)
 3. Environmental and social consideration and climate change
 4. Energy demand forecast
 5. Energy data management
 6. Energy efficiency and demand side management
 7. Power sector development plan
 8. Low-carbon thermal power generation technology
 9. Policy framework for natural gas
 10. Gas supply infrastructure
 11. LNG procurement strategy
 - 3) Personnel from GDE, GDP, EAC and EDC to be assigned to Working Groups
 - 4) Others who are accepted by Cambodian side and Japanese side
- (3) Working Groups (tentative)
 1. Energy Transition Strategy (Scenario Analysis)
 2. Demand Side (Demand Forecast and Energy Efficiency and Conservation)
 3. Power System
 4. Transition technologies (Gas)
- (4) Other members
 - 1) Ministry of Public Works and Transport
 - 2) Other stakeholders appointed by the Project Director or the Project Manager(s)
 - 3) The Chief and Senior Representative and representatives from JICA Cambodia Office
 - 4) Representatives from JICA Headquarters, other domestic and foreign offices
 - 5) Officials from the Embassy of Japan

**Environmental and Social Considerations in Detailed Planning Survey
(Technical Cooperation for Development Planning)**

1. Full title of the Project

The Project for Development of Clean Energy Transition Roadmap towards Carbon Neutral Society

2. Type of the study (e.g. Master Plan, Feasibility Study, Detailed Design, etc.)

Master Plan* The project is categorized as "Master Plan" under the JICA guidelines for environmental and social considerations (April 2010). At the same time, the project is categorized as "Road Map" under Cambodian laws and regulations.

3. Categorization and its reason

The Project is categorized as B as the project is not likely to have significant adverse impact on the environment under the JICA guidelines for environmental and social considerations (April 2010) in terms of its sectors, characteristics and areas.

4. Agency or institution responsible for the implementation of the project

Ministry of Mines and Energy, Royal Government of Cambodia

5. Outline of the Project (objectives, justification, location, proposed activities, and scope of the study)

5-1 Impact

Objective of the energy transition roadmap is to realize clean, reliable and economic energy transition towards carbon neutral society.

5-2 Outcome

Based on the Energy Transition Roadmap, recommended action plans will be taken into consideration and implementation.

5-3 Outputs

Development of the energy transition roadmap consisting of action plans and scenarios toward carbon neutrality by mid-century.

5-4Activities

- i. Review existing energy related policies and plans, and identify preconditions for the study
 - Review current national development policies
 - Review energy sector policies
 - Review climate policies
- ii. Update multiple primary energy demand scenarios for both power and non-power sectors
 - Review power demand scenarios based on the power development plan
 - Update primary energy demand scenarios based on collected data and a demand forecast model
 - Refine the demand scenarios
- iii. Study energy transition roadmap scenarios in relevant sectors considering affordability (economy), reliability while securing long-term carbon neutrality, which includes:
 - Formulate primary energy roadmap towards carbon neutrality by the mid-21st century
 - Review and recommendation on the existing power development plan to reflect the aim of the roadmap towards carbon neutrality by the mid-21st century (with an emphasis on the period after 2040)
- iv. Study pros and cons of each roadmap scenario and propose one energy transition roadmap scenario to be the Cambodia Energy Transition Roadmap towards Carbon Neutral Society
 - Identify priority technologies and measures necessary to be used for the recommended energy transition roadmap from such options as energy efficiency, renewable energy, grid interconnection, utilization of natural gas, biomass, hydrogen/ammonia, and Carbon dioxide Capture, Utilization and Storage (CCUS), etc.
 - Recommend policy actions, institutional frameworks, and investment projects for facilitating introduction of the above priority technologies and measures
 - Develop strategies and guidelines to access and manage energy statistics for the future updates of the roadmap
 - Identify priority areas for international cooperation and financing
- v. Support preparatory works of natural gas introduction
 - Study options of LNG use for power and industrial development in Cambodia (natural gas pipeline option or power transmission line option) and recommend the best option for Cambodia

- Evaluate natural gas demand scenarios
 - Identify necessary infrastructure and estimate required investments
 - Propose legal and regulatory frameworks to oversee natural gas/LNG utilization in different sectors (Power, Industry and Public) including those for safety, health and environment
 - Identify priority areas for international cooperation and financing
- vi. Prepare the study reports (including summary for policymakers) in Khmer and English

adjoining the Korat plateau of Thailand; and the Ratanakiri plateau and Chlong highlands in the east, merging with the central highlands of Vietnam (MoE 2009).

