

JCM Sustainable Development and Safeguards Monitoring Report

Project description	
Title	Introduction of 5MW Floating Solar Power System on Industrial Water Reservoir in Thailand
Project participant (Thai)	TSB Bangkok Co., Ltd.
Project participant (Japanese)	TSB GreeNex Co., Ltd.
Project location	Kabinburi Industrial Zone, Kabinburi Province
Latitude, longitude	N14°03'35.1" E101°50'54.6"
Project status	Operated since 20/01/2020

Report description		
Date of report completion	11 April 2025	
Version	1.0	
Corresponding author	Name	Yoichi Kaburagi
	Title	President
	Organization	TSB GreeNex Co., Ltd.
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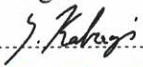
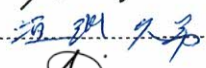
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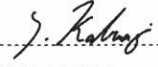
- Related figures, documents, evidence related to the description may be attached as attachment.
- In the case where there is any other relevant issue that needs to be considered, it is specified y in the last row of each area of assessment.

Certification letter11/Apr/2025

I, the undersigned, hereby certify that TSB Co., Ltd. is the author of the “Sustainable Development and Safeguards Assessment Report Form” of the project titled Introduction of 5MW Floating Solar Power System on Industrial Water Reservoir in Thailand developed by TSB Co., Ltd. and TSB Bangkok Co., Ltd. located at Kabinburi Industrial Zone, Kabinburi Province, Thailand.

The report was prepared by the team members as follows:

No.	Name	Position	Signature
1	<u>Yoichi Kaburagi</u>	President	<u></u>
2	<u>Hisao Kakibuchi</u>	Engineer of TSB Bangkok	<u></u>
3	<u>Ayumi Inukai</u>	Sales of TSB Bangkok	<u></u>

Signature 
 (Yoichi Kaburagi)
 Position President

Seal (if any)

Part 1 Sustainable Development Goals

1.1 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 Well-being		
☐ SDG 4: Quality Education		
☐ SDG 5: Gender Equality		
☐ SDG 6: Clean Water and Sanitation		
☒ SDG 7: Affordable and Clean Energy	Amount of generated clean energy (Unit: MWh)	Increase share of renewable energy in national energy mix
☐ SDG 8: Decent Work and Economic Growth		
☐ 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		

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐ SDG 16: Peace and Justice Strong Institutions		
☒ SDG 17: Partnerships to achieve the Goal	Last 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.*

1.2 Monitoring Measures for SDG Contributions

Provide the details on the indicators identified under 1.1 (Tables can be added based on the number of SDGs selected)

SDG Number	SDG 7
SDG Target	Ensure access to affordable, reliable, sustainable and modern energy for all
Variable or Indicator	Amount of generated clean energy (Unit: MWh)
Duration/Frequency	2020 Feb to 2037 Jan / Annuary
Methodology/Tool	Power meter
Responsible person	Hisao Kakibuchi
Monitoring result	8,000.75 MWh

SDG Number	SDG 17
SDG Target	Partnerships to achieve the goal
Variable or Indicator	Last progress report submission date
Duration/Frequency	2020 Feb to 2037 Jan / Annuary
Methodology/Tool	-
Responsible person	Ayumi Inukai
Monitoring result	The latest annual progress report was submitted on 3rd of April 2025.

Part 2 Do no net harm

2.1 'Do no net harm' Risk Assessment and Safeguards

Potential Impact of Project Activity	Level of Impact Severity				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	Level of Impact Severity				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.	✓					
Increase in infectious waste	✓					
Increase in electronic waste		✓			At the end of the project period, which is expected at the end of 2046 Jan, there will be waste solar panels.	Since solar panels contain lead and other hazardous substances, we plan to dispose them in controlled landfill sites that have measures to prevent groundwater contamination or dispose them in an appropriate manner through specialist waste management companies. If recycling facilities for solar panels are available at that time, we put top priority to recycling them as part of business efforts.
Other	✓					
1.3 Biological resources						
Impacts on forest areas and land-use change	✓					

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Loss of land and wildlife ecosystem	✓					
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	✓					

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Relocation or temporary/permanent loss of land	✓					
Loss of housing	✓					
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.	✓					

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Gender inequality such as in employment opportunities, salary, promotion, benefits, termination of contract etc.	✓					
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 is extensive (3km perimeter).

2.2 Monitoring negative impact

- Provide the details of the impacts indicated under 2.1

- Specify monitoring measures for the identified action plans to mitigate harmful impacts to monitor and assess the implementation of such action plans.

(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	Increase in electronic waste
Vulnerable group	People near disposed place
Possible negative impact	Solar panels contain lead and other hazardous substances
Parameter/indicator	70t of electronic waste
Reference	None
Duration/frequency	At the end of the project, which is expected in 2046.
Methodology/Tools	If recycling facilities for solar panels are available at that time, we put top priority to recycling them as part of business efforts.
Responsible person	Hisao Kakibuchi
Expected outcome	Dispose them in controlled landfill sites that have measures to prevent groundwater contamination or in an appropriate manner through specialist waste management companies, or recycle them.
Monitoring result	The electronic devices are still in operation and have not been disposed of.