

**ASB0021**

## Standardized baseline

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### Cape Verde standardized baseline for the power sector

Version 01.0



**United Nations**  
Framework Convention on  
Climate Change

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## 1. Introduction

1. This standardized baseline provides the values for grid emission factors (i.e. the carbon dioxide (CO<sub>2</sub>) emission factors) for the independent grids on nine islands of the Republic of Cape Verde (hereinafter referred to as “Cape Verde”): São Nicolau, Boa Vista, Maio, Fogo, Brava, Sal, São Vicente, Santo Antão and Santiago.

## 2. Scope, applicability, and entry into force

### 2.1. Scope and applicability

2. The scope of this standardized baseline covers the baseline emission factors.
3. For all islands, “Tool to Calculate the Emission Factor for an Electricity System” (hereinafter referred to as the grid tool) is used to determine baseline emission factors (i.e. operating margin, build margin and combined margin emission factor).
4. Clean development mechanism (CDM) project activities or programmes of activities (hereinafter referred to as project activities) can apply this standardized baseline under the following conditions:
  - (a) The project activity is implemented on any of the above-mentioned islands of Cape Verde and is connected to the project electricity system;
  - (b) The CDM approved methodology that is applied to the project activity requires the determination of CO<sub>2</sub> emission factor(s) through the application of the grid tool;
  - (c) The project activity uses ex ante option for the grid emission factor as indicated in the grid tool i.e. no monitoring and recalculation of the emissions factor during the crediting period is required.
5. 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

6. This standardized baseline enters into force upon its adoption by the CDM Executive Board on 11 March 2016. This standardized baseline is valid from 11 March 2016 to 10 March 2019.

## 3. Normative references

7. This standardized baseline is based on the proposed new standardized baseline PSB0007 “Cape Verde Standardized baseline for the Power Sector” submitted by the designated national authority (DNA) of the Republic of Cape Verde.
8. This standardized baseline is derived based on version 04.0 of the grid tool.

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](http://cdm.unfccc.int/methodologies/standard_base/index.html).

## 4. Definitions

9. Project electricity system<sup>1</sup>: the spatial extent of the power plants that are physically connected through transmission and distribution lines to supply electricity to the independent grid electricity systems on the following nine islands of Cape Verde: São Nicolau, Boa Vista, Maio, Fogo, Brava, Sal, São Vicente, Santo Antão and Santiago.
10. The definitions contained in the Glossary of CDM terms shall apply.
11. The definitions contained in the grid tool shall apply.

## 5. Parameters and values

12. This standardized baseline provides ex ante values for the parameters mentioned in table 1 to table 9.

**Table 1. Emission factor for grid electricity system of the island of Sal, Cape Verde**

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.595		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.0		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.446		

<sup>1</sup> The project electricity system of each island is an independent grid. Currently, no grid-interconnection exists among the islands.

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.297	0.149	0.149

Table 2. Emission factor for grid electricity system of the island of São Vicente, Cape Verde

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.587		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.0		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.440		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.294	0.147	0.147

**Table 3. Emission factor for grid electricity system of the island of Santo Antão, Cape Verde**

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.651		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.580		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.634		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.616	0.598	0.598

**Table 4. Emission factor for grid electricity system of the island of Santiago, Cape Verde**

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.573		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.523		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.560		

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.548	0.536	0.536

Table 5. Emission factor for grid electricity system of the island of Brava, Cape Verde

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.670		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.664		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.669		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.667	0.666	0.666

**Table 6. Emission factor for grid electricity system of the island of Fogo, Cape Verde**

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.752		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.720		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.744		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.736	0.728	0.728

**Table 7. Emission factor for grid electricity system of the island of Santo Maio, Cape Verde**

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.724		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.728		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.744		

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.726	0.727	0.727

Table 8. Emission factor for grid electricity system of the island of São Nicolau, Cape Verde

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.746		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.745		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.745		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.745	0.745	0.745

**Table 9. Emission factor for grid electricity system of the island of Boavista, Cape Verde**

Parameter	Unit	Description	Applicable project types	Applicable values		
				First crediting period	Second crediting period	Third crediting period
$EF_{grid,OM,y}$	tCO <sub>2</sub> /MWh	Operating margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.635		
$EF_{grid,BM,y}$	tCO <sub>2</sub> /MWh	Build margin CO <sub>2</sub> emission factor for the project electricity system	All project activities	0.564		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	Wind and solar power generation project activities	0.617		
$EF_{grid,CM,y}$	tCO <sub>2</sub> /MWh	Combined margin CO <sub>2</sub> emission factor for the project electricity system	All project activities except wind and solar power generation project activities	0.599	0.581	0.581

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**Document information**

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