

## JCM Project Design Document Form

### A. Project description

#### A.1. Title of the JCM project

Introduction of 0.5MW Solar Power System to Aroma and Food Ingredients Factory

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

The proposed project aims to contribute to Indonesia’s sustainable development through the use of renewable energy and reduction in greenhouse gases (GHG) by introduction of rooftop 0.5MW solar photovoltaic facility to PT. Indesso Aroma manufacturing facility, located in Cileungsi, West Java, Indonesia (Figure 1 below shows the project location).

The electricity produced by the solar PV facility will replace part of the electricity consumption from the grid (purchased from PLN) and will be fully utilized for own consumption of PT Indesso Aroma manufacturing facility within the project site.

The expected emission reduction that would be achieved by the proposed project is 4,059 tonnes CO<sub>2</sub> until end of March 2028. The actual emission reduction may vary depending on the actual operation of the power plant and the sun radiation in the area throughout the year.



**Figure 1: Project location**

#### A.3. Location of project, including coordinates

Country	The Republic of Indonesia
Region/State/Province etc.:	Bogor Regency, West Java Province
City/Town/Community etc:	Jl Alternatif Cibubur Cileungsi Km.9, Cileungsi 16820

Latitude, longitude	Latitude: S 6° 23' 31" Longitude: E 106° 57' 21"
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## A.4. Name of project participants

The Republic of Indonesia	PT. Indesso Aroma
Japan	Next Energy and Resources Co., Ltd.

## A.5. Duration

Starting date of project operation	02/04/2018
Expected operational lifetime of project	10 years

## A.6. Contribution from Japan

The project has been selected as one of the JCM model projects by the Ministry of the Environment, Japan (MOEJ). As a result, the initial investment cost of the proposed project has been partially financed by Japanese government (up to 50% of the initial investment cost). Further, implementation of the proposed project promotes technology transfer of low carbon power generation technologies within Indonesia. Through the MOEJ program, know-hows on operation and monitoring of solar power generation are transferred to the project sites.

