

## JCM Project Design Document Form

### A. Project description

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

Installation of High Efficiency Kiln in Sanitary Ware Manufacturing Factory

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

Two High Efficiency kilns (tunnel, shuttle) are installed in a new sanitary ware manufacturing factory in Thang Long Industrial Park II in the suburbs of Hanoi city. The tunnel kiln has a heat recovery system in products cooling stage and the shuttle kiln is equipped with a heat-exchanger for the heat recovery from exhaust gas, reducing usage amount of fuel gas.

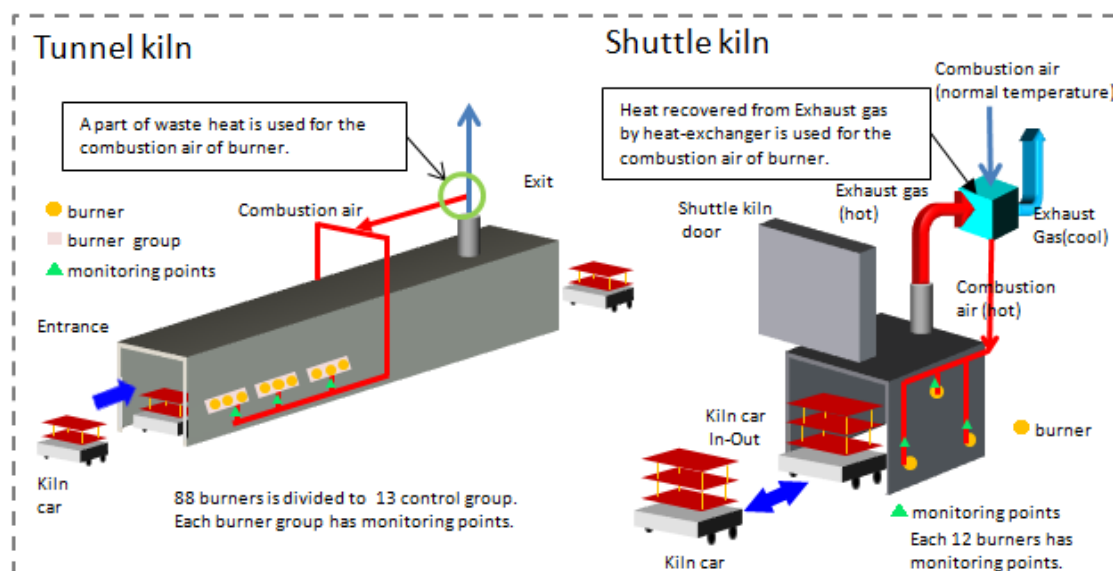


Figure 1: Location and outline of the Project

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

Country	Vietnam
Region/State/Province etc.:	Hung Yen Province
City/Town/Community etc:	Lot M7,M8,N3&RE8 Thang Long Industrial Park II, Phung Chi Kien Ward, My Hao Town
Latitude, longitude	N 20°92'09.62" and E 106°06'22.61"

## A.4. Name of project participants

The Socialist Republic of Viet Nam	TOTO VIETNAM Co., Ltd.
Japan	TOTO Ltd.

## A.5. Duration

Starting date of project operation	01/04/2018
Expected operational lifetime of project	9 years

## A.6. Contribution from Japan

The proposed project was partially supported by the Ministry of the 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. The technology of heat recovery system is introduced by the project participant. Further, implementation of the proposed project promotes technology transfer of low carbon technologies into Vietnam.

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

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

Selected approved methodology No.	VN AM010
Version number	Ver.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 introduces tunnel and/or shuttle kiln with waste heat recovery system	The project introduces tunnel and/or shuttle kiln with waste heat recovery system for manufacturing ceramics, refractory and others.
Criterion 2	Periodical check is planned more than one (1) time annually	Periodical record check is planned at least once a year.

**C. Calculation of emission reductions**

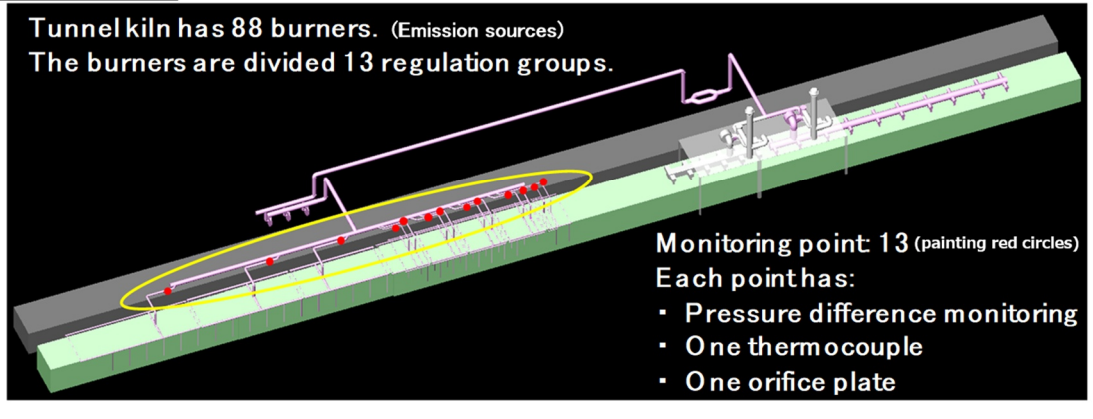
C.1. All emission sources and their associated greenhouse gases relevant to the JCM project

