Joint Crediting Mechanism Guidelines for Developing Sustainable Development and Safeguards Assessment Report and Monitoring Report

CONTENTS

1. Objectives

1. The Joint Crediting Mechanism (hereinafter referred to as "JCM") aims to contribute to the sustainable development in the Kingdom of Thailand through the implementation of JCM projects, and the "Joint Crediting Mechanism Guidelines for Developing Sustainable Development and Safeguards Assessment Report and Monitoring Report (hereinafter referred to as "these Guidelines") facilitates this objective.

2. Scope and applicability

2. These Guidelines are intended to assist project participants in developing Joint Crediting Mechanism (hereinafter referred to as "JCM") Sustainable Development and Safeguards Assessment Report (hereinafter referred to as "SDSAR") and Sustainable Development and Safeguards Monitoring Report (hereinafter referred to as "SDSMR").
3. These Guidelines describe the standards which are the requirements to be met, except guidance indicated with the term "should" or "may" is indicated as defined in paragraph 5 below.

3. Terms and definitions

4. "SDSAR" is prepared by a project participant of a JCM project by filling in "Sustainable Development and Safeguards Assessment Report Form" (hereinafter referred to as "SDSAR form") and specifying in detail, in line with the JCM rules and guidelines, a plan of the JCM project in contributing to sustainable development including the identification of and mitigation measures for any negative environmental and socio-economic impacts in order to ensure that project activities "do no net harm".
5. The following terms apply in these Guidelines:
   (a) "Should" is used to indicate that among several possibilities, one course of action is recommended as particularly suitable;
   (b) "May" is used to indicate what is permitted.
6. Other terms in these Guidelines are defined in Section A of Attachment 2 of "Memorandum of Cooperation on the Joint Crediting Mechanism between the Government of Japan and the Government of the Kingdom of Thailand".

4. General guidelines

7. When designing a proposed JCM project and developing SDSAR and SDSMR, project participants apply these Guidelines.
8. Project participants provide a comprehensive description of assessment and implementation on contributions to the Sustainable Development Goals adopted at the United Nations General Assembly in September 2015 (hereinafter referred to as "SDGs") through their

project and ensure that project activities “do no net harm”.

9. Project participants should conduct ex-ante analysis of the contribution to SDGs and identify and mitigate any negative environmental and socio-economic impacts in order to ensure that project activities do no net harm using the SDSAR form and ex-post evaluation using the SDSMR form.
10. The Guidelines, the SDSAR form and the SDSMR form can be obtained electronically from the JCM website.
11. The Joint Committee may revise the SDSAR form and the SDSMR form, if necessary.
12. The SDSAR form and the SDSMR form should be completed in English.
13. The presentation of values in the SDSAR form and SDSMR form, including those used for the calculation, where necessary, should be in an international standard format e.g. 1,000 representing one thousand and 1.0 representing one. The units used should be accompanied by their equivalent S.I. units/norms (thousand/million) as part of the requirement to ensure transparency and clarity.
14. The SDSAR form and the SDSMR form are to be completed without any alterations to its format, font and headings. Figures, documents, evidence related to the description may be attached. In the case that there is any other relevant issue needed to be considered, it is specified in the last row of each area of assessment.
15. Project participants are encouraged to refer to, as appropriate, the relevant local and/or national regulations in their preparation of SDSAR and SDSMR.

5. Developing SDSAR and SDSMR

In the following section, a hypothetical project is described in red as an example to demonstrate how to fill in the SDSAR form and SDSMR form.

