

## JCM Project Design Document Form

### A. Project description

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

4.2MW Rooftop Solar Power Project to Pharmaceutical Factories, Vehicles Dealers, and Timber Factories

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

The proposed project aims to reduce greenhouse gas (GHG) emissions by introducing a total of approximately 4.2 MW rooftop solar power systems to 2 pharmaceutical factories owned by PT Bintang Toedjoe, 9 vehicles dealer showrooms owned by PT Agung Automall, and 2 timber factories owned by PT Sumber Graha Sejahtera. Figure 1 to 3 below show the project locations.

The electricity produced by the solar power systems will replace part of the electricity consumption from the grid and will be mostly utilized for self-consumption in all 13 locations during the project period. For some locations, the electricity produced is exported to the grid in the case of excess supply.

The proposed project is expected to reduce a total of 29,994 tCO<sub>2</sub> until the end of 2030. The actual emission reductions may vary depending on the actual operation of the factories and the sun radiation of the respective project locations.

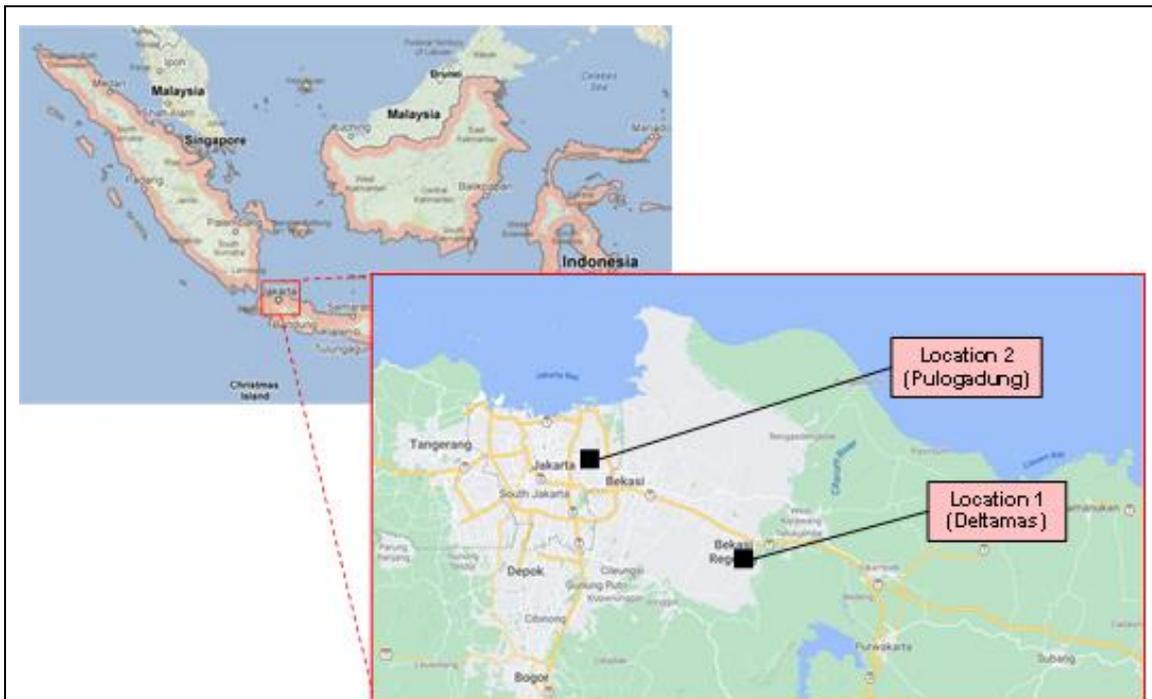


Figure 1: Project locations of pharmaceutical factories owned by PT Bintang Toedjoe



Figure 2: Project locations of vehicles dealer showrooms owned by PT Agung Automall