The geographic characteristics of Cambodia can be divided into five types: central plains, northern mountains, eastern highlands, southwestern mountains, and the southern coastal region.

6-3-2 Climate

The climate of Cambodia is dominated by two monsoons:

- a) The northeast monsoon (dry season from December to April)
- b) The southwest monsoon (rainy season from May to November; about 90% of the rainfall occurs during this season)

Three climatic zones have been defined for the country: (i) the coastal and mountainous area of the southwest: Temperatures are generally high with little variation between seasons, and they can fall below 20 °C in the coldest months; (ii) the central plains which include the Mekong River and the Tonle Sap Lake: Again, temperatures are generally high, with little variation between seasons. Monthly temperatures range from 25 °C (in January) and can rise to 40 °C (in April), the warmest month before the start of the rainy season. The coldest temperature is below 15 °C in December and January. The mean temperature is approximately 25 °C; and (iii) the northern and north-eastern regions: Temperatures are high during the hottest and coldest months. The mean temperature is normally 25 °C in the lowlands and 20 °C in the highlands (WEPA 2012)

6-3-3 Land Use

The MAFF published a chart in 2001 to represent the overall distribution of land use in Cambodia, including 59% forest cover (see Figure 1.1.10). Since then the Forestry Administration has reported a forest cover figure of 57% (2010), despite the obvious rapid expansion of urban areas for residential and industrial land use (EURONET Consortium 2012)

6-3-4 Protected Areas

The protected areas in Cambodia currently include seven national parks, ten protected forests, ten wildlife sanctuaries, four protected landscapes and six multiple use areas covering an area of 46.013 km², representing 25.42% of the country.

6-3-5 Issues Related to the Protection of Cultural Heritage

Because of Cambodia's history of political instability, the protection of important sites and objects has taken a back seat, and sites were not always adequately managed. It was

only in 1993, when a civil law system was put in place and Cambodia began to regain peace and stability, that Cambodia began protecting its cultural heritage along with the establishment of the SCNC. The Royal Decree on the Protection of Cultural Heritage is not the sole governing authority on the regulation and management of cultural property. Other laws also overlap the subject matter. On top of that, legal authorities such as the constitution, executive decrees, land law provisions, customs regulations, and international treaties to which Cambodia is a signatory also handle cultural heritage preservation in Cambodia. Additionally, laws do not address subject matters in detail. Most of the legislation consists of sub-decrees (Anu-Kret) that are adopted by the Council of Ministers or Prakas (Declaration) from individual ministers. Authorities within the ministry also use the Sarachor (Circular) to clarify points of law (Carrano 2010).

7 Social Condition

7-1-1 Demographics

According to the 2019 Census, the estimated population of Cambodia was 15,552,211. The average rate of annual population growth between 2008 and 2019 was 1.4%. Cambodia's average population density was 87 people/km² (National Institute of Statistics 2020).

The largest ethnic group in Cambodia is Khmer, comprising 95.4% of the total population, followed by 2.4% Cham, 1.5% Chinese, and 0.7% other minority ethnic groups, according to the estimates for 2019-2020 by the CIA. The indigenous peoples and ethnic minority groups are generally marginalized and vulnerable, and the vulnerability is linked with the characteristics of Cambodian social and economic factors. With regards to religion, 97.1% of the population were Buddhists, 2.0% were Muslims, 0.3% were Christians, and 0.5% were specified as 'other' (National Institute of Statistics 2020). Khmer is the official and most widely used language. French and English are also used in the country.

7-1-2 Poverty

Although Cambodia's tragic past is well documented, the country has seen political and macroeconomic stability since 1998, and a decade of high and sustained economic growth. Cambodia's economy sustained an average annual growth rate of 7.7 percent between 1998 and 2019, making it one of the fastest-growing economies in the world. Cambodia has recently redefined the poverty line, using the most recent Cambodia Socio-Economic Survey for 2019/20. The national poverty line in Cambodia is now riel 10,951 or is equivalent to US\$2.7 (market exchange rate) per person per day. Under the new poverty line, about 18 percent of the population is identified as poor. Over the period 2009-2019/20, poverty rates declined by 1.6 percentage points per year. Despite the COVID-19 pandemic peril, the increase in the poverty rate in 2020 is projected to have been

limited to an increase of 2.8 percentage points thanks to social assistance to poor and vulnerable households (World Bank 2022).

7-1-3 Legal System

The hierarchy and definitions of Cambodian legal norms are shown in Table 1.