5.1. Completing a SDSAR form

<Example of a completed SDSAR form>

Project description	
Title	ABC E-methane Cogeneration Facility
Project participant (Thai)	ABC Co., Ltd.
Project participant (Japanese)	DEF Co., Ltd.
Project location	120 Chaengwattana Road, Lak Si, Tungsonghong, Bangkok 10210, Thailand
Latitude, longitude	N 10° 10' 00" and E 100° 10' 00"
Project status	Status on 31 January 2024 ☐ not started yet ☐ expected to complete in Month/Year ☑ operated since 2 January 2024

Report description		
Date of report completion	1 February 2024	
Version	1.0	
Corresponding author	Name	Ms. GHI JKL
	Title	JCM expert
	Organization	MNO Co., Ltd.
	Telephone	+66 81 1234567
	E-mail	GHI@xxx.co.th

Note:

- Related figures, documents, evidence related to the description may be attached as attachment.
- In the case where there is any other relevant issue that needs to be considered, it is be specified in the last row of each area of assessment.

Certification letter

DD/MM/YYYY

I, the undersigned, hereby certify that MNO Co., Ltd. is the author of the "Sustainable Development and Safeguards Assessment Report Form" of the project titled ABC E-methane Cogeneration Facility developed by ABC Co., Ltd. and DEF Co., Ltd. located at 120 Chaengwattana Road, Lak Si, Tungsonghong, Bangkok 10210, Thailand

The report was prepared by the team members as follows:

No.	Name	Position	Signature
1	GHI JKL	Manager	
2	PQR STU	Environmental specialist	
3	VWX YZ	Sociologist	

Signature .....

(GHI JKL)

Position Manager

Seal (if any)

Part 1: General information of the project area before project implementation

Provide baseline information describing the conditions before project implementation. This data is essential for assessing the project's environmental, social, and economic impacts. Ensure the details are accurate and comprehensive to support a thorough evaluation.

Area of Assessment	Description
1. Environment and natural resources	
1.1 Air pollution	The project is located in the government complex which has no point source of air pollution found in the area. The ambient air quality consistently met the standards, except for occasional PM2.5 levels exceeding the standards during the dry season.
1.2 Water pollution	No surface water and ground water pollution problem were reported in the area.
1.3 Soil pollution	No soil pollution was reported in the area.
1.4 Noise pollution	No point sources of noise pollution were found in the area.
1.5 Odor pollution	No odor was reported in the area.
1.6 Water consumption	The project area is a government complex surrounded by commercial buildings with prevalent consumption of tap water. No surface or underground water is used in the area.
1.7 Solid waste/municipal solid waste	The Bangkok Metropolitan Administration regularly collects solid waste from the governmental buildings. So, there is no leftover problem in the area.
1.8 Hazardous waste/infectious waste/electronic waste	No pollution from hazardous waste/infectious waste /electronic waste was reported in the area.
1.9 Energy (i.e. Wasted Energy, Renewable Energy)	The government complex uses electricity from power grid and solar power.
1.10 Land Use	The government complex is surrounded by office /commercial buildings.
1.11 Biodiversity	The government complex was built more than 15 years ago. Thus, issues concerning biodiversity is not relevant to the commercial building.
1.12 Wild animal/ Aquatic ecosystem	No wild animal or aquatic ecosystem is found in the area.
1.13 Other (Please specify…)	-

Area of Assessment	Description
2. Society	
2.1 Socio-cultural characteristics	Socio-cultural characteristics are those of a typical Bangkok residential area. The society comprises largely of working-class who engage in trade and official work. With employment opportunities arising from urban development, residents represent a mixture of locals and trans-local and foreign immigrants.
2.2 Health and safety	There is no major concern in terms of health and safety in the area.
2.3 Traditions, cultures and/or valuable places worthy of conservation	The tradition and cultural values of the people in the area are those commonly found in the central region of Thailand. There are no distinctive places of high conservation values.
2.4 Race, religion, and ethnic group	The majority of population in the area are of Thai origin who practice Buddhism. There is a small group informal foreign workers from neighboring countries.
2.5 Transportation	Primary mode of transportation in the area is private vehicles (cars, trucks and motorbikes). There is also a use local public transport such as train, buses, vans.
2.6 Other (Please specify…)	-
3. Economic	
3.1 Overall local economy (i.e. income, expenditure, etc.)	The local economy in the area is largely driven by commercial and service sector with big office buildings, hospitals and hotels located in Tungsonghong. According to 2021 data on the province, the average monthly income is THB 39,507 while monthly expenditure is THB 31,640.
3.2 Employment/Career	Officials, merchants, factory workers, farmers
3.3 Major agricultural activity in the area	No agricultural activity in the area is found.
3.4 Major industry in the area	There are some factories include dairy product, automotive parts.
3.5 Major service sector in the area	Hospitality (particularly restaurants) and retail trade are the main service sector in the area.
3.6 Basic infrastructure (i.e. road, school, etc.)	The basic infrastructure in the area includes transportation (road network, public transportation),

