JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

Introduction of 2.5MW Rooftop Solar Power System to Food Factory and Garment Factory in Vietnam

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

This project will reduce Greenhouse gas (GHG) emissions by installing a 2.5 MW rooftop solar power generation system at a food factory and a sewing factory in Vietnam. GHG emissions will be reduced by consuming all electricity generated at each factory and replacing a portion of the grid electricity with the installed solar power.

A.3. Location of project, including coordinates

Country	Socialist Republic of Viet Nam
Region/State/Province etc.:	LOTTE VIETNAM：Binh Duong Province AN NAM MATSUOKA GARMENT：Nghe An Province
City/Town/Community etc:	LOTTE VIETNAM：Thu Dau Mot City, Phu Tho Ward AN NAM MATSUOKA GARMENT：Hung Nguyen District, Hung Tay Commune
Latitude, longitude	① LOTTE VIETNAM：Latitude: N10°95’ Longitude: E 106°66' ② AN NAM MATSUOKA GARMENT：Latitude: N18°69’ Longitude: E 105°63'

A.4. Name of project participants

Socialist Republic of Viet Nam	Kansai Energy Solutions (Vietnam) Co.,Ltd.
Japan	The Kansai Electric Power Company, Inc

A.5. Duration

Starting date of project operation	12/01/2023 The starting date of a JCM project is the 1st date on which the operation of a project begins.
Expected operational lifetime of project	18 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.

B. Application of an approved methodology(ies)

B.1. Selection of methodology(ies)

Selected approved methodology No.	JCM_VN_AM007
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 newly installs solar PV system(s).	The solar panel system is newly installed on the rooftops of the factory of Lotte Vietnam and An Nam Matsuoka.
Criterion 2	The PV modules are certified for design qualifications (IEC 61215, IEC 61646 or IEC 62108) and safety qualification (IEC 61730-1 and IEC 61730-2).	The system installed complies with the following qualifications. - IEC 61215 - IEC 61730-1 and 61730-2
Criterion 3	The equipment to monitor output power of the solar PV system(s) and irradiance is installed at the project site.	Power meters as well as radiation meter and thermometer are installed onsite.

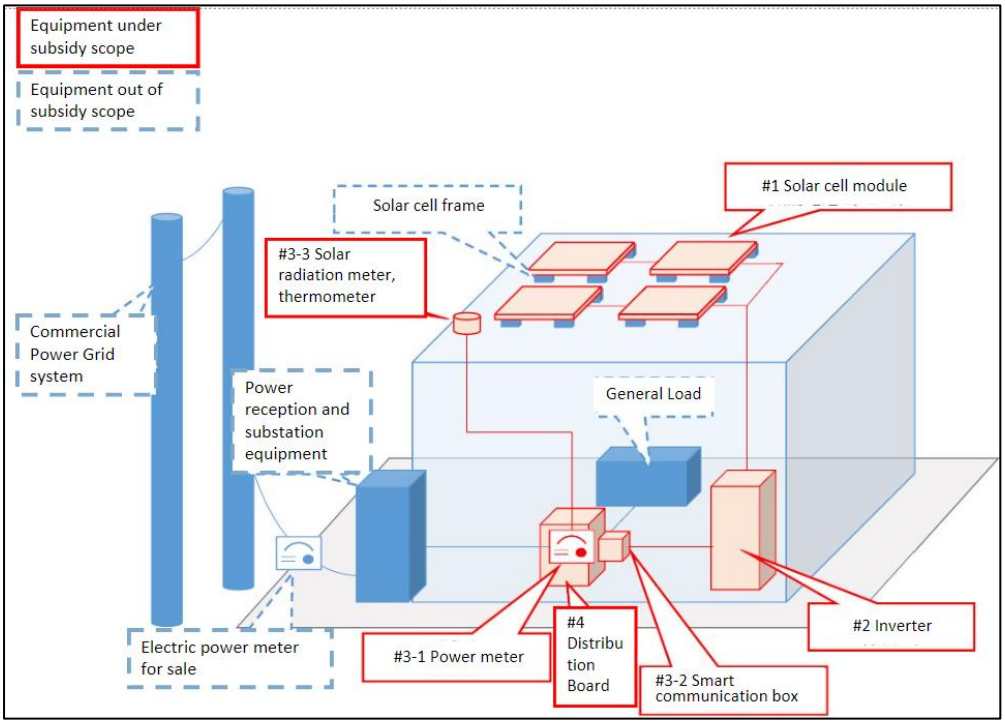
C. Calculation of emission reductions

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

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

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

The same kind of equipment is installed in both factories.