Table 1

Hierarchy	Class	Definition
1	Constitution	Supreme norm of the Cambodian legal hierarchy Adopted by the constituent assembly; promulgated by the King.
2	Constitutional Law	Revision or amendment of the Constitution, voted for by the National Assembly with a majority of two-thirds of all members.
3	Law (<i>Kram</i>)	Designates either the promulgated law or the act of promulgation of a law signed by the King or, in his absence, by the acting chief of state; countersigned by the Prime minister and the interested minister.
4	Decree (<i>Kret</i>)	Highest norm that may be enacted by the executive power within the framework of its regulatory power. Signed by the King or, in his absence, by the acting head of state; generally countersigned by the prime minister and the interested minister.
5	Sub-Decree (<i>Anukret</i>)	Regulation adopted by the prime minister and countersigned by the interested minister.
6	Declaration (<i>Prakas</i>)	Regulation adopted by a minister (or the governor of the National Bank for banking issues).
7	Circular (<i>Sarachor</i>)	Ministerial implementation measure

Source: Council of Jurists (2000)

In Cambodia, the Law on Environmental Protection and Natural Resource Management, enacted on 18 November 1996, is the framework law for environmental protection. Its objectives are:

- to protect and upgrade environmental quality and public health by means of prevention, reduction and control of pollution
- to assess the environmental impact of all proposed projects prior to the issuance of a decision by the Royal Government
- to ensure the rational and sustainable preservation, development, management and use of the natural resources of the Kingdom of Cambodia

- to encourage and create an opportunity for the public to participate in the protection of the environment and the management of natural resources
- to suppress any acts which may have a negative effect on the environment.

8 Legal Framework of Environmental and Social Considerations

8-1 Laws, regulations and standards related to environmental and social considerations

In Cambodia, there are three (3) levels of laws and regulations which stipulate E(S)IA obligation and processes: Law, Sub - decree and Prakas (Declaration).

- The Law on Environment Protection and Natural Resources Management 1996 is the main framework on environmental conservation/assessment.
- The Sub-decree on Environmental Impact Process 1999 - Cabinet/Council of Ministers' order - stipulates the definition of EIA. This Sub - decree prescribes the obligation, necessity and process of EIA reports, according to a project's type, size and capacity.
- The Prakas on General Guidelines for Conducting Initial and Full Environmental Impact Assessment (IEIA and FEIA) Reports 2009, (hereafter, EIA Declaration) - a ministerial ordinance - stipulates the approval procedure of IESIA/EIA, and detailed instructions and application form and documents to produce.
- The Joint Prakas on the Establishment of Service fee for Reviewing report of EIA and Monitoring the Project implementation (2000 and 2012) are the Joint Declarations (ministerial ordinance) between the Ministry of Environment (MOE) and the Ministry of Economy and Finance (MEF). The joint declaration on the Establishment of Service fee for Reviewing report of EIA and Monitoring the Project implementation was issued in 2000 and revised in 2012. The 2012 Joint Declaration stipulates service fees for reviewing EIA reports and for monitoring the project implementation by type and activities of the development project.
- The Prakas (228) on Procedures and Implementation Guidelines for Checklists to Prepare the Initial Environmental and Social Impact Assessment Reports on All Types of Building Construction Projects (2021) was released to introduce and standardize the Initial Environmental and Social Impact Assessment (IESIA) for all construction work with a size between 15,000 to 45,000 square meters (with the exception of construction in certain sectors).

8-2 Requirements and procedures of Environmental and Social Impact Assessment (EIA)

(1) Requirements of ESIA

Projects Subject to the IESIA/FESIA

Generally, Initial Environmental Examination (IEE) and Environmental and Social Impact Assessment (ESIA) are employed in a number of developing countries to

minimize the environmental burden of economic development. The decision as to whether an IEE or an ESIA is required for a project is based on the type, size and location of the project proposed. In Cambodia, IEE and ESIA are often called Initial Environmental and Social Impact Assessment (IESIA) and Full Environmental and Social Impact Assessment (FESIA), respectively.

Development projects that are subject to ESIA according to the Appendix of the Prakas (021) on the Classification of Environmental Impact Assessment for Development Projects are listed in Table 2. Developers engaged in the projects listed below must prepare an IESIA or FESIA report for the project and submit it to the Ministry of Environment and other authorities concerned. IESIA reports must be prepared for the development projects that do not exceed the size or capacity presented in Table 2.

