JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

6MW Mini Hydro Power Plant Project in West Pasaman, West Sumatra

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

The purpose of the JCM proposed project is to reduce GHG emissions by displacing the grid electricity with the electricity that is generated by a 6MW mini hydro power plant. This project newly installs a run-of-river type hydro power generation system in West Sumatra and supplies generated electricity to the national/regional grid, thus contributing to reduce the power shortage and increase green energy with renewable energy in the region. This project is owned and operated by PT. OPTIMA TIRTA ENERGY.

A.3. Location of project, including coordinates

Country	Indonesia
Region/State/Province etc.:	West Sumatra
City/Town/Community etc:	Pinagar, DesaAua Kuniang, Kec. Pasaman, Kabupaten Pasaman Barat
Latitude, longitude	N 0°09'20.49" and E 99°54'23.86"

A.4. Name of project participants

The Republic of Indonesia	PT. OPTIMA TIRTA ENERGY
Japan	NiX JAPAN Co., Ltd. Nix New Energy Co., Ltd

A.5. Duration

Starting date of project operation	01/11/2023
Expected operational lifetime of project	22 years

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 projects in order to acquire JCM credits. Inspection standards and methods for water turbine liners, the technical core of

hydropower generation, were taught to CME and local EPC contractor in the joint meeting in November 2023.

B. Application of an approved methodology(ies)

B.1. Selection of methodology(ies)

Selected approved methodology No.	ID_AM019
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 a run-of-river hydro power generation system(s).	This project newly installs a 6MW Mini Hydro Power Plant (a run-of-river type system) in West Sumatra.

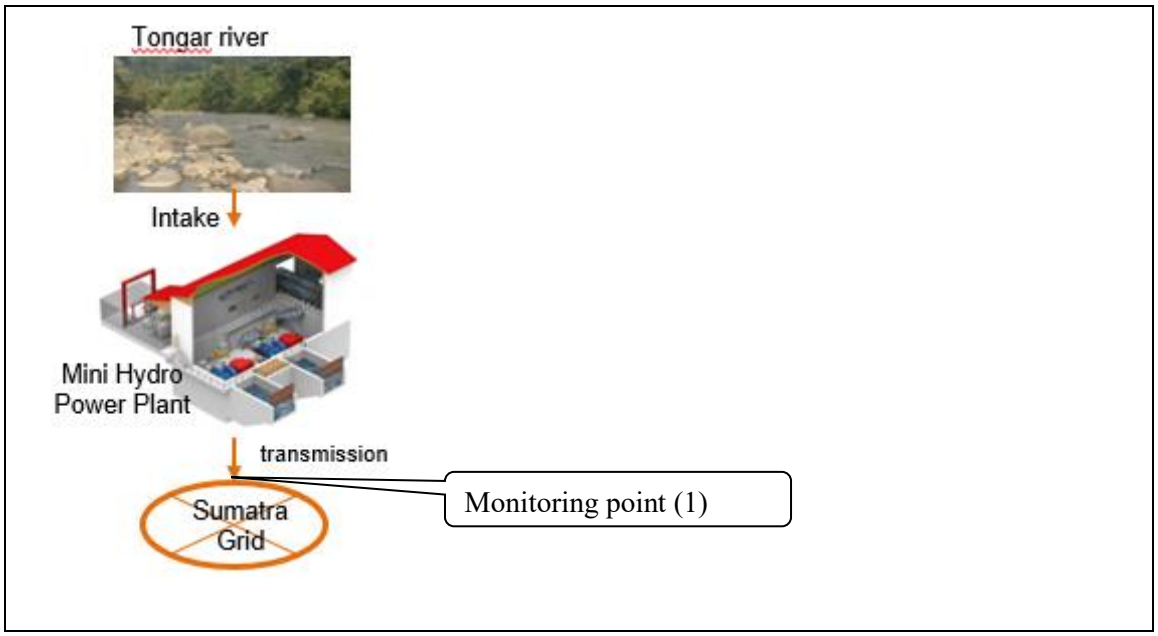
C. Calculation of emission reductions

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_2
Project emissions	
Emission sources	GHG type
Generation of electricity from the hydro power generation system(s)	N/A

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

The electricity generated by the hydropower station is provided to the Sumatra regional grid through a substation of PLN. And electricity meters are installed just before the substation



C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO_2e)	Estimated Project Emissions (tCO_2e)	Estimated Emission Reductions (tCO_2e)
2024	3,087.4	0	3,087
2025	18,474.2	0	18,474
2026	18,474.2	0	18,474
2027	18,474.2	0	18,474
2028	18,474.2	0	18,474
2029	18,474.2	0	18,474
2030	18,474.2	0	18,474
2031	18,474.2	0	18,474
2032	18,474.2	0	18,474
2033	18,474.2	0	18,474
2034	18,474.2	0	18,474
2035	18,474.2	0	18,474
2036	18,474.2	0	18,474
2037	18,474.2	0	18,474
2038	18,474.2	0	18,474
2039	18,474.2	0	18,474
2040	18,474.2	0	18,474
2041	18,474.2	0	18,474

2042	18,474.2	0	18,474
2043	18,474.2	0	18,474
2044	18,474.2	0	18,474
2045	15,386.7	0	15,386
Total (tCO_2e)			406,427

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	Yes

E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

Local stakeholder consultation has been conducted online on 15th October 2024.
The list of attendees for the meeting was determined through consultation with the Indonesia JCM secretariat.
The overview and participants of the meeting are as follows:

Date and Time: 15th October 2024 13:00-14:30 (Indonesian Western Standard Time)
Place: Web conference
Agenda:
1. Opening Remarks
2. Introduction of the project
3. Overview of the JCM
4. Question and answer session

Participants:
[Local stakeholders]
1. Indonesia JCM Secretariat / Coordinating Ministry for Economic Affairs of Indonesia
2. Local Communities
3. Local contractor
4. West Pasaman Regency

[Project participants]
1. NiX JAPAN Co., Ltd.
2. PT. OPTIMA TIRTA ENERGY
3. Nix New Energy Co., Ltd
4. PT. NiX Indonesia Consulting
5. (Consultant) NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc.

Satisfactory responses to the comments received during the consultation meeting were provided at the time of the meeting. No further action is required to consider 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	How did PLN respond to this project because the emission reduction will be shared between Indonesia and Japan?	The contract with PLN was agreed in 2017, and there were no articles about the carbon credits. (No further action is needed)
Indonesia JCM Secretariat	Are there any concerns about safety risks during the construction and operation of the power plant?	The PP developed a contract with EPC that includes working environment and safety. The construction and operation have been conducted in accordance with the contract, and there have been no issues or accidents. (No further action is needed)
Indonesia JCM Secretariat	How can this project ensure sustained engagement and communication?	Most of the members of PT OPTIMA TIRTA ENERGY are hired from the local communities, and the PP also hires labor from the local communities for operations and maintenance (O&M). (No further action is needed)

F. References
6MW Mini Hydro Power Plant Project in West Sumatra Environmental Assessment Report ENVIRONMENTAL MANAGEMENT PLAN & ENVIRONMENTAL MONITORING PLAN, UKL/UPL (*Upaya Pengelolaan Lingkungan dan Upaya Pemantauan Lingkungan)*

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

Annex
N/A

Revision history of PDD		
Version	Date	Contents revised
01.0	dd/mm/2024	First edition