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Bilateral Offset Credit Mechanism Proposed Methodology Form

Cover sheet of the Proposed Methodology Form

Form for submitting the proposed methodology

Host Country	People's Republic of Bangladesh
Name of the methodology proponents submitting this form	Toyota Tsusho Corporation Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.
Sectoral scope(s) to which the Proposed Methodology applies	4: Manufacturing Industries
Title of the proposed methodology, and version number	Energy efficiency improvement through the introduction of energy efficient looms in textile industry Ver. 01.0
List of documents to be attached to this form (please check):	<input type="checkbox"/> The attached draft BOCM-PDD: <input type="checkbox"/> Additional information
Date of completion	13/02/2014

History of the proposed methodology

Version	Date	Contents revised

A. Title of the methodology

Energy efficiency improvement through the introduction of energy efficient looms in textile industry

B. Terms and definitions

Terms	Definitions
Reference Loom	A reference loom is a technology that occupies more than 50 % of the share of all loom imports in Bangladesh in the most recent three years prior to the start of the project.

C. Summary of the methodology

Items	Summary
<i>GHG emission reduction measures</i>	The methodology involves the introduction of energy efficient weaving looms (e.g. air-jet looms) in existing or new textile weaving facilities.
<i>Calculation of reference emissions</i>	The reference emissions are calculated by multiplying the project output by a CO ₂ emission reduction coefficient that is determined <i>ex-ante</i> for each type/group of textile output.
<i>Calculation of project emissions</i>	Project emissions equal the GHG emissions associated with the energy consumption by the project.
<i>Monitoring parameters</i>	<ul style="list-style-type: none"> • Project output per type of textile output • Energy consumption by the project

D. Eligibility criteria

This methodology is applicable to projects that satisfy all of the following criteria.

Criterion 1	The project facility is either an existing or a new textile product weaving facility.
Criterion 2	The looms introduced as part of the project have energy efficiency that is at least 10% higher than that of reference looms.
Criterion 3	For existing facilities, no air jet looms or other highly efficient looms have been installed prior to the start of the project.

Criterion 4	For existing facilities, the type of output does not change after the start of the project. However, increase of output production capacity is allowed.
Criterion 5	No regulations in Bangladesh require the use of energy efficient looms. In case such regulations exist, the looms introduced as part of the project have energy efficiency that is higher than the energy efficiency required by the regulations.
Criterion 6	The energy consumption of the new looms should be directly measurable.

E. Emission Sources and GHG types

Reference emissions	
Emission sources	GHG types
Electricity consumption in the reference scenario	CO ₂
Project emissions	
Emission sources	GHG types
Electricity consumption by the project	CO ₂

F. Establishment and calculation of reference emissions

F.1. Establishment of reference emissions

Reference emissions are determined following the following step-wise approach:

STEP 1: Determine the reference technology

This can be determined from customs statistics data or other official statistics.

STEP 2: Classify the final project output per type of textile product

Depending on the specific conditions in the textile production facility, the textile output can be classified into several types, for example simple product and special product.

STEP 3: Determine the emissions coefficient for each type of final project output

The emission coefficient should be estimated in tCO₂/m² of final output for each type of textile product determined. The emission coefficient should be determined based on manufacturer's specification or using actual production data.

STEP 4: Calculate the reference emissions

F.2. Calculation of reference emissions

Reference emissions are calculated as per the following formula:

$$RE_p = \sum_g PO_{g,p} \times EF_g$$

Where:

RE_p	Reference emissions in period p (tCO ₂)
$PO_{g,p}$	Final project output for the product in group g in period p (m ²)
EF_g	Emission factor for group g (tCO ₂ /m ²)

G. Calculation of project emissions

Project emissions are calculated as per the following formula:

$$PE_p = EC_p \times GEF_p$$

Where:

PE_p	Project emissions in period p (tCO ₂)
EC_p	Electricity consumption by the project looms in period p . (MWh)
GEF_p	Grid emission factor in period p . (tCO ₂ /MWh)

H. Calculation of emissions reductions

Emission reductions are calculated as per the following formula:

$$ER_p = RE_p - PE_p$$

Where

ER_p	Emission reductions in period p (tCO ₂)
RE_p	Reference emissions in period p (tCO ₂)
PE_p	Project emissions in period p (tCO ₂)

I. Data and parameters fixed *ex ante*

The source of each data and parameter fixed *ex ante* is listed as below.

Parameter	Description of data	Source
GEF_p	Grid emission factor in period p . (tCO ₂ /MWh)	Government of Bangladesh Department of Environment
EF_g	Emission factor for group g . (tCO ₂ /m ²)	Calculated