JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

Introduction of High-efficiency Once-through Boiler System to Chemical Factory

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

The proposed JCM project aims to improve energy saving for steam supply by introducing a high-efficiency once-through boiler at a chemical factory in Indonesia. The factory needs considerable energy, and boilers consume significant amount of energy at the factory. The proposed project covers organic pigments at PT. DIC GRAPHICS in Karawang Regency, West Java Province of Republic of Indonesia. The factory introduced high efficiency once-through boiler and Reverse Osmosis (RO) water treatment system to achieve the increase in the boiler efficiency and stable steam supply. For this, existing 35 ton/h once-through boiler (fuel: coal) was replaced with 10 systems of 2.5 ton/h higher-efficiency once-through boiler (fuel: LNG only).

A.3. Location of project, including coordinates

Country	Republic of Indonesia
Region/State/Province etc.:	West Java Province
City/Town/Community etc:	Jl. Anggadita Raya No.207 Klari , Karawang 41371, Karawang Regency
Latitude, longitude	S 6°21'06.23" and E 107°19'56.61"

A.4. Name of project participants

The Republic of Indonesia	PT. DIC GRAPHICS
Japan	DIC Corporation

A.5. Duration

Starting date of project operation	01/06/2023
Expected operational lifetime of project	8 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.	ID_AM015
Version number	1.0

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

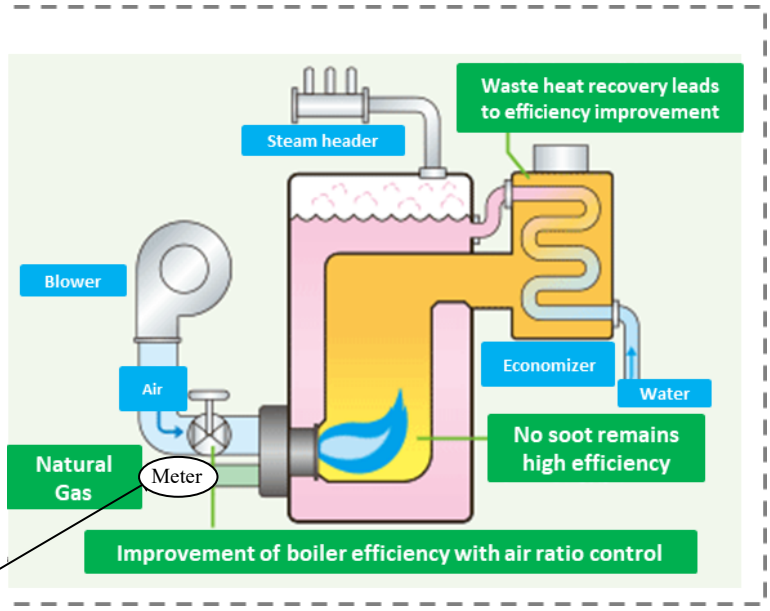
Eligibility criteria	Descriptions specified in the methodology	Project information
Criterion 1	The project boiler is a once-through boiler with a rated capacity of 7 ton/hour per unit or less (equivalent evaporation)	The project boiler is a once-through boiler with a rated capacity of 2.5 ton/hour (equivalent evaporation).
Criterion 2	Periodical check and maintenance by the manufacturer of boiler or authorized agent is implemented in accordance with the manufacturer's requirement.	PT. DIC Graphics arranges necessary periodical check and maintenance by the manufacture (PT. Miura Indonesia) based on the O&M contract. It is carried out every 4 months, up to 3 times in a 14 month period.
Criterion 3	Appropriate water purification/demineralization system such as Reverse Osmosis (RO) membrane treatment is installed.	PT. DIC Graphics installed RO water treatment system for boiler water.

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
Fuel consumption by reference boiler	CO_2
Project emissions	
Emission sources	GHG type
Fuel consumption by project boiler	CO_2

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



(1) Monitoring point for the amount of gas consumption

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	7,357.1	6,695.8	661
2024	15,705.1	14,293.4	1,411
2025	15,705.1	14,293.4	1,411
2026	15,705.1	14,293.4	1,411
2027	15,705.1	14,293.4	1,411
2028	15,705.1	14,293.4	1,411
2029	15,705.1	14,293.4	1,411
2030	15,705.1	14,293.4	1,411
2031	7,164.1	6,520.2	643
Total (tCO_2e)			11,181

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	

E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

Local stakeholder consultation has been conducted at PT. DIC GRAPHICS Karawang Plant and online on 8th 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: 8th October 2024 10:00-11:30 (Indonesian Western Standard Time)
Place: PT. DIC GRAPHICS Karawang Plant and 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. PT. MIURA INDONESIA
3. PT Aiko Negara Daha
4. PT OSAKA GAS INDONESIA
5. PT. SEAMEC INDONESIA ENGINEERING
6. Karawang Regency, Department of Labour and transimigration

[Project participants]
1. DIC Corporation
2. PT. DIC GRAPHICS
3. (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	Is this technology utilized in other industries?	We can utilize the once-through boiler in other industries, such as textile factories. (No further action is needed)
PT. MIURA INDONESIA	How long does it take until the PP obtains JCM credits?	About 1 year. (No further action is needed)
Karawang Regency	Indonesia's target is to achieve net zero by 2060, and the Karawang Regency appreciates this project to achieve this target.	DIC Corporation has a global target to achieve net zero by 2050. (No further action is needed)
PT. DIC GRAPHICS	Could we utilize the CO2 reduction by this project to other schemes?	The PP can not utilize the CO2 reduction by this project other than JCM. (No further action is needed)

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
1.0	dd/mm/2024	First Edition