

JCM Sustainable Development and Safeguards Assessment Report

Project description	
Title	Introduction of High-efficiency Boiler System to Rubber Belt Plant
Project participant (Thai)	Bando Manufacturing (Thailand) Ltd.
Project participant (Japanese)	Bando Chemical Industries, Ltd.
Project location	47/7 Moo 4, Bangpla Road, Tambol Bankao, Amphur Muangsamutsakorn, Samutsakorn, 74000, THAILAND
Latitude, longitude	N 13° 35' 13'', E 100° 14' 60''
Project status	Operated since 01/02/2018

Report description		
Date of report completion	1 June 2025	
Version	1.0	
Corresponding author	Name	Hiroshi Yamamoto
	Title	Safety and Environmental Promotion Department
	Organization	Bando Chemical Industries, Ltd.

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 specified in the last row of each area of assessment.


Certification letter

01/06/2025

I, the undersigned, hereby certify that Bando Chemical Industries, Ltd. is the author of the “Sustainable Development and Safeguards Assessment Report Form” of the project titled Introduction of High-efficiency Boiler System to Rubber Belt Plant developed by Bando Manufacturing (Thailand) Ltd. and Bando Chemical Industries, Ltd. located at 47/7 Moo 4, Bangpla Road, Tambol Bankao, Amphur Muangsamutsakorn, Samutsakorn, 74000, THAILAND

The report was prepared by the team members as follows:

No.	Name	Position	Signature
1	<u>Sigeki Doi</u>	<u>General Manager</u>	
2	<u>Hiroshi Yamamoto</u>	<u>Assistant Manager</u>	
3	<u>Junji Seiyama</u>	<u>Assistant Manager</u>	

Signature 
 (.....Hiroshi Yamamoto.....)
 PositionAssistant 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	No air pollution was reported in the area.
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 uses tap water and groundwater with no reported problems.
1.7 Solid waste/municipal solid waste	In Bando Manufacturing (Thailand) Ltd., solid waste is collected by waste contractors. So, there is no leftover problem in the area.
1.8 Hazardous waste/infectious waste/electronic waste	No pollution from hazardous waste/infectious waste.
1.9 Energy (i.e. Wasted Energy, Renewable Energy)	Bando Manufacturing (Thailand) Ltd. uses electricity from power grid and solar power.
1.10 Land Use	Bando Manufacturing (Thailand) Ltd. is surrounded by factory.
1.11 Biodiversity	Bando Manufacturing (Thailand) Ltd. was built more than 15 years ago. Thus, issues concerning biodiversity is not relevant to factory.
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

Area of Assessment	Description
	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.
2.5 Transportation	Primary mode of transportation in the area is private vehicles (cars, trucks and motorbikes).
2.6 Other (Please specify...)	
3. Economic	
3.1 Overall local economy (i.e. income, expenditure, etc.)	According to 2023 data on the province, the average monthly income is THB 27,905 while monthly expenditure is THB 22,791.
3.2 Employment/Career	Factory workers
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 automotive parts.
3.5 Major service sector in the area	Manufacturing is 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

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
<input type="checkbox"/> SDG 1: No Poverty		
<input type="checkbox"/> SDG 2: Zero Hunger		
<input type="checkbox"/> SDG 3: Good Health and Well-being		
<input type="checkbox"/> SDG 4: Quality Education		
<input type="checkbox"/> SDG 5: Gender Equality		
<input type="checkbox"/> SDG 6: Clean Water and Sanitation		
<input type="checkbox"/> SDG 7: Affordable and Clean Energy		
<input checked="" type="checkbox"/> SDG 8: Decent Work and Economic Growth	Amount of energy saved (Unit:MWh)	Energy saving reduces costs and contributes to economic outputs,
<input type="checkbox"/> SDG 9: Industry, Innovation and Infrastructure		
<input type="checkbox"/> SDG 10: Reduced Inequality		
<input type="checkbox"/> SDG 11: Sustainable Cities and Communities		
<input type="checkbox"/> SDG 12: Responsible Consumption and Production		
<input type="checkbox"/> SDG 13: Climate Action		
<input type="checkbox"/> SDG 14: Life Below Water		
<input type="checkbox"/> SDG 15: Life on Land		

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
<input type="checkbox"/> SDG 16: Peace and Justice Strong Institutions		
<input checked="" type="checkbox"/> 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	8
SDG Target	Decent Work and Economic Growth
Variable or Indicator	Amount of energy saved (Unit:MWh)
Duration/Frequency	Yearly
Method/Tool	Gas flow meter
Responsible person	Staff of Bando Manufacturing (Thailand) 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 Bando Manufacturing (Thailand) 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			✓		Based on the boiler's specifications, oil discharge is expected to be below Thailand's water quality standards, which limit oil & grease to 5mg/L, BOD to 20mg/L and COD to 120mg/L.	The project involves consistently operating the boiler under standard conditions outlined in the technical specifications to ensure emissions do not exceed water quality standards.
Soil pollution	✓					
Air pollution			✓		Based on the specifications of the boiler, NOx emissions are expected to remain below Thailand's air quality standards, which set limits at 200 ppm.	The project consistently operates the boiler under standard conditions as outlined in the technical specifications, ensuring that emissions have never exceeded air quality standards.
Noise pollution	✓					

Potential Impact of Project Activity	Severity Level of Impact				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Odor pollution	✓					
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 boiler 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	Water pollution
Vulnerable group	People in nearby communities
Possible negative impact	Water pollutants emitted from boilers
Parameter/indicator	Oil & grease \leq 5mg/L BOD \leq 20mg/L COD \leq 120mg/L
Reference	Notificasion of the Ministry of Industry:Prescribing Effluent Discharge Standards for Factories B.E.2560(2017)
Duration/frequency	Monthly
Method/Tools	Oil & grease:SM2023(5520D) BOD:SM2023(5210B,4500-OG) COD:SM2023(5220C)
Responsible person	Staff of Bando Manufacturing (Thailand) Ltd.
Expected outcome	<i>that emissions have never exceeded water quality standards.</i>

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 boiler's exhaust
Parameter/indicator	NO _x \leq 200ppm
Reference	Notificasion of the Ministry of Industry:Prescribing Allowable Concentrations of Air Pollutants Emitted from Factories B.E.2549(2006)
Duration/frequency	Yearly
Method/Tools	US. EPA M.7/UV
Responsible person	Staff of Bando Manufacturing (Thailand) Ltd.
Expected outcome	<i>that emissions have never exceeded air quality standards.</i>

Category of negative impact	Impacts on Environment and Natural Resources
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	lubricant oil that becomes hazardous waste
Parameter/indicator	A very small amount is discarded once a year
Reference	Ministry of Industry Notification B.E.2566(2023)
Duration/frequency	Yearly
Method/Tools	The project hires a company to manage the transportation and disposal of the waste lubricant oil.
Responsible person	Staff of Bando Manufacturing (Thailand) Ltd.
Expected outcome	<i>Discharged waste will be properly disposed of.</i>