

ASB0052-2021

Standardized baseline

Grid emission factor for Cape Verde

Version 01.0



United Nations
Framework Convention on
Climate Change

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1. Introduction

1. This standardized baseline provides the values of the carbon dioxide (CO₂) emission factors for the electricity system separately for each of 9 inhabited islands of Cape Verde i.e. São Vicente, Sal, Santiago, Boavista, Santo Antão, Maio, Fogo, Brava and São Nicolau.

2. Scope, applicability, and entry into force

2.1. Scope and applicability

2. The scope of this standardized baseline covers the grid emission factor for 9 inhabited islands of the Republic of Cape Verde.
 - (a) For São Vicente, Sal, Santiago, Boavista and Santo Antão islands combined margin emission factor was derived using the ex-ante data vintage option of the “TOOL07: Tool to calculate the emission factor for an electricity system”, version 7.0 (hereinafter referred to as “the grid tool”) based on 2015 – 2017 data vintage.
 - (b) For Maio, Fogo and Brava island combined margin emission factor is determined based on a simplified approach provided under paragraph 94(b) and for São Nicolau island it is based on simplified approach provided under paragraph 95(b) of the grid tool.
3. A Clean development mechanism (CDM) project activity and programmes of activity (hereinafter referred as project activity) may apply this standardized baseline under the following conditions:
 - (a) The project activity is implemented in one of the 9 islands of Cape Verde, i.e. São Vicente, Sal, Santiago, Boavista, Santo Antão, Maio, Fogo, Brava and São Nicolau;
 - (b) The CDM approved methodology that is applied to the project activity requires the determination of CO₂ emission factor(s) through the application of the grid tool;
 - (c) The project activity uses the ex-ante options for both the operating margin and build margin grid emissions factors, as described in the grid tool, and therefore no monitoring or recalculation of the emission factor during the crediting period is required.
4. Project participants who do not wish to use this standardized baseline may alternatively estimate their own values for the grid emission factor, by applying the latest applicable version of the grid tool.

2.2. Entry into force and validity

5. This standardized baseline enters into force upon adoption by the CDM Executive Board on 16 April 2021.
6. This standardized baseline is valid from 16 April 2021 until 15 April 2024.

3. Normative references

7. This standardized baseline is based on the proposed new standardized baseline PSB0052 "Cape Verde Standardized baseline for the Power Sector" submitted by the designated national authority (DNA) of Cape Verde.
8. This standardized baseline is derived from version 07.0 of the grid tool.
9. For more information regarding proposed new standardized baselines as well as their consideration by the CDM Executive Board, please refer to http://cdm.unfccc.int/methodologies/standard_base/index.html.

4. Definitions

10. The definitions contained in the Glossary of CDM terms shall apply.
11. The definitions contained in version 07.0 of the grid tool shall apply.

5. Parameters and values

12. This standardized baseline provides values for the parameters mentioned in tables 1 to 9.

Table 1. Grid emission factors for the national grid of São Vicente island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|--|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of São Vicente island, Cape Verde | All project activities | 0.69 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of São Vicente island, Cape Verde | All project activities | 0.51 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of São Vicente island, Cape Verde | All project activities except wind and solar power generation | 0.60 | 0.55 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of São Vicente island, Cape Verde | Wind and solar power generation project activities | 0.64 | | |

Table 2. Grid emission factors for the national grid of Sal island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|--|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Sal island, Cape Verde | All project activities | 0.72 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Sal island, Cape Verde | All project activities | 0.49 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Sal island, Cape Verde | All project activities except wind and solar power generation | 0.60 | 0.55 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Sal island, Cape Verde | Wind and solar power generation project activities | 0.66 | | |

Table 3. Grid emission factors for the national grid of Santiago island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|---|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Santiago island, Cape Verde | All project activities | 0.65 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Santiago island, Cape Verde | All project activities | 0.55 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Santiago island, Cape Verde | All project activities except wind and solar power generation | 0.60 | 0.58 | |

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|--|--|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Santiago island, Cape Verde | Wind and solar power generation project activities | 0.63 | | |

Table 4. Grid emission factors for the national grid of Boavista island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|---|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Boavista island, Cape Verde | All project activities | 0.76 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Boavista island, Cape Verde | All project activities | 0.60 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Boavista island, Cape Verde | All project activities except wind and solar power generation | 0.68 | 0.64 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Boavista island, Cape Verde | Wind and solar power generation project activities | 0.72 | | |

Table 5. Grid emission factors for the national grid of Santo Antão island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|--|--------------------------|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Santo Antão island, Cape Verde | All project activities | 0.71 | | |

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|---|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Santo Antão island, Cape Verde | All project activities | 0.68 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Santo Antão island, Cape Verde | All project activities except wind and solar power generation | 0.69 | 0.69 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Santo Antão island, Cape Verde | Wind and solar power generation project activities | 0.70 | | |

Table 6. Grid emission factors for the national grid of Maio island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|---|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Maio island, Cape Verde | All project activities | 0.79 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Maio island, Cape Verde | All project activities | 0.58 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Maio island, Cape Verde | All project activities except wind and solar power generation | 0.69 | 0.63 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Maio island, Cape Verde | Wind and solar power generation project activities | 0.74 | | |

Table 7. Grid emission factors for the national grid of Fogo island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|---|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Fogo island, Cape Verde | All project activities | 0.79 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Fogo island, Cape Verde | All project activities | 0.58 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Fogo island, Cape Verde | All project activities except wind and solar power generation | 0.69 | 0.63 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Fogo island, Cape Verde | Wind and solar power generation project activities | 0.74 | | |

Table 8. Grid emission factors for the national grid of Brava island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|--|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of Brava island, Cape Verde | All project activities | 0.79 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of Brava island, Cape Verde | All project activities | 0.58 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Brava island, Cape Verde | All project activities except wind and solar power generation | 0.69 | 0.63 | |

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|---|--|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of Brava island, Cape Verde | Wind and solar power generation project activities | 0.74 | | |

Table 9. Grid emission factors for the national grid of São Nicolau island, Cape Verde

| Parameter | Unit | Description | Applicable project types | Applicable values | | |
|--------------------|-----------------------|--|---|------------------------|-------------------------|------------------------|
| | | | | First crediting period | Second crediting period | Third crediting period |
| $EF_{grid, OM, y}$ | tCO ₂ /MWh | Operating margin CO ₂ emission factor for the national grid of São Nicolau island, Cape Verde | All project activities | 0.79 | | |
| $EF_{grid, BM, y}$ | tCO ₂ /MWh | Build margin CO ₂ emission factor for the national grid of São Nicolau island, Cape Verde | All project activities | 0.58 | | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of São Nicolau island, Cape Verde | All project activities except wind and solar power generation | 0.69 | 0.63 | |
| $EF_{grid, CM, y}$ | tCO ₂ /MWh | Combined margin CO ₂ emission factor for the national grid of São Nicolau island, Cape Verde | Wind and solar power generation project activities | 0.74 | | |

Document information

| Version | Date | Description |
|---------|---------------|---|
| 01.0 | 16 April 2021 | Initial publication. This standardized baseline is approved by CDM Executive Board in accordance with the "Procedure for development, revision, clarification and update of standardized baselines" (CDM-EB63-A28-PROC). |

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