JCM Sustainable Development and Safeguards Assessment Report

Project description	
Title	Energy Saving by Introduction of High Efficiency Chilled Water Supply System in Milk Factory
Project participant (Thai)	CP-Meiji Co.,Ltd.
Project participant (Japanese)	TEPIA Corporation Japan Co., Ltd.
Project location	Nongnak, Nongkae Saraburi, Thailand
Latitude, longitude	N 14°44’31” and E 100°89’80”
Project status	Operated since 8 September 2017

Report description		
Date of report completion	12 May 2025	
Version	1.0	
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	Organization	TEPIA Corporation Japan Co., Ltd.
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Note:

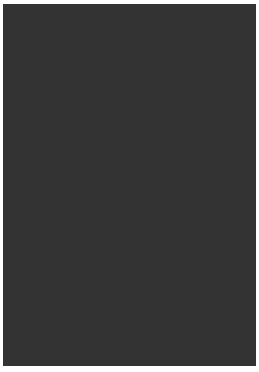
- Related figures, documents, evidence related to the description may be attached as attachment.
- In the case where there is any other relevant issue that needs to be considered, it is be specified in the last row of each area of assessment.

Certification letter

12/5/2025

I, the undersigned, hereby certify that TEPIA Corporation Japan Co., Ltd. is the author of the "Sustainable Development and Safeguards Assessment Report" of the project titled Energy Saving by Introduction of High Efficiency Chilled Water Supply System in Milk Factory developed by TEPIA Corporation Japan Co., Ltd. and CP-Meiji., Ltd located at Nongnak, Nongkae, Saraburi, Thailand.

The report was prepared by the team members as follows:

No.	Name	Position	Signature
1	Pattaraphol chomkersorn	Senior Manager	
2	Weerachat hiaget	Manager	
3	Sorapob prompraseat	Assistant Manager	

Signature 

(Pattaraphol chomkersorn)

Position Senior Manager

Seal (if any)

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

Area of Assessment	Description
1. Environment and natural resources	
1.1 Air pollution	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	Consumption this project from river pasak. treatment with Softener process to supply cooling tower.
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 local area.
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…)	-
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	The tradition and cultural values of the people in the

Area of Assessment	Description
valuable places worthy of conservation	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.
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 include transportation (road network, public transportation), 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

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐ SDG 1: No Poverty		
☐ SDG 2: Zero Hunger		
☐ SDG 3: Good Health and Well-being		
☐ SDG 4: Quality Education		
☐ SDG 5: Gender Equality		
☐ SDG 6: Clean Water and Sanitation		
☐ SDG 7: Affordable and Clean Energy		
☐ ✔SDG 8: Decent Work and Economic Growth	Amount of energy saved (Unit: MWh)	Energy saving reduces costs and contributes to economic outputs.
☐ SDG 9: Industry, Innovation and Infrastructure		
☐ SDG 10: Reduced Inequality		
☐ SDG 11: Sustainable Cities and Communities		
☐ SDG 12: Responsible Consumption and Production		
■ SDG 13: Climate Action		
☐ SDG 14: Life Below Water		
☐ SDG 15: Life on Land		
☐ SDG 16: Peace and Justice Strong Institutions		

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐ ✔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

SDG Number	8
SDG Target	Decent Work and Economic Growth
Variable or Indicator	Amount of energy saved (Unit: MWh)
Duration/Frequency	Monthly
Method/Tool	Power meter
Responsible person	Staff of CP-Meiji., 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 CP-Meiji., Ltd

Part 3 Do no net harm

3.1 'Do no net harm' Risk Assessment and Safeguards

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	✔					
Noise pollution	✔					
Odor pollution	✔					
Soil erosion, coastal/river erosion	✔					
Vulnerability to natural disaster	✔					
Other	✔					
1.2 Waste management						
Increase in solid waste/municipal solid waste	✔					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Increase in hazardous waste such as waste contaminated with oil, chemicals and used oil etc.		✔			R-407C, used as a refrigerant in chillers, is a hydrofluorocarbon (HFC) refrigerant with an ozone depletion potential (ODP) of zero. However, due to its high global warming potential (GWP), proper recovery and disposal are required.	During regular maintenance, prevent leakage of R-407C and ensure its recovery for reuse or appropriate disposal. In addition, when decommissioning equipment, properly recover R-407C and process it at an authorized treatment facility.
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	✔					
Loss of water resources and aquatic ecosystem	✔					
Foraging	✔					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
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	✔					
Impact on public utilities such as electricity, telephone service etc.	✔					
Impact on traffic	✔					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
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.	✔					
Other	✔					
3. Economic impacts						

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
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

Category of negative impact	Waste management
Subcategory of negative impact	Increase in hazardous waste such as waste contaminated with oil, chemicals and used oil etc.
Vulnerable group	People in nearby communities
Possible negative impact	R-407C, used as a refrigerant in chillers, is a hydrofluorocarbon (HFC) refrigerant with an ozone depletion potential (ODP) of zero. However, due to its high global warming potential (GWP), proper recovery and disposal are required.
Parameter/indicator	Yearly
Reference	Montreal Protocol on Substances that Deplete the Ozone Layer
Duration/frequency	Regular maintenance
Method/Tools	-
Responsible person	Staff of CP-Meiji., Ltd
Expected outcome	During regular maintenance, prevent leakage of R-407C and ensure its recovery for reuse or appropriate disposal. In addition, when decommissioning equipment, properly recover R-407C and process it at an authorized treatment facility.

Category of negative impact	
Subcategory of negative impact	
Vulnerable group	
Possible negative impact	
Parameter/indicator	
Reference	
Duration/frequency	
Method/Tools	
Responsible person	
Expected outcome	