## B. Application of an approved methodology(ies)

## B.1. Selection of methodology(ies)

Selected approved methodology No.	JCM-ID-AM013
Version number	Ver.01.0

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

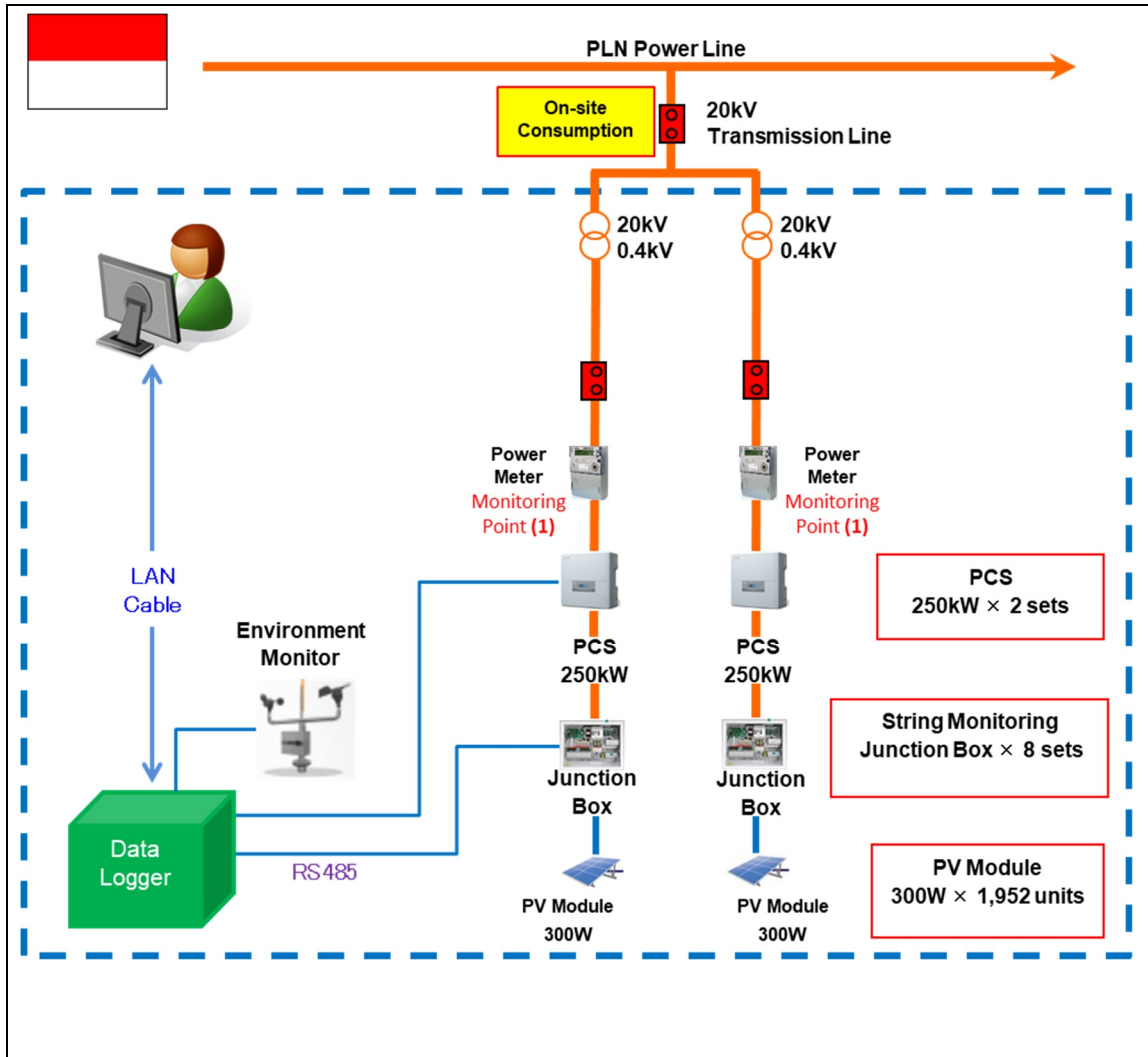
Eligibility criteria	Descriptions specified in the methodology	Project information
Criterion 1	The project newly installs solar PV system(s).	The proposed project installs a new solar PV system.
Criterion 2	The PV modules are certified for design qualifications (IEC 61215, IEC 61646 or IEC 62108) and safety qualification (IEC 61730-1 and IEC 61730-2).	The PV modules installed in the proposed project are certified for design qualifications (IEC 61215) and safety qualification (IEC 61730-1 and IEC 61730-2).
Criterion 3	The equipment to monitor output power of the solar PV system(s) and irradiance is installed at the project site.	The equipment to monitor output power of the solar PV system(s) and irradiance is installed at the proposed project site.

**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 including national/regional and isolated grids and/or captive electricity	CO <sub>2</sub>
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



## C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO <sub>2</sub> e)	Estimated Project Emissions (tCO <sub>2</sub> e)	Estimated Emission Reductions (tCO <sub>2</sub> e)
2018 (from April)	314	0	314
2019	417	0	417
2020	414	0	414
2021	411	0	411
2022	408	0	408
2023	405	0	405
2024	402	0	402
2025	399	0	399
2026	397	0	397
2027	394	0	394
2028 (until March)	98	0	98
Total (tCO <sub>2</sub> e)			4,059

Note:

The estimated emission reductions in each year are rounded down after the decimal point.

#### D. Environmental impact assessment

Legal requirement of environmental impact assessment for the proposed project	No
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#### E. Local stakeholder consultation

##### E.1. Solicitation of comments from local stakeholders

As part of JCM process, the project participants held a local stakeholder consultation meeting in order to take due steps to engage stakeholders and solicit comments for the proposed project. Details of the local stakeholders consultation meeting is summarized as follows:

Date and Time: Wednesday, 18 October 2017, 09.00 – 12.00 (Western Indonesian Time)

Venue: PT Indesso Aroma

Address: Jl. Alternatif Cibubur Cileungsi Km. 9, Bogor Regency, West Java Province

The following public and private entities have been identified as stakeholders and invitations were provided through letter or e-mail followed up by telephone calls.