Area of Assessment	Description
	utilities (electricity, water supply, waste management), education (schools and vocational training), healthcare as well as telecommunications.
3.7 Other (Please specify…)	

**Project Participant explains in detail of provenance and importance of issue consider about before project implement and specify if the project is rightful/environmental law, social, and economy. To have Negative impact assessment (Do-no-net-harm) with supporting documents.*

Part 2 Sustainable Development Goals

2.1 Sustainable Development Contributions Assessment

*Please mark ✔ in ☐ to identify the contributions of the proposed project to specific SDG. The project is required to contribute to **at least two SDGs, in addition to** SDG13: Climate Action.*

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐ SDG 1: No Poverty	-	-
☐ SDG 2: Zero Hunger	-	-
☐ SDG 3: Good Health and	-	-
☐ SDG 4: Quality	-	-
☐ SDG 5: Gender Equality	-	-
☐ SDG 6: Clean Water and Sanitation	-	-
☑ SDG 7: Affordable and Clean Energy	Amount of generated electricity (Unit: MWh)	Increase share of renewable energy in national energy mix
☐ SDG 8: Decent Work	-	-
☐ SDG 9: Industry,	-	-
☐ SDG 10: Reduced	-	-
☐ SDG 11: Sustainable	-	-
☐ SDG 12: Responsible	-	-
■ SDG 13: Climate Action		
☐ SDG 14: Life Below	-	-

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐ SDG 15: Life on Land	-	-
☐ SDG 16: Peace and	-	-
☐ SDG 17: Partnerships to achieve the Goal	Last annual progress report submission date	Operational continuity of the JCM project, which mobilizes additional financial resources, disseminates low-carbon technologies, and reduces GHG emissions in Thailand

**Project Participant provides the description for each indicator of the selected SDGs and presents currently available datasets along with supporting documents.*

2.2 Details on Monitoring Parameters for Demonstrating SDG Contributions

Provide details on how to monitor the indicators identified in Section 2.1.
(Tables can be added based on the number of selected SDGs.)

SDG Number	7
SDG Target	Affordable and clean energy
Variable or Indicator	Amount of generated electricity (Unit: MWh)
Duration/Frequency	Monthly
Method/Tool	Power meter
Responsible person	Staff of ABC Co., Ltd.

SDG Number	17
SDG Target	Partnerships to achieve the goal
Variable or Indicator	Last annual progress report submission date
Duration/Frequency	Yearly
Method/Tool	-
Responsible person	Staff of ABC Co., Ltd.

Part 3 Do no net harm

3.1 'Do no net harm' Risk Assessment and Safeguards

Specify impacts and mitigation plans to mitigate negative impacts.