Table 2 (Only relevant items)

F.E.S.I.A.R: Full Environmental and Social Impact Assessment Report

I.E.S.I.A.R: Initial Environmental and Social Impact Assessment Report

No	Type of Project	Classification of Environmental Impact Assessment in accordance with Sizes of Development Project		
		F.E.S.I.A.R	I.E.S.I.A.R	Environmental Protection Contract
1. Mine, Energy, Industry Sector				
1	In search for mine resource, and oil, and gas		(All sizes)	
2	Mineral industry exploitation	(All sizes)		
3	Oil, Gas industry exploitation	(All sizes)		
4	All kinds of construction business, such as limestone, marble, sandstone, crushed stone, laterite, gravel, sand, latte Fossil clay, etc.	(>40 hectare)	(>10-40 hectare)	(≤ 40 hectare)
5	Mining and handicraft exploitation			≤ 1 hectare and 5 metre depth
6	Precious Mineral Processing Plant		(All sizes)	

7	Mineral cleaning base		(All sizes)	
8	Gas plant		(All sizes)	
9	Oil Refinery		(All sizes)	
10	Petroleum Chemical Plant		(All sizes)	
11	Oil and gas pipeline construction		(Length ≥ 2 km)	
12	Fuel and gas storage for distribution or storage of fuel and gas	(< 1 000 000 Litres)	(60 000 - \leq 1000 000 Litres)	
13	Fuel and gas station for distribution or station of fuel and gas	(> 60 000 Litres)	(>40 000 – 60 000 Litres)	(\geq 8 000 – 40 000 Litres)
14	Cement factory	(All sizes)		
15	Hydropower plant	(> 50 Megawatt)	(\geq 1- 50 Megawatt)	(< 1 Megawatt)
16	Power plant	(> 50 Megawatt)	(\geq 5- 50 Megawatt)	(< 5 Megawatt)
17	Power sub-plant construction project		(All sizes)	
snip				
6. Infrastructure Sector				
snip				
168	Urban development	(All sizes)		
snip				
171	Industrial Zone/SEZ	(All sizes)		
snip				
176	All Construction building (Office, Multi-purpose building, Trade building construction, Condo, Complex and Villas, Supermarket, and other constructions.)	(Construction Area > 45 000 m ²)	(Construction Area > 15 000 – 45 000 m ²)	(Construction Area > 3 000 – 15 000 m ²)
snip				

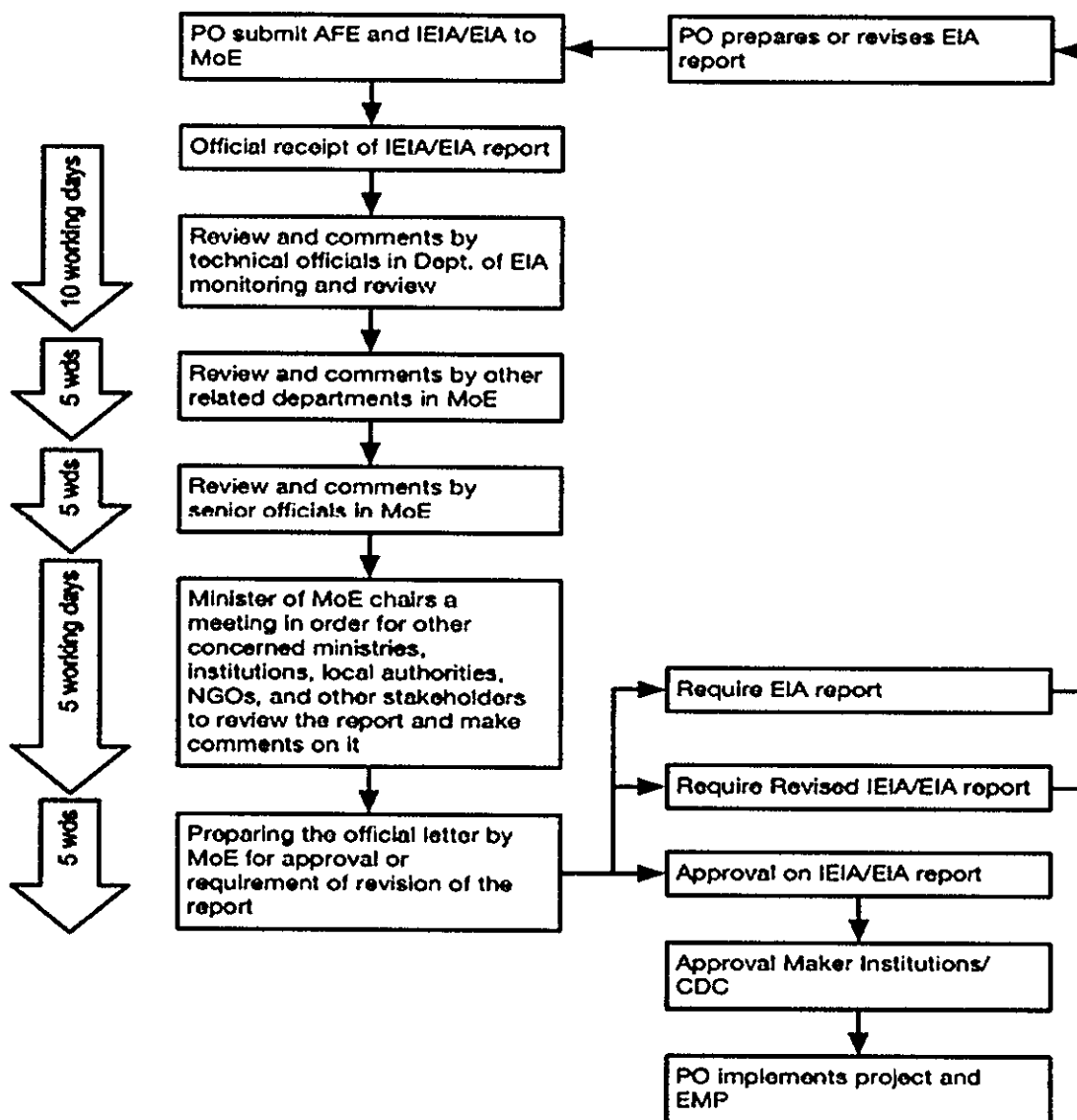
17 8	Construction of buildings outside the coastal area/Riverside	(> 250 rooms)	(≥ 80-250 rooms)	(< 80 rooms)
snip				
18 3	Power transmission line	(> 230 KV)	(≥ 115-230 KV)	(< 115 KV)
snip				

