CLEAN DEVELOPMENT MECHANISM

TOOL33

Methodological tool

Default values for common parameters

Version 01.0

United Nations
Framework Convention on
Climate Change

1. Introduction

1. This tool serves as a repository of default values[1] of common parameters which are applied in methodologies that refer to this tool.

2. Scope, applicability, and entry into force

2.1. Scope

2. This tool includes default values of (a) carbon dioxide (CO_2) emission factors for diesel generator systems used for off-grid power generation purposes and (b) CO_2 emission factor for kerosene usage by households and communities for lighting purposes.

3. The appendix of this tool specifies the validity, process for update and timelines for the update of the default values.

2.2. Applicability

4. This tool shall be applied in conjunction with the methodologies which refer to this tool to source the default values to estimate the baseline emissions (e.g. from the use of diesel generating systems in off-grid power generation purpose or the baseline kerosene usage).

5. The default values as contained in section 5 of this tool are valid up to 10 March 2025. Notwithstanding the provisions on the validity of new, revised and previous versions of methodologies and methodological tools in the "Procedure: Development, revision and clarification of baseline and monitoring methodologies and methodological tools", there will be no grace period for the application of this tool and the validity of the default values after this date, including in cases where further default values are added to this tool through revisions of this tool before this date.

2.3. Entry into force

6. The date of entry into force is the date of the publication of the EB 113 meeting report on 11 March 2022.

3. Normative references

7. The tool refers to the latest approved version of "TOOL07: Tool to calculate the emission factor for an electricity system".

4. Definitions

8. The definitions contained in the Glossary of CDM terms shall apply.

[1] The background information on the rationale for the default values is included under Annex 3 of MP87 meeting.

9. For the purpose of this tool, the following definition shall apply:

   (a) **Mini-grid system** – An integrated energy system consisting of interconnected loads and one or more energy resources with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all electricity generating units connected to the mini-grid is equal to or less than 15 MW), which is not connected to a national or a regional grid.

5. Parameters

10. This tool provides default values to following parameters:

   (a) CO_2 emission factor for diesel generating system used for off-grid power generation purposes; and

   (b) CO_2 emission factor for kerosene used for lighting applications.

5.1. Carbon dioxide emission factor for diesel generating system

11. For a baseline electricity generating system including the mini-grid system where all generators use exclusively fuel oil and/or diesel fuel, the emission factor for a diesel generating system of the relevant capacity operating at optimal load as given in Table 1 shall be considered.

Table 1. Emission factors for diesel generator systems (in kg CO_2/kWh[(a)])

Cases	Mini-grid with 24 hour service	(a) Mini-grid with temporary service (4 – 6 hr/day); (b) Productive applications; (c) Water pumps	Mini-grid with storage
	Load factors [%]		
Size	**25%**	**50%**	**100%**
<15 kilowatts (kW)	1.0	0.9	0.8
>=15 <35 kW	1.0	0.8	0.8
>=35 <135 kW	1.0	0.8	0.8
>=135<200 kW	0.9	0.8	0.8
> 200 kW	0.8	0.8	0.8

[(a)] A conversion factor of 3.2 kg CO_2 per kg of diesel has been used (following 2006 IPCC Guidelines for National Greenhouse Gas Inventories)

5.2. Carbon dioxide emission factor for kerosene usage by households and communities

12. In methodologies where, in the baseline, kerosene usage for lighting purposes and usage of diesel generating system for meeting electricity demand is envisaged, the default emission factor is provided as follows:

(a) For the first 55 kWh of electricity supplied to the user by the project electricity generating system in a given year, an emission factor of 2.72 kg CO_2/kWh (i.e. 2.72 t CO_2/MWh) may be used;

(b) For the electricity supplied to the user by the project electricity generating system in a given year that is above 55 kWh, an emission factor as specified in table 1 above based on the diesel generator capacity and the load may be used.

6. Parameters

Data / Parameter table 1.

Data / Parameter:	$EF_{CO2,y}$
Data unit:	t CO_2/MWh
Description:	CO_2 emission factor for the diesel generating system in year y
Source of data:	An emission factor as specified in table 1 above based on the diesel generator capacity and the load
Measurement procedures (if any):	-
Any comment:	.

Data / Parameter table 2.

Data / Parameter:	$EF_{CO2,k}$
Data unit:	t CO_2/MWh
Description:	CO_2 emission factor for baseline kerosene usage in year y
Source of data:	2.72 t CO_2/MWh as per paragraph 12 above
Measurement procedures (if any):	-
Any comment:	Eligible only for the first 55 kWh of electricity supplied to the user by the project electricity generating system in a given year unless otherwise specified in the methodology

Appendix. Process, criteria and timeline for the update of the default values

1. The validity of the default values included in this tool shall be re-assessed by the Methodologies Panel (MP) every three years.

2. The MP shall initiate the analysis of the default values at least 365 days prior to the expiry date of the default values as referred to in paragraph 5 of this tool.

3. The MP shall review relevant information pertaining to the default values and prepare a recommendation on the continuation or update to the default values for consideration by the Board.

4. The Board shall decide on the continuation or update to the default values.

5. The Board may include additional default values in this tool at any point in time. In such cases, the validity of the default values added is limited to the remaining valid period of the default values as indicated in paragraph 5 of this tool and those default values are subject to review as indicated in paragraphs 1–3 above.

6. Stakeholders may propose addition of default values in this tool following the process in section 6 'Revision of approved methodology or methodological tool' of the "Procedure: Development, revision and clarification of baseline and monitoring methodologies and methodological tools".

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Document information

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