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
1. Impacts on Environment and Natural Resources						
1.1 Physical resources						
Water pollution	✓					
Soil pollution	✓					
Air pollution			✓		Based on the specifications of the gas engine, particulate matter, SO_2, and NO_x emissions are expected to remain below Thailand's air quality standards, which set limits at 20 mg/m^3, 15 ppm, and 80 ppm, respectively.	The project consistently operates the engine under standard conditions as outlined in the technical specifications, ensuring that emissions have never exceeded air quality standards.
Noise pollution			✓		According to specification of the gas engine, the sound pressure level at 1 m is 110 dB(A).	The project reduces the noise of the gas engine by installing it in a room with double-glazed windows which is able to reduce sound level by 50%.
Odor pollution	✓					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Soil erosion, coastal/river erosion	✓					
Vulnerability to natural disaster	✓					
Other.....	✓					
1.2 Waste management						
Increase in solid waste/municipal solid waste	✓					
Increase in hazardous waste such as waste contaminated with oil, chemicals and used oil etc.		✓			The gas engine uses lubricant oil that becomes hazardous waste at the end of its life cycle.	The project hires a company to manage the transportation and disposal of the waste lubricant oil.
Increase in infectious waste	✓					
Increase in electronic waste	✓					
Other.....						
1.3 Biological resources						
Impacts on forest areas and land-use change	✓					
Loss of land and wildlife ecosystem	✓					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Loss of water resources and aquatic ecosystem	✓					
Foraging	✓					
Food	✓					
Other.....	✓					
1.4 Human livelihood						
Water drainage or waterway diversion	✓					
Change in water consumption	✓					
Change in land ownership	✓					
Other.....	✓					
2. Social impacts						
Public security such as increase in crime risks	✓					
Health impacts	✓					
Relocation or temporary/permanent loss of land	✓					
Loss of housing	✓					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Impact on public utilities such as electricity, telephone service etc.	✓					
Impact on traffic	✓					
Community conflict	✓					
Employment and labor	✓					
Impact on people of certain race, religion and ethnic groups	✓					
Damage to areas of high conservation value, such as religious sites, historic sites, monuments, important places of the community etc.	✓					
Impact on human rights such as education, freedom of thought, religion etc.	✓					
Gender inequality such as in employment opportunities, salary, promotion, benefits, termination of contract etc.	✓					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Other.....	✓					
3. Economic impacts						
Increase unemployment /loss of income of people in local communities	✓					
Other.....	✓					

**Criteria for assessing the level of impact severity*

1. None: The proposed activity has no direct/indirect impacts on the environment, society and economy.

2. Low: The proposed activity causes some changes to the existing conditions but has no implication on the quality of the environment, society and economy. The impact is short-lived and temporary, and the extent of the affected area is not large (1km perimeter).

3. Moderate: The proposed activity causes some changes to the existing conditions and has implications on values or qualities of the environment, society and economy. The impact is short-lived and temporary. The extent of the affected area is large but confined to the related area (2km perimeter).

4. High: The proposed activity causes some changes to the existing conditions and has implications on value or quality of the environment, society, economy, and potentially the ecosystem. The impact is permanent and the extent of the affected area id extensive (3km perimeter).

3.2 Details on Monitoring Parameters for Ensuring No Negative Impacts

Provide details on how to monitor the impacts identified in Section 3.1.

(Tables can be added based on the number of negative impacts identified)

Category of negative impact	Impacts on Environment and Natural Resources
Subcategory of negative impact	Air pollution
Vulnerable group	People in nearby communities
Possible negative impact	Air pollutants emitted from the gas engine's exhaust
Parameter/indicator	- particulate matter ≤ 20 mg/m^3 - SO_2 ≤ 15 ppm - NO_x ≤ 80 ppm
Reference	Announcement of the Ministry of Natural Resources and Environment Re: Emission Control Standards for Power Plant Exhaust, B.E. 2566 (2023)
Duration/frequency	Yearly
Method/Tools	Apply the method outlined in the announcement
Responsible person	Staff of ABC Co., Ltd.
Expected outcome	The emissions do not exceed the air quality standards.