(2) Procedures and Relevant Organizations

The Department of Environmental Impact Assessment in MoE is in charge of reviewing IEIA/FEIA reports for projects on a national level, while Municipal/Provincial Environment Departments are responsible for evaluating projects on a regional level for each organizational arrangement). In 2005, the Declaration on the Decentralization for Environmental Municipal/Provincial Department and the Declaration on the Power of the Delegation to the Decision Making on Project Development for Environmental Municipal/Provincial Departments were established. Article 1 of the Declaration states that the Municipal/Provincial Environmental Departments shall be responsible for reviewing and decision making on IEIA or FEIA reports for proposed projects and existing activities that have less than 2,000,000 USD of capital investment (Duong 2013). This means that the projects that have more than 2,000,000 USD are considered national-level projects, whereas projects with less than 2,000,000 USD in capital investment are considered municipal/provincial level projects. Figure 1 depicts the overall procedure of the environmental assessment for a national-level project.

IESIA/FESIA is expected to follow the same procedure.

Figure 1: Flowchart of the IEIA/EIA Process for National-level Project



Notes: IEIA: Initial Environmental Impact Assessment; EIA: Full Environmental Impact Assessment; CDC: Council for the Development of Cambodia; EMP: Environmental Management Plan; MoE: Ministry of Environment; PO: Project Owner; AFE: Application Form of Environment

Sources: MoE (2009); JICA (2012)