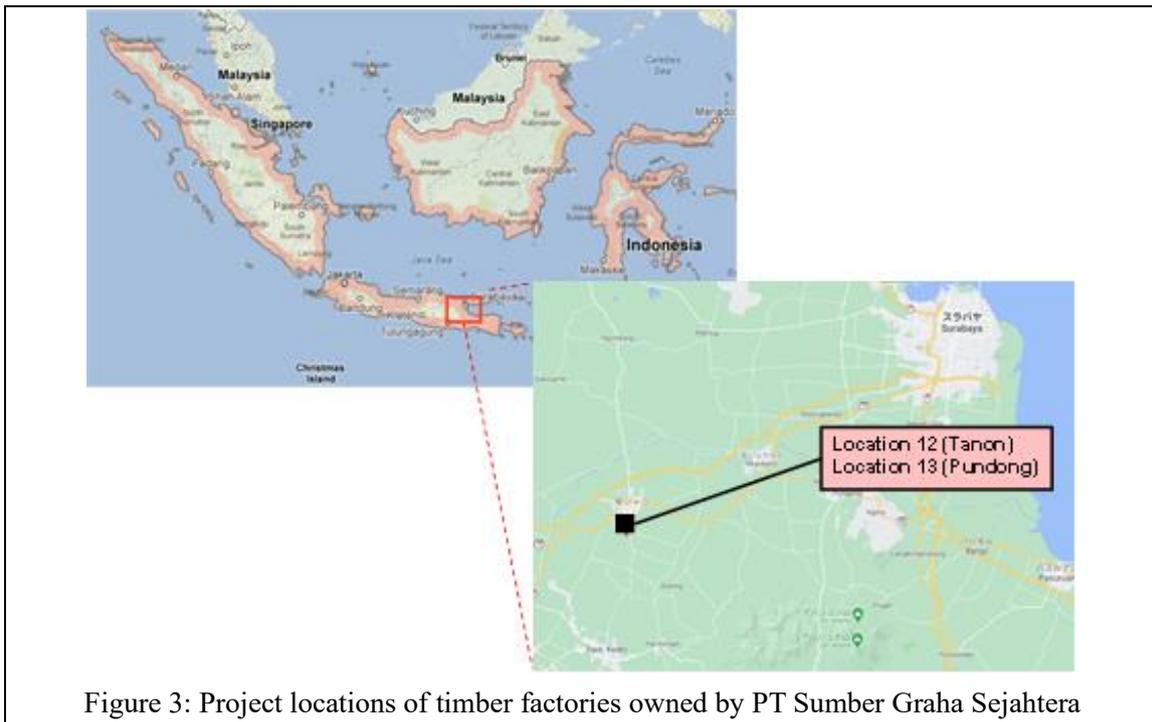


Figure 3: Project locations of timber factories owned by PT Sumber Graha Sejahtera

A.3. Location of project, including coordinates

Country	Republic of Indonesia
Region/State/Province etc.:	Location 1: West Java Province Location 2: Special Capital Region of Jakarta Location 3: Riau Islands Province Location 4: Riau Islands Province Location 5: Riau Islands Province Location 6: Bali Province Location 7: Bali Province Location 8: Bali Province Location 9: Bali Province Location 10: Bali Province Location 11: Bali Province Location 12: East Java Province Location 13: East Java Province
City/Town/Community etc.:	Location 1: Kawasan Greenland International Industrial Center (GIIC) Blok BB No 7, Desa Sukamahi, Cikarang Pusat, Bekasi Regency Location 2: Kawasan Industri Pulogadung, Jl. Rawa Sumur Barat II Kav. 9, Jatinegara, Cakung, East Jakarta City