Equipment under subsidy scope
Equipment out of subsidy scope
Solar cell frame
#1 Solar cell module
#3-3 Solar radiation meter, thermometer
Commercial Power Grid system
Power reception and substation equipment
General Load
Electric power meter for sale
#3-1 Power meter
#4 Distribution Board
#3-2 Smart communication box
#2 Inverter

C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO_2e)	Estimated Project Emissions (tCO_2e)	Estimated Emission Reductions (tCO_2e)
2023	84	0	84
2024	1,013	0	1,013
2025	1,013	0	1,013
2026	1,013	0	1,013
2027	1,013	0	1,013
2028	1,013	0	1,013
2029	1,013	0	1,013
2030	1,013	0	1,013
2031	1,013	0	1,013
2032	1,013	0	1,013
2033	1,013	0	1,013
2034	1,013	0	1,013
2035	1,013	0	1,013
2036	1,013	0	1,013
2037	1,013	0	1,013
2038	1,013	0	1,013
2039	1,013	0	1,013
2040	929	0	929
Total (tCO2e)			17,221

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 deepen the understanding from stakeholders on the project, the project participant conducted local stakeholder consultation meetings as follows.

With LOTTE VIETNAM

- ✧ Date and time: 7 October 2024, 15:00-16:00 (Japanese time)/13:00-14:00 (Vietnamese time)
- ✧ Venue (Online): Zoom

- ✧ Attendees (total 10 representing the following organizations):
  - Kansai Electric Power Company, Incorporated (Manager, Deputy Manager)
  - Kansai Energy Solutions (Vietnam) Co., Ltd. (General Manager)
  - Lotte Vietnam Co., Ltd. (Director, Senior Factory Manager, Maintenance and Project Manager)
  - Japan NUS Co., Ltd. (Consultants)
- ✧ Meeting agenda:
  - Opening Remarks
  - Project background and objectives
  - Project overview
  - Technology introduced
  - GHG emissions reduction
  - Project implementation system
  - QA
  - Closing remarks

With AN NAM MATSUOKA GARMENT:

- ✧ Date and time: 30 October 2024, 12:00-13:00 (Japanese time)/10:00-11:00 (Vietnamese time)
- ✧ Venue (Online): Zoom
- ✧ Attendees (total 10 representing the following organizations):
  - Kansai Electric Power Company, Incorporated (Manager, Deputy Manager)
  - Kansai Energy Solutions (Vietnam) Co., Ltd. (General Manager)
  - Thanh Chuong Matsuoka Garment Co., Ltd. (Director, Vice Director)
  - Japan NUS Co., Ltd. (Consultants)
- ✧ Meeting agenda:
  - Opening Remarks
  - Project background and objectives
  - Project overview
  - Technology introduced
  - GHG emissions reduction
  - Project implementation system
  - About JCM projects and MRV procedures
  - QA
  - Closing remarks

Received comments and questions from the local stakeholders, along with the responses by the project participant, are presented in the following section.

It is to be noted that the Vietnamese Joint Committee members were also invited to the meetings,

but they could not attend them. The meetings' materials have been shared with the Joint Committee members as well and no additional comments were received.

E.2. Summary of comments received and their consideration

① LOTTE VIETNAM

Stakeholders	Comments received	Consideration of comments received
Lotte – Senior Factory Manager	It is understood that the data presented of annual GHG reduction is based on the estimations, as they are from January to December, whereas we are still in October?	Yes it is. The values presented today are estimated GHG emission reductions submitted at project application time. Therefore, the data are from January to December.
Lotte - Senior Factory Manager	What are the actual values?	The actual data are being monitored, and will be shared when ready.
Lotte - Senior Factory Manager	What represents K-ESV's I-REC activities?	They are purchasing and selling of REC Certificates activities.

② AN NAM MATSUOKA GARMENT

Stakeholders	Comments received	Consideration of comments received
Matsuoka Garment - Director	We understand that there was already a site visit last year in relation to the project. What is the difference with the next site visit to be implemented?	The one implemented last year was to define the subsidy. The next ones to come are to confirm the GHG emissions reduction monitoring by the facilities.
Matsuoka Garment - Director	Nowadays, the climate is changing in Vietnam too and the power generation amount may vary compared to predictions, but we are eager to proceed with the long project, with the continuous management between the project participants.	From Kansai Electric Power, we wish to continue the project through adequate maintenance.

F. References
N/A

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

Annex
N/A

Revision history of PDD		
Version	Date	Contents revised
01.0		First edition