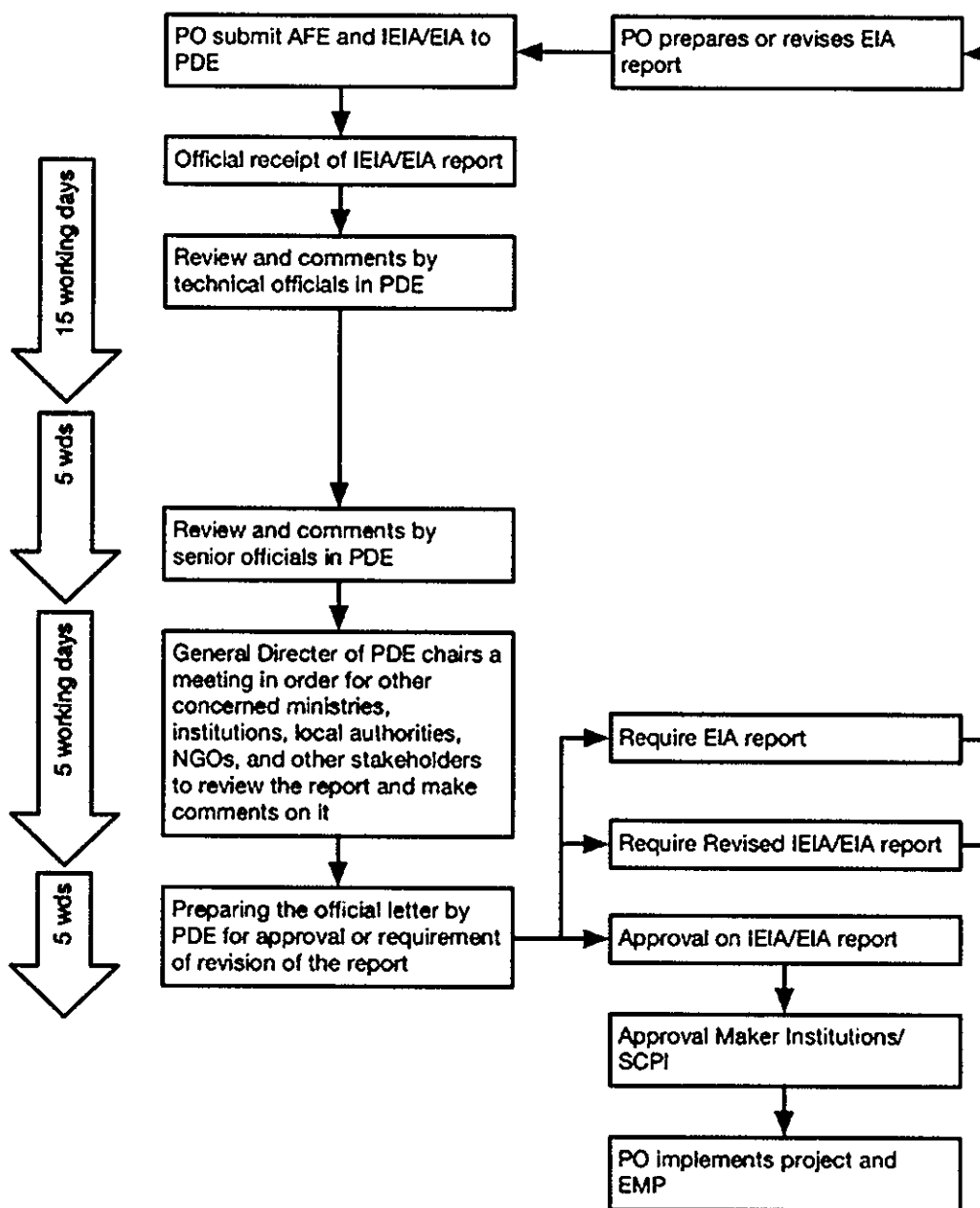
The approval procedure of municipal/provincial-level IEIA/EIA reports in local environment departments is summarized in Figure 2.

IESIA/FESIA is expected to follow the same procedure.

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Figure 2: Flowchart of the IEIA/EIA Process for Municipal/Provincial-level Projects



Notes: IEIA: Initial Environmental Impact Assessment; EIA: Full Environmental Impact Assessment; EMP: Environmental Management Plan; PO: Project Owner; PDE: Municipality/Provincial Department of Environment; SCPI: Sub-Committee of Municipality/Provincial Investment; AFE: Application Form of Environment

Sources: MoE (2009); JICA (2012)

The institutions and ministries responsible for proposed projects have the right to examine and approve any project that is stated in the sub-decree, but only after the MoE has reviewed and commented on the EIA report.

Municipal/provincial environmental departments that are responsible for proposed projects

have the following duties:

- Acquiring an EIA report from the project owner to be submitted to the Provincial Environmental Office
- Reviewing and approving the proposed project, after discussing and commenting with concerned provincial/urban authorities in accordance with the Declarations of the MoE (WB 2006).

8-3 Stakeholder participation and information disclosure

The EIA Declaration, 2009 stipulates the detailed instructions and process of EIA. Annex 1 of the “EIA Declaration” describes that the objective of the general guideline development is to introduce relevant stakeholders, including reviewers, project owners, consultant companies; decision makers/project approval ministries – institutions and other relevant stakeholders to implement the guidelines. The EIA Declaration encourages public participation in the EIA process, and indicates that all relevant stakeholders follow the guidelines.

JICA will assist the project proponent/ counterpart to disclose information about the environmental and social considerations, according to the Guideline 2010.

8-4 Strategic Environmental Assessment

To date, there is no formal legislation related to strategic environmental assessment (SEA) in Cambodia. As already mentioned, Cambodia has recently established an E(S)IA system, but the system covers projects only and excludes SEA (World Bank 2006).

This project conducts SEA in accordance with the Guideline.

