JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

Introduction of 5MW Rooftop Solar Power System to Aluminum Building Materials Factory

A.2. General description of project and applied technologies and/or measures

The proposed project aims to reduce greenhouse gas (GHG) emissions in Thailand by introducing a total of approximately 5MW rooftop solar power system to an aluminum building materials factory owned by Tostem Thai Co., Ltd. inside of Navanakorn Industrial Zone. The project is jointly implemented by Sumitomo Mitsui Finance and Leasing Co., Ltd., SMFL Leasing (Thailand) Co., Ltd. and Tostem Thai Co., Ltd. The electricity produced by the solar power system will replace part of the grid electricity which is generated by thermal power plants and will be utilized for self-consumption of all project locations during the project period. The proposed project is expected to reduce a total of 17,821 tCO2eq until the end of 2030. The actual emission reductions may vary depending on the actual operation of the factory and the sun radiation of the project location.

A.3. Location of project, including coordinates

Country	The Kingdom of Thailand
Region/State/Province etc.:	Pathumthani Province
City/Town/Community etc:	60/2 Soi Navanakorn 11, Navanakorn Zone2 Moo19, Phaholyothin Road, Klongnueng, Klongluang
Latitude, longitude	N14.11105, E100.58912

A.4. Name of project participants

The Kingdom of Thailand	SMFL Leasing (Thailand) Co., Ltd. Tostem Thai Co., Ltd.
Japan	Sumitomo Mitsui Finance and Leasing Co., Ltd.

A.5. Duration

Starting date of project operation	12/7/2022
Expected operational lifetime of project	10 years
Type and duration of crediting period	Fixed crediting period (10 years)

Starting date of crediting period (input the information when requesting a renewal of crediting period)	N/A

A.6. Contribution from Japan

The proposed project was partially supported by the Ministry of the Environment, Japan (MOEJ) through the Financing Program for JCM Model projects, which provided financial support of less than half of the initial investment for the project in order to acquire JCM credits. The technology of advanced and efficient solar power system is introduced in the proposed project by the Japanese project participant. Further, implementation of the proposed project promotes technology transfer of low carbon technologies in Thailand.

B. Application of an approved methodology(ies)

B.1. Selection of methodology(ies)

Selected approved methodology No.	TH_AM001
Version number	Ver03.0

B.2. Explanation of how the project meets eligibility criteria of the approved methodology

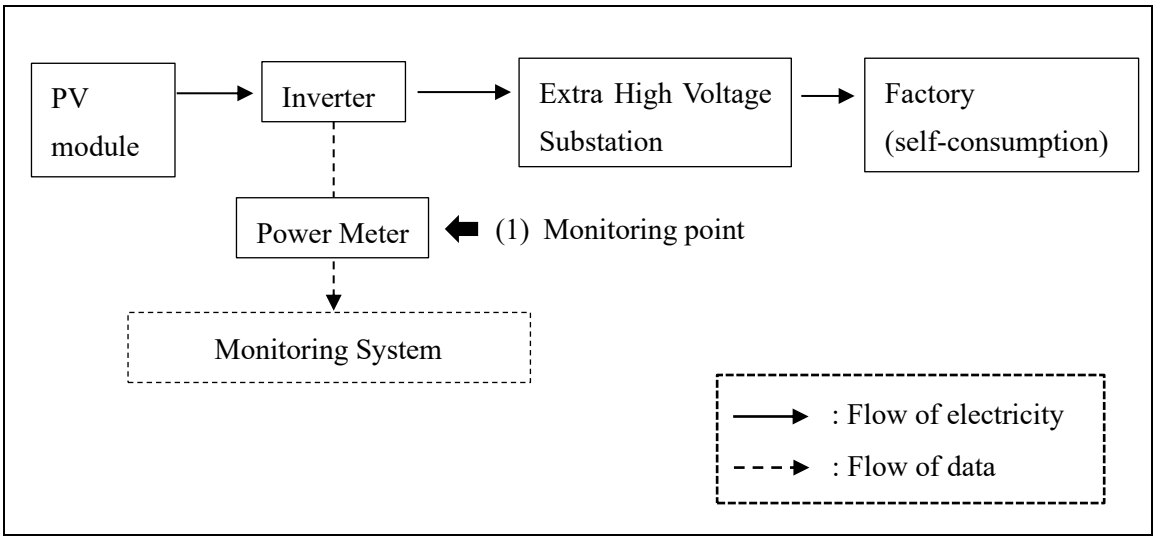
Eligibility criteria	Descriptions specified in the methodology	Project information
Criterion 1	The project installs solar PV system(s).	The proposed project installed a new solar PV system in the location stated in A.3.
Criterion 2	The solar PV system is connected to the internal power grid of the project site and/or to the grid for displacing grid electricity and/or captive electricity at the project site.	The solar PV system is connected to the internal power grid of the project site for displacing grid electricity at the project site.
Criterion 3	The PV modules have obtained a certification of design qualifications (IEC 61215, IEC 61646 or IEC 62108) and safety qualification (IEC 61730-1 and IEC 61730-2).	The PV modules have obtained a certification of design qualifications (IEC 61215) and safety qualification (IEC 61730-1 and IEC 61730-2).
Criterion 4	The equipment to monitor output power of the solar PV system and irradiance is installed at the project site.	Power meters are installed at the project site to monitor output power of the solar PV systems. Pyranometers are installed at the project site to monitor irradiance.