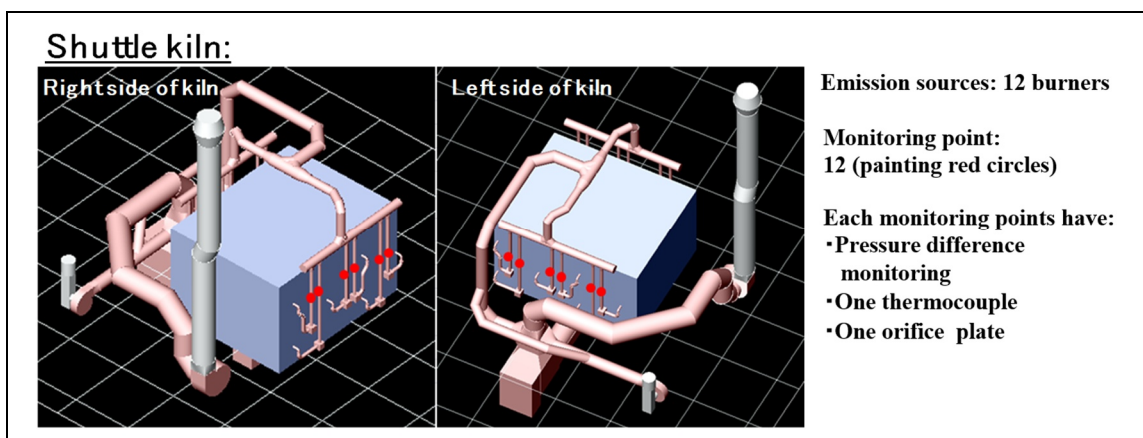
Reference emissions	
Emission sources	GHG type
Consumption of natural gas by reference tunnel kiln and/or shuttle kiln	CO <sub>2</sub>
Project emissions	
Emission sources	GHG type
N/A	N/A

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

Below shows the system for Tunnel kiln and shuttle kiln.

**Tunnel kiln:**





C.3. Estimated emissions reductions in each year

Year	Estimated emissions (tCO <sub>2e</sub> )	Reference	Estimated Emissions (tCO <sub>2e</sub> )	Project	Estimated Emission Reductions (tCO <sub>2e</sub> )
2018		233		0	233
2019		317		0	317
2020		317		0	317
2021		317		0	317
2022		317		0	317
2023		317		0	317
2024		317		0	317
2025		317		0	317
2026		317		0	317
2027		79		0	79
<b>Total (tCO<sub>2e</sub>)</b>		<b>2,848</b>		<b>0</b>	<b>2,848</b>

<b>D. Environmental impact assessment</b>	
Legal requirement of environmental impact assessment for the proposed project	No

## E. Local stakeholder consultation

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

The main stakeholders of the project are people working at the project sites. In order to collect comments from these stakeholders, the project participants held a stakeholder meeting.

Date and time	Venue	Participants
12th-March-2018 9:00 – 12:00	New Factory ( No.3 ) of TOTO Vietnam Co., Ltd. ( Thang Long Industrial Park )	TOTO Ltd. TOTO Vietnam Co., Ltd. (Consultant) NTT Data Institute of Management Consulting, Inc.,

The above participants visited competent authority (MONRE), explained the project and asked the comment sheet to the manufacturing company of the equipment. Both the competent authority and the manufacturing company had no comments.

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

Stakeholders	Comments received	Consideration of comments received
TOTO Vietnam Co., Ltd.	What is the status of the MRV methodology ?	We have already developed draft version of the methodology and are waiting for the timing for the official approval process.  (No action is needed.)
NTT Data Institute of Management Consulting, Inc.,	What is the status of the installment of the equipment? Is it on schedule?	Yes. It is on schedule. TOTO expect the monitoring will start in the April, 2018.  (No action is needed.)

## F. References

N/A

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

## Annex

Revision history of PDD		
Version	Date	Contents revised
1.0	03/10/2018	First edition