8-5 Monitoring

Article 3 of the EIA Sub-Decree stipulates that the MoE has a responsibility to follow up, monitor and take appropriate measures to ensure a project owner will follow the EMP while project construction is taking place and comply with the approved EIA reports. To date, there is no law or decree that stipulates disclosure of monitoring results.

9 Provisional Scoping (types and magnitudes of possible adverse impacts)

A provisional scoping is conducted for the Project. The results are shown in Table 3: LNG receiving facility, gas pipe line and gas power plant.

Table 3: Provisional Scoping of the Project (LNG receiving facility, gas pipe line and gas power plant)

No.	Impact Item	Rating		Description of Impacts/Reasons for Rating
		Pre-Const. Phase	Operation Phase	
Pollution				
1	Air pollution	✓	✓	[Construction Stage] ➤ Air pollution caused by heavy machines and vehicles is expected. ➤ Air pollution by dust around roads and other places is expected. [Operation and monitoring stage (O&M stage)] ➤ SOx, NOx, PM, and dust will be generated by the operation of the power plant.
2	Water pollution	✓	✓	[Construction Stage] ➤ Water pollution by oil and others from heavy machines and vehicles is expected. ➤ Water pollution by surplus soil from underground facility construction sites containing minerals is expected. [O&M stage] ➤ The impact of plant wastewater, oil-containing wastewater, domestic wastewater, thermal wastewater, etc., are expected by the plant operation.
3	Waste	✓	✓	[Construction Stage] ➤ Wastes from construction sites are expected. ➤ It may be necessary to find soil dumping sites. [O&M stage] ➤ Wastes from power station and other facilities are expected.
4	Soil pollution	✓		[Construction Stage] ➤ Soil contamination by oil and others from heavy machines and vehicles is expected. ➤ Soil contamination by surplus soil from underground facility construction sites containing minerals from is expected. [O&M stage] ➤ No activities which give negative impacts are planned.
5	Noise and vibration	✓	✓	[Construction Stage] ➤ Noise and vibration from heavy machines and vehicles are expected. ➤ Noise and vibration during road works are expected. ➤ Noise from blasting are expected. [O&M stage] ➤ Noise from substations is expected.
6	Ground subsidence	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.

7	Offensive odors	✓		<p>[Construction Stage]</p> <p>➤ Odor from wastes and sewage from construction sites are expected.</p> <p>[O&M stage]</p> <p>➤ No activities which give negative impacts are planned.</p>
8	Bottom sediment	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
Natural Environment				
9	Protected areas	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
10	Ecosystem	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
11	Hydrology	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
12	Geographical features	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
Social Environment				
13	Resettlement/ Land Acquisition	✓		<p>[Planning stage]</p> <p>➤ Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.</p> <p>[O&M stage]</p> <p>➤ No activities which give negative impacts are planned.</p>
14	Poor people	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
15	Ethnic minorities and indigenous peoples	✓	✓	There are many dialects (or languages) and cultures in Cambodia. Although details of impacts (including their existences) are not known, the Project understands these cultures well and develops the plan of the country to achieve a balanced society.
16	Local economies, such as employment, livelihood, etc.	✓	✓	<p>[Construction stage]</p> <p>➤ Employment by the Project is expected.</p> <p>[O&M stage]</p> <p>➤ Unemployment may become an issue after the completion of construction.</p>

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17	Land use and utilization of local resources	✓	✓	<p>[Planning stage]</p> <ul style="list-style-type: none"> ➤ Land use and utilization of local resources may change. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ Negative impacts and positive impacts are expected because of change of land use and utilization of local resources. However impacts will be evaluated again when the content of the Project is determined.
18	Water usage	✓	✓	<p>Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.</p>
19	Existing social infrastructures and services	✓	✓	<p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Impacts by new construction works such as construction site and new access roads are expected. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ No particular negative impact by the Project is expected, however impacts will be evaluated again when the content of the Project is determined.
20	Social institutions such as social infrastructure and local decision-making institutions	✓	✓	<p>Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.</p>
21	Misdistribution of benefits and damages	✓	✓	<p>[Planning stage]</p> <ul style="list-style-type: none"> ➤ There may be feelings of resentment, because people living around the project site will benefit through the improvement of social infrastructure and services. People to be resettled and those who lose their means of livelihoods will receive certain compensation. ➤ There is a possibility that not only economic damages and benefits but also impacts on traditional lives of local people may occur. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ No particular negative impact by the Project is expected, however impacts will be evaluated again when the content of the Project is determined.
22	Local conflicts of interest	✓	✓	<p>[Planning stage]</p> <ul style="list-style-type: none"> ➤ People to be resettled and those who will lose their means of livelihoods will receive certain compensation. ➤ Local conflicts of interest may occur between residents, and between local administration bodies and local political leaders. <p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Conflicts between local residence and external workers may occur because of changes in local customs if the external workers cannot understand local customs. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ No particular negative impact by the Project is expected, however impacts will be evaluated again when the content of the Project is determined.

