JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

Introduction of 0.97 MW Rooftop Solar Power System for Fishery Net Factory

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

The proposed JCM project aims to reduce CO_2 emissions by introducing a grid-connected solar photovoltaic (PV) system on top of the Factory Building of Siam Brothers Corp., Ltd.. The total solar module output is 972.4 kW and overall system output is 756.6 kW. The solar PV system replaces the grid electricity mostly derived from natural gas. All of the power generated by the solar PV system is self-consumed and not fed into the grid. Installed modules are Toshiba 72 cell polycrystalline PV module. This module achieves high performance even in the high-temperature and high-humidity climate in this project site. PV generated energy is monitored at a remote location.

A.3. Location of project, including coordinates

Country	Kingdom of Thailand
Region/State/Province etc.:	Samut Prakan Province
City/Town/Community etc:	65 Moo 5, Bangrak, Phra Pradaeng
Latitude, longitude	13°38'37.86"N, 100°31'27.63"E

A.4. Name of project participants

The Kingdom of Thailand	Siam Brothers Corp., Ltd.
Japan	Finetech Co., Ltd.

A.5. Duration

Starting date of project operation	01/03/2019
Expected operational lifetime of project	17 years

A.6. Contribution from Japan

The proposed project was partially supported by the Ministry of the Environment, Japan (MOEJ) through the Financing Programme for JCM Model projects, which provided financial support of less than half of the initial investment for the projects in order to acquire JCM credits. As for technology transfer, capacity building on operation and monitoring has been provided by Finetech Co., Ltd. through its office in Thailand.

B. Application of an approved methodology(ies)

B.1. Selection of methodology(ies)

Selected approved methodology No.	TH_AM001
Version number	Ver01.0

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).	A solar PV system is installed at the site. The solar PV module employed is Toshiba polycrystalline photovoltaic module TA72P320WB/K.
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 site and to the grid.
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 installed PV module (Toshiba polycrystalline photovoltaic module TA72P320WB/K) has 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.	Data loggers of inverters are installed to measure and record the output power of the solar PV system. A pyranometer is installed at the site to measure 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 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

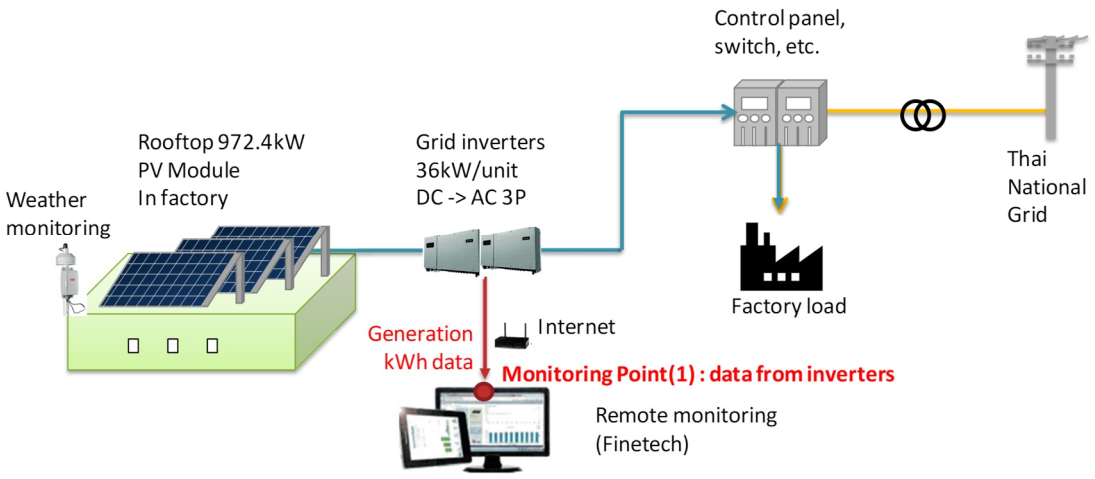

Figure PV Generation System and Monitoring Point

C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO_2e)	Estimated Project Emissions (tCO_2e)	Estimated Emission Reductions (tCO_2e)
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	338.2	0	338
2020	425.1	0	425
2021	425.1	0	425
2022	425.1	0	425
2023	425.1	0	425
2024	425.1	0	425

2025	425.1	0	425
2026	425.1	0	425
2027	425.1	0	425
2028	425.1	0	425
2029	425.1	0	425
2030	425.1	0	425
Total (tCO_2e)			5,013

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

Local stakeholder consultation meeting was held at 10:00-12:00, 30 November 2018 at the meeting room of Siam Brothers Corp., Ltd.(SB). Participants from the Thai government (Thailand Greenhouse Gas Management Organization: TGO), Embassy of Japan (EoJ), Assistant Manager and operator of SB, EPC contractor, and Focal Point (Finetech Co., Ltd.) were invited and comments were collected in LSC. The minutes of meeting was distributed and reviewed among the participants.

E.2. Summary of comments received and their consideration

Stakeholders	Comments received	Consideration of comments received
TGO	TGO advised that the meter reading for double check is recommended considering inverter degradation.	Energy meter will be installed and SB will record meter reading for double check.
EoJ	The disposal of PV panel should be according to the existing regulations. A regulation on the disposal may be introduced in the future. There are several experiences of JCM about Solar PV system including	In future when PV panel disposal is necessary, SB will dispose PV panels according to existing regulation at that time. Past projects example will be referred at the time of registration and

	methodology and PDD, and it is possible to refer to such past examples for this project.	monitoring.
Assistant Manager of SB	Generation plan may need to be reviewed according to operation plan of modification of factory.	Generation plan has been reviewed according to updated operation plan.
Operator of SB	No comment was given.	No action is needed.
EPC contractor	The applied Toshiba PV module is superior in keeping good efficiency especially in high-temperature and humid condition, and it would be the best selection in the environment in Thailand.	No action is needed.

F. References
N/A

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

Annex

Revision history of PDD		
Version	Date	Contents revised
01.0	20/02/2019	First edition