JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

Introduction of High Efficiency Once-through Boiler in Golf Ball 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 golf factory in Indonesia. The golf ball factory needs considerable energy, and boilers consume significant amount of energy at the golf ball factory. The proposed project covers golf ball production process of No. 2 Golf Ball Factory, PT Sumi Rubber Indonesia in Karawang Regency, West Java Province of Republic of Indonesia. The golf ball 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 3 ton/h once-through boiler (fuel: oil and gas) was replaced with 3 ton/h higher-efficiency once-through boiler (fuel: gas only).

A.3. Location of project, including coordinates

Country	Republic of Indonesia
Region/State/Province etc.:	West Java Province
City/Town/Community etc:	Karawang Regency
Latitude, longitude	S 6°24'54", E 107°24'51"

A.4. Name of project participants

The Republic of Indonesia	PT Sumi Rubber Indonesia
Japan	Sumitomo Rubber Industries, Ltd. Nippon Koei Co., Ltd.

A.5. Duration

Starting date of project operation	01/07/2016
Expected operational lifetime of project	9 years

A.6. Contribution from Japan

The proposed project was partially supported by the Ministry of 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. As for technology transfer, Kawasaki Thermal Engineering Co., Ltd. (KTE) has provided the following supports to PT Sumi Rubber Indonesia during commissioning test in the factory in Karawang Regency (16/06/16).

- Direct instruction on proper operation of once-through boiler to boiler operators
- Effective periodical checks to maintain efficiency of the boiler (explanation by the staff of boiler manufacturer using maintenance manual)

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

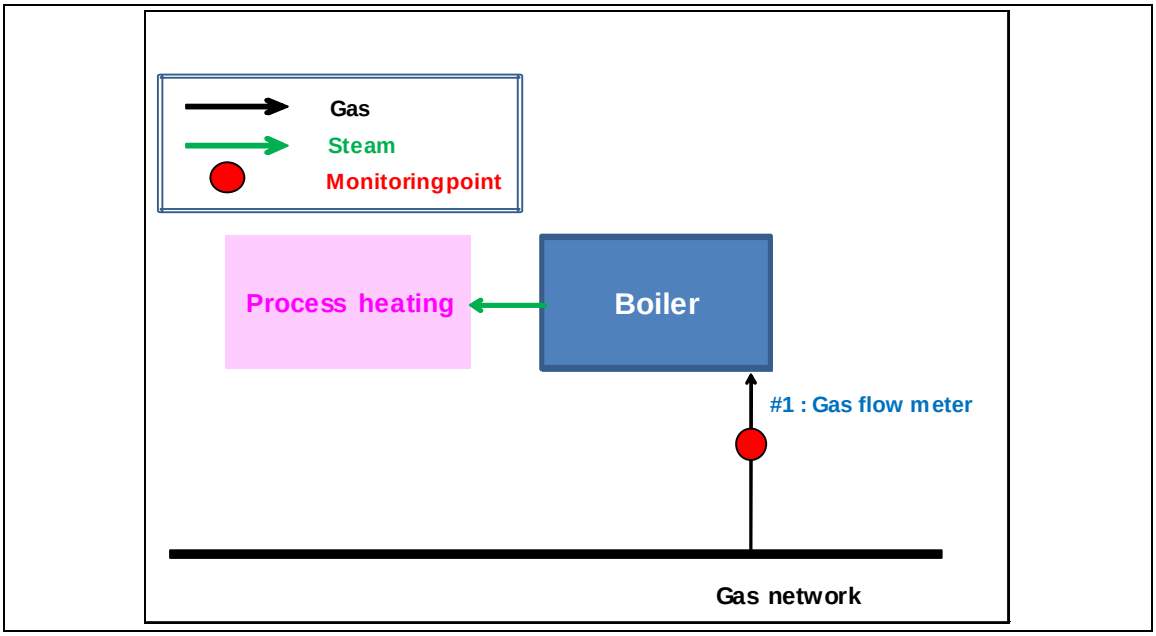
Eligibility criteria	Descriptions specified in the methodology	Project information
Criterion 1	The project boiler is a once-through boiler with a rated capacity of 7 ton/hour per unit or less (equivalent evaporation)	The project boiler is a once-through boiler with a rated capacity of 3 ton/hour (equivalent 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 Sumi Rubber Indonesia arranges necessary periodical check and maintenance by authorized agent (PT Gikoko Kogyo Indonesia) and/or KTE in accordance with the requirement of KTE. It is carried out yearly.
Criterion 3	Appropriate water purification/demineralization system such as Reverse Osmosis (RO) membrane treatment is installed.	PT Sumi Rubber Indonesia 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



C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO_2e)	Estimated Project Emissions (tCO_2e)	Estimated Emission Reductions (tCO_2e)
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	657.7	597.7	59
2017	1,631.4	1,482.7	148
2018	1,634.5	1,485.5	148
2019	1,634.5	1,485.5	148
2020	1,634.5	1,485.5	148

2021	1,634.5	1,485.5	148
2022	1,634.5	1,485.5	148
2023	1,634.5	1,485.5	148
2024	1,634.5	1,485.5	148
2025	817.3	742.8	74
2026	-	-	-
2027	-	-	-
2028	-	-	-
2029	-	-	-
2030	-	-	-
Total (tCO_2e)			1,317

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

E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

The local stakeholder meeting was held in a meeting room of the government office of West Java Province on 03 March 2017.

The list of participants:

National and regional government staff

- Coordinating Ministry of Economy Affairs
- Cooperation Division of West Java Province
- Division of the Environment of West Java Province
- Department of Industry and Trade of West Java Province
- Department of the Environment of West Java Province
- Regional Development Planning of Karawang Regency
- Department of the environment of Karawang Regency
- Indonesia JCM Secretariat

A meeting with the staff of PTSumi Rubber Indonesia was also conducted at the boiler room in

their factory on 3 March 2017.

E.2. Summary of comments received and their consideration

Stakeholders	Comments received	Consideration of comments received
PT. Sumi Rubber Indonesia	It is good for the factory and it should be noted that monitoring is obliged.	No action is needed.
PT. Sumi Rubber Indonesia	JCM was the good support for introducing technologies into the factory. The boiler is running without serious troubles.	No action is needed.
PT. Sumi Rubber Indonesia	It is easy to operate the project boiler.	No action is needed.
Department of the Environment of Karawang Regency	It is a good chance to introduce good technology. We would like to extend this information to the industries in Karawang Regency.	No action is needed.
Division of the Environment of West Java Province	In Sumedang, Bandung and Cimahi, there are many industries using coal for their factory. It is expected that JCM can help the fuel switch from coal to oil and gas. We should consider awarding the effort for mitigation by private entities.	No action is needed.
Coordinating Ministry of Economic Affairs	Coordinating Ministry of Economic Affairs is ready to collaborate with local governments to implement public information activities related to JCM and emission reduction.	No action is needed.

F. References

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

Annex

Revision history of PDD		
Version	Date	Contents revised
1.0	30/10/2018	First Version
2.0	03/04/2019 03/09/2019	Revision of Section C.3. based on the findings from validation. Initial registration by the Joint Committee through electronic decision