23	Cultural heritage	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
24	Landscape	✓	✓	<p>[Planning stage]</p> <ul style="list-style-type: none"> ➤ Impacts on movable cultural properties, intangible cultural heritages and cultural sites are expected. <p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Impacts by construction works are expected. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ Impacts by soil erosions and slope failures along access roads are expected depending on topography and geology.
25	Gender	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
26	Children's rights	✓	✓	Details of impacts (including their existences) are not known because specific plans are not available, however impacts will be evaluated again when the content of the Project is determined.
27	Infectious diseases such as HIV/AIDS	✓	✓	<p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Infectious diseases may be spread because of the inflow of external workers. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ No particular negative impact by the Project is expected, however impacts will be evaluated again when the content of the Project is determined.
28	Working conditions (including occupational safety)	✓	✓	<p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Accidents of workers are expected. ➤ Diseases caused by dust are expected. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ Accidents such as a traffic accident during maintenance activities are expected.
29	Accidents	✓	✓	<p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Accidents and traffic congestions by construction works are expected. ➤ Accidents to neighboring residents including electrocution are expected. ➤ Accidents such as slope failures are expected. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ Short-circuit accidents at substations and fires accompanying short-circuit accidents are expected. ➤ Slope failures along access roads are expected depending on topography and geology. ➤ Accidents such as a traffic accident during maintenance activities are expected.
Other				

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30	Trans-boundary impacts or climate change	✓	✓	<p>[Construction stage]</p> <ul style="list-style-type: none"> ➤ Emissions from forest clearance are expected. ➤ Emissions from heavy machines and vehicles are expected. <p>[O&M stage]</p> <ul style="list-style-type: none"> ➤ Contribute to the reduction of carbon emissions at regional level by exporting electricity to neighboring.
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10 Result of the consultation with recipient government on environmental and social considerations including roles and responsibilities

They have basically understood the essence of the Guideline 2010 for Environmental and Social Considerations. The Detailed Planning Survey mission explained that SEA shall be conducted in this Project.

11 Terms of Reference for Environmental and Social Considerations

- (1) SEA will be implemented in the Project at master plan level according to "Guidelines for Environmental and Social Considerations, JICA, April 2010". Its procedures and methods will be discussed and decided through coordination among the stakeholders during the Project. Terms of Reference (TOR) for the study of environmental and social considerations to be conducted in this project shall include, but not limited to, the followings.
- (2) Review the goals/objectives for the preparation of the energy transition roadmap
- (3) Conduct comparative analysis of alternatives to realize the goals/objectives
- (4) Review the contents of the existing policies/plans/programs and examine the issues on environmental and social aspects for energy development planning
- (5) Conduct scoping (clarify crucially important items on environmental and social impacts and its evaluation methods to be taken into account in the decision making such as policy, plan, and program levels)
- (6) Identify baseline data on existing environmental and social conditions of the target area (e.g. land use, environmental pollution, natural environment, socio-economic situation, socio-cultural environment, lifestyle of indigenous people and communities)
- (7) Identify legal framework and institutions of the Kingdom of Cambodia on environmental and social considerations, including
 - 1) Laws, regulations, and standards related to environmental and social considerations (e.g. those related to strategic environment assessment, environmental and social impact assessment, resettlement, public participation, information disclosure)
 - 2) Gaps between the JICA Guidelines and the legal framework of the Kingdom of Cambodia on environmental and social considerations and how they will be filled in the Project
 - 3) Organizations responsible for implementation of environmental and social considerations including SEA and ESIA and division of their roles
- (8) Predict likely environmental and social impacts of each alternative based on the results of scoping
- (9) Evaluate likely impacts and compare alternatives at policy, plan, and program level. Options including "without project option" and "zero option" from technical, financial,

- and impacts of environmental and social points of view, and select the optimal plan
- (10) Identify measures to mitigate the impacts in the optional plan (i.e. measures to avoid, minimize, or compensate the negative impacts)
 - (11) Identify monitoring methods based on the mitigation measures
 - (12) After the disclosure of the scoping drafts/draft reports, consultations with local stakeholders are conducted based on stakeholder analyses. The results of consultations should be reflected in the project plan.