	<p>Location 3: Jl. Yos Sudarso, Bengkong bengkel, Kec. Batu Ampar, Batam City</p> <p>Location 4: Jl. Sudirman, Taman Baloi, Kec. Batam Kota, Batam City</p> <p>Location 5: Jl. RE Martadinata, Tj. Pinggir, Kec. Sekupang, Batam City</p> <p>Location 6: Jl. Cokroaminoto No.47, Pemecutan Kaja, North Denpasar, Denpasar City</p> <p>Location 7: Jl. By Pass Dharma Giri, Buruan, Kec. Blahbatuh, Gianyay Regency</p> <p>Location 8: Jl. Sunset Road, Seminyak, Kuta, Badung Regency</p> <p>Location 9: Jl. Ahmad Yani VII No.4, Abian Tuwung, Kec. Kediri, Tabanan Regency</p> <p>Location 10: Jl. Pahlawan, Delod Peken, Kec. Tabanan, Tabanan Regency</p> <p>Location 11: Jl. WR Supratman No.100, Penarukan, Kec. Buleleng, Buleleng Regency</p> <p>Location 12: Jl. Jatipelem - Diwek, Kec. Diwek, Jombang Regency</p> <p>Location 13: Jl. Jatipelem - Diwek, Balongrejo, Pundong, Kec. Diwek, Jombang Regency</p>
Latitude, longitude	<p>Location 1: 6°22'57.6"S, 107°11'25.6"E</p> <p>Location 2: 6°12'16.6"S, 106°54'55.9"E</p> <p>Location 3: 1°09'34.9"N, 104°01'01.2"E</p> <p>Location 4: 1°06'24.3"N, 104°01'59.1"E</p> <p>Location 5: 1°06'51.7"N, 103°56'32.8"E</p> <p>Location 6: 8°38'30.6"S, 115°12'31.8"E</p> <p>Location 7: 8°32'53.4"S, 115°18'40.4"E</p> <p>Location 8: 8°41'43.9"S, 115°10'35.0"E</p> <p>Location 9: 8°33'31.8"S, 115°09'02.6"E</p> <p>Location 10: 8°32'24.1"S, 115°07'58.9"E</p> <p>Location 11: 8°05'39.8"S, 115°06'53.2"E</p> <p>Location 12: 7°35'22.0"S, 112°13'43.5"E</p> <p>Location 13: 7°35'03.2"S, 112°13'09.5"E</p>

## A.4. Name of project participants

The Republic of Indonesia	PT Alam Energy Indonesia PT ATW Alam Hijau
Japan	Alamport Inc. Shizen Energy Inc.

## A.5. Duration

Starting date of project operation	1 January 2023
Expected operational lifetime of project	17 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 the Japanese government (up to 50% of the initial investment cost). Further, the implementation of the proposed project promotes technology transfer of low-carbon power generation technologies within Indonesia. Through the MOEJ program, know-how 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.	ID_AM013
Version number	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 installed new solar PV systems in each location stated in A.3.
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 all locations (Trina Solar TSM-545DE19 for locations 1, 2, 12 and 13, and JA Solar JAM72S30-545/MR for locations 3 to 11) are certified for design qualifications IEC 61215 and safety qualifications IEC 61730-1 and IEC 61730-2.

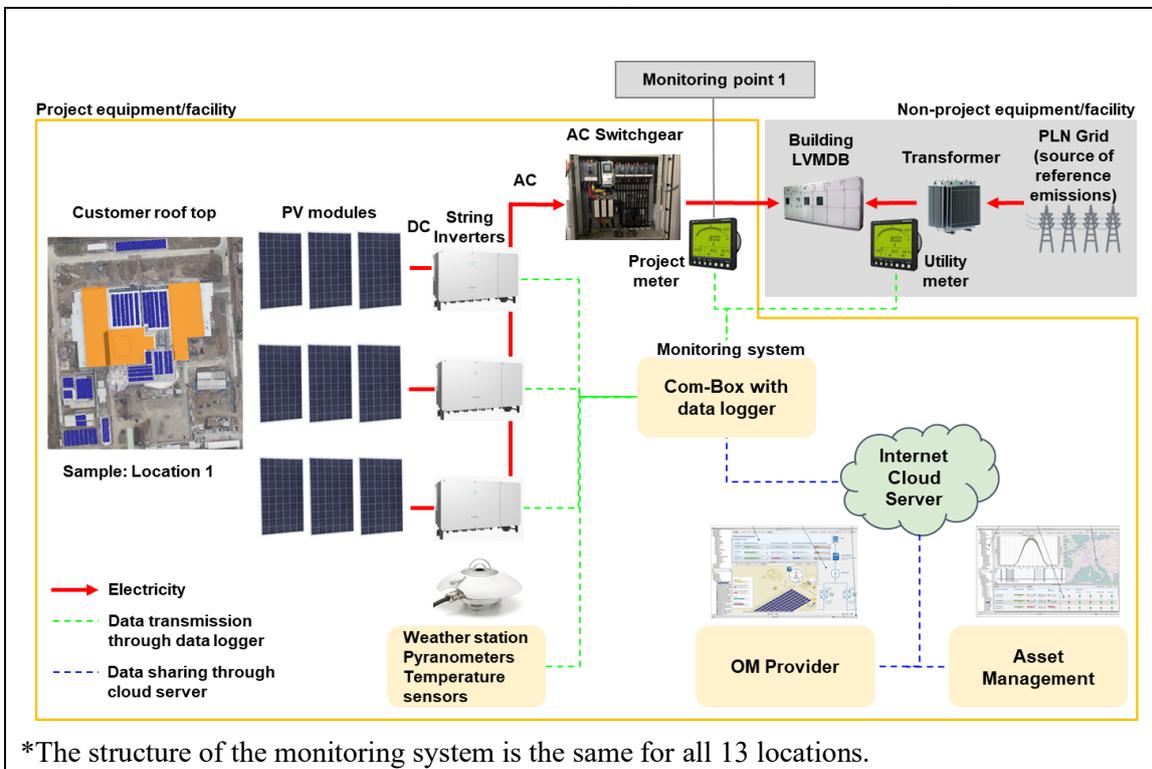
<p>Criterion 3</p>	<p>The equipment to monitor output power of the solar PV system(s) and irradiance is installed at the project site.</p>	<p>Power meters (Schneider PM5350) are installed at the project site to monitor output power of the solar PV systems. Pyranometers (Kipp &amp; Zonen SMP3-A) are installed at the project site to monitor irradiance.</p>
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**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)
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-
2021	-	-	-
2022	-	-	-
2023	3,254.9	0	3,254
2024	3,820.9	0	3,820
2025	3,820.9	0	3,820
2026	3,820.9	0	3,820
2027	3,820.9	0	3,820
2028	3,820.9	0	3,820
2029	3,820.9	0	3,820
2030	3,820.9	0	3,820
Total (tCO <sub>2</sub> e)			29,994