1	Indonesia JCM Secretariat
2	Coordinating Ministry of Economic Affairs (CMEA)
3	Indonesia Joint Committee Members (relevant Ministries)
4	Environment Agency of Bogor Regency
5	Energy and Mineral Resources Bureau of Bogor Regency
6	Jakarta City Government
7	Japan International Cooperation Agency (JICA)
8	PT Firmenich Indonesia
9	PT Bukaka Teknik Utama
10	Meidensha Corporation
11	PT Meiden Engineering Indonesia
12	Tokyo Century Corporation
13	PT Century Tokyo Leasing Indonesia
14	PT ATW Sejahtera
15	PT Lion Wings
16	Unilever Indonesia Foundation
17	PT Eagle Indo Pharma
18	PT Yodya Karya (Persero)
19	Green Building Council Indonesia (GBCI)
20	Indonesia Renewable Energy Society (IRES)
21	Indonesia Solar Energy Association (AESI)
22	Indonesia Flavour and Fragrant Association (AFFI)
23	Indonesia Essential Oil Council (DAI)
24	Indonesia Food and Beverage Industry Association (GAPMMI)
25	The Thamrin School of Climate Change and Sustainability

The total of 41 stakeholders from the invited public and private entities attended the meeting with the following agenda:

- Opening remarks and Introduction by project participants
- "Joint Crediting Mechanism (JCM) Implementation in Indonesia" by Indonesia JCM Secretariat
- "Conception of the project and the technologies utilized" by project participants
- "MRV (Monitoring, Reporting, and Verification) of the project" by Mitsubishi UFJ Morgan Stanley Securities, Co., Ltd. (MUMSS)
- Question and Answer Session

Any queries in relation to JCM application in Indonesia was answered by Indonesian JCM Secretariat. 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, along with the responses/action to the comments, are summarized in the following section.

For those who were invited but were not available to attend the meeting, the project participants sent presentation materials used during the meeting, requesting them to send their comments, if any. Comments were solicited via e-mail and two further comments have been received and considered.

#### E.2. Summary of comments received and their consideration

Stakeholders	Comments received	Consideration of comments received
PT Firmenich Aromatics Indonesia, Karawang	Is it possible for Indonesian local companies ( i.e. subsidiaries of non-Japanese companies) to apply for JCM scheme?	Response: It is possible for Indonesian local companies to receive to apply for JCM scheme together with Japanese companies.  No further action was taken.
PT Century Tokyo Leasing Indonesia	How can we promote JCM scheme amongst our clients?	Response: JCM Secretariat promotes JCM by utilizing press conference occasion at Local Stakeholder Consultation event, etc.  No further action was taken.
Indonesia Essential Oil Council	How long is the payback period for the project of this kind?	Response: With JCM assistance, payback period of the project was shorten to about 7-8 years.  No further action was taken.
Green Building Council Indonesia	1) How does the project use the energy produced? 2) The project may worth applying for Green Industry Award by the Ministry of Industry, Indonesia.	Response: 1) The project utilizes produced energy on site for factory operation. 2) No particular response made.  No further action was taken.

<b>F. References</b>
N/A

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

<b>Annex</b>
N/A

<b>Revision history of PDD</b>		
<b>Version</b>	<b>Date</b>	<b>Contents revised</b>
01.0	15/02/2018	First Edition
01.1	30/08/2018	Second Edition Revision of General Description of the project, Start Date of project operation, Figure in Section C.2, Environmental Impact Assessment, and consideration of comments received from stakeholders
01.2	19/11/2018	Third Edition Revision on PDD form ver02.0, details of estimated ERs in each year during the crediting period