Category of negative impact	Impacts on Environment and Natural Resources
Subcategory of negative impact	Noise pollution
Vulnerable group	People in nearby communities
Possible negative impact	Noise from the gas engine's exhaust
Parameter/indicator	- Leq (24-hour Equivalent Continuous Noise Level) < 70 dB(A) - Lmax (Maximum Noise Level) < 115 dB(A) - Noise Disturbance Level < 10 dB(A)
Reference	- Announcement of the Ministry of Natural Resources and Environment Re: Noise Level, B.E. 2540 (1997) - Announcement of the Ministry of Natural Resources and Environment Re: Method for Measurement Background Sound Level, Residual Sound Level, Rating Level and Calculation of Noise Disturbance Level and Form, B.E. 2565 (2022)
Duration/frequency	Yearly

Method/Tools	Apply the method outlined in the announcement
Responsible person	Staff of ABC Co., Ltd.
Expected outcome	The emissions do not exceed the level stated in the announcements.

5.2. Completing a SDSMR form

<Example of a completed SDSMR form>

1.1 Results of Monitoring SDG Contributions

Provide the results of monitoring SDG contributions based on the parameters identified in Section 2.2 of the SDSAR.

SDG Number	7
SDG Target	Affordable and clean energy
Variable or Indicator	Amount of generated electricity (Unit: MWh)
Duration/Frequency	Monthly
Method/Tool	Power meter
Responsible person	Staff of ABC Co., Ltd.
Monitoring result	The amount of generated electricity was 1,500 MWh per month.

SDG Number	17
SDG Target	Partnerships to achieve the goal
Variable or Indicator	Last annual progress report submission date
Duration/Frequency	Yearly
Method/Tool	-
Responsible person	Staff of ABC Co., Ltd.
Monitoring result	The last annual progress report was submitted on 01/04/2024.

2.1 Results of Monitoring Parameters for Ensuring No Negative Impacts

Provide the results of monitoring parameters for ensuring no negative impacts based on the parameters identified in Section 3.2 of the SDSAR.

Category of negative impact	Impacts on Environment and Natural Resources
Subcategory of negative impact	Air pollution
Vulnerable group	People in nearby communities
Possible negative impact	Air pollutants emitted from the gas engine's exhaust
Parameter/indicator	- particulate matter ≤ 20 mg/m^3 - SO_2 ≤ 15 ppm - NO_x ≤ 80 ppm

Reference	Announcement of the Ministry of Natural Resources and Environment Re: Emission Control Standards for Power Plant Exhaust, B.E. 2566 (2023)
Duration/frequency	Yearly
Method/Tools	Apply the method outlined in the announcement
Responsible person	Staff of ABC Co., Ltd.
Monitoring result	The emissions did not exceed the air quality standards. The analysis results are listed as follows: - particulate matter 15 mg/m^3 - SO_2 12 ppm - NO_x 70 ppm

Category of negative impact	Impacts on Environment and Natural Resources
Subcategory of negative impact	Noise pollution
Vulnerable group	People in nearby communities
Possible negative impact	Noise from the gas engine's exhaust
Parameter/indicator	- Leq (24-hour Equivalent Continuous Noise Level) < 70 dB(A) - Lmax (Maximum Noise Level) < 115 dB(A) - Noise Disturbance Level < 10 dB(A)
Reference	- Announcement of the Ministry of Natural Resources and Environment Re: Noise Level, B.E. 2540 (1997) - Announcement of the Ministry of Natural Resources and Environment Re: Method for Measurement Background Sound Level, Residual Sound Level, Rating Level and Calculation of Noise Disturbance Level and Form, B.E. 2565 (2022)
Duration/frequency	Yearly
Method/Tools	Apply the method outlined in the announcement
Responsible person	Staff of ABC Co., Ltd.
Monitoring result	The emissions did not exceed the level stated in the announcements. The analysis results are listed as follows: - Leq (24-hour Equivalent Continuous Noise Level) 64 dB(A) - Lmax (Maximum Noise Level) 110 dB(A) - Noise Disturbance Level 8 dB(A)