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

Local stakeholder consultation was conducted online, on 18th January 2023.  
The list of attendees to the meeting has been determined through the consultation with the Indonesia JCM secretariat.

The overview and participants of the meeting are as follows.

Date and Time: 18th January 2023, 10:00-11:10 (Indonesian Western Standard Time)

Place: Web conference

Agenda:

1. Opening remarks
2. Introduction of participants
3. Overview of the project
4. Concepts of JCM and MRV methodology for the project
5. Q&A and comments from the LSC participants

Participants:

[Local stakeholders]

1. Indonesia JCM Secretariat / Coordinating Ministry for Economic Affairs of Indonesia
2. PT Perusahaan Listrik Negara (PT PLN)
3. PT Agung Automall
4. PT Sumber Graha Sejahtera

\* PT Bintang Toedjoe was unable to attend the LSC, therefore presentation materials were shared, and stakeholder consultation was made via e-mail. No comments were raised through the consultation.

[Project participants]

1. PT Alam Energy Indonesia
2. PT ATW Alam Hijau
3. Alamport Inc.
4. Shizen Energy Inc.
5. (Consultant) Ernst & Young ShinNihon LLC

A satisfactory response to the comment received during the consultation meeting was provided at the time of the meeting. There is no further action required for the consideration of the comment received. A summary of the comments received, and consideration of those comments are listed in Section E.2. below.

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

Stakeholders	Comments received	Consideration of comments received
Indonesia JCM Secretariat	What is the timeline of the project?	Construction has been completed. The PDD is being prepared and will be submitted to the Joint Committee.  (No further action is required.)
	What is the installed capacity of each location?	The list of locations and the respective installed capacity have been shared. Details are also included in the PDD.  (No further action is required.)
	Who are the members of the international consortium for this project?	Alamport, Shizen Energy, PT Alam Energy Indonesia, and PT ATW Alam Hijau have formed an international consortium with the three customers (owners of the factories) respectively.  (No further action is required.)
	How long is the rental term for the customers?	Rental term are different for each customer, but all of them are longer than the project period (17 years).  (No further action is required.)
	What is the financing scheme of the project and what is the responsibility of each participant?	Apart from the financing support from the Ministry of Environment Japan, the project is funded with equity. As for the responsibilities, Alamport covers the business operations, and Shizen Energy covers the technical part.  (No further action is required.)
PT PLN	Does the PDD follow Indonesian regulations or international regulations?	The PDD follows the rules set by the Joint Committee between the Japanese and Indonesian

Stakeholders	Comments received	Consideration of comments received
		governments. Anything specified in the PDD complies with the Indonesian regulations.  (No further action is required.)

#### 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	19/10/2023	First Edition
02.0	21/02/2024	Second Edition
	<u>18/12/2024</u>	<u>Initial registration at JC10</u>