C. Calculation of emission reductions

C.1. All emission sources and their associated greenhouse gases relevant to the JCM project

Reference emissions	
Emission sources	GHG type
Consumption of grid and/or captive electricity	CO_2
Project emissions	
Emission sources	GHG type
Generation of electricity from solar PV system(s)	N/A

C.2. Figure of all emission sources and monitoring points relevant to the JCM project



C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO_2eq)	Estimated Project Emissions (tCO_2eq)	Estimated Emission Reductions (tCO_2eq)
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-

2021	-	-	-
2022	997.1	0	997
2023	2,103.7	0	2,103
2024	2,103.7	0	2,103
2025	2,103.7	0	2,103
2026	2,103.7	0	2,103
2027	2,103.7	0	2,103
2028	2,103.7	0	2,103
2029	2,103.7	0	2,103
2030	2,103.7	0	2,103
Total (tCO_2eq)			17,821

D. Environmental impact assessment	
Legal requirement of environmental impact assessment for the proposed project	No

E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

To solicit comments from local stakeholders, a consultation meeting was planned by the project participants, and the project participants invited various stakeholders. Details of the local stakeholder consultation meeting is summarized as follows:

Date and Time: 7th February 2025, 9:20-9:40 (Thailand time) / 11:20-11:40 (Japan time)
Venue: Online meeting

Agenda:
1. Opening remarks and introduction (by Sumitomo Mitsui Finance and Leasing Company, Limited)
2. Overview of the project (by Sumitomo Mitsui Finance and Leasing Company, Limited)
3. Explanation of technology introduced at the project site (by TOSTEM THAI CO., LTD.)
4. Questions and answers
5. Closing (by Sumitomo Mitsui Finance and Leasing Company, Limited)

Following organizations from Thailand side were invited to the consultation meeting.

- Office of Natural Resources and Environmental Policy and Planning (ONEP)
- Ministry of Public Health (MOPH)
- Representatives of districts surrounding Nava Nakorn Industrial Estate, where the project is located

There were no negative comments toward the proposed project expressed during the stakeholders meeting by the attendees. The comments received during the local stakeholders meeting are summarized in the following section.

E.2. Summary of comments received and their consideration

Stakeholders	Comments received	Consideration of comments received
Representative of districts surrounding Nava Nakorn Industrial Estate	To what extent will the installation of a photovoltaic system reduce electricity costs?	It is estimated to save about 1,700 Thai Baht (about 7,600 yen) per year. (No further action is needed)
	How much maintenance expense will be incurred?	Since we are only installing solar panels and inverters, we are cleaning up by ourselves and expect that the expense for maintenance will be minimal. (No further action is needed)
	Have there been any power outages in the facility since the installation of the solar power system?	Since solar power generation systems do not operate using batteries, they generate less power during bad weather, such as cloudy days. However, there is no risk of power outages in such cases because grid power is used instead. (No further action is needed)
	Will there be any impact on neighboring residences in terms of noise, reflected light, etc.?	There is minimal impact from noise and reflected light. Noise levels and reflected light on the roof where the system is installed have been measured, and the results are within acceptable limits. (No further action is needed)

F. References

Reference lists to support descriptions in the PDD, if any.

Attachment

Revision history of PDD		
Version	Date	Contents revised
01.0	26/11/2025	First edition