Proposed standardized baseline submission form (Version 02.0)

To be used by a designated national authority (DNA) when submitting a proposed standardized baseline in accordance with the "Procedure: Development, revision, clarification and update of standardized baselines" (CDM-EB63-A28-PROC).

INFORMATION TO BE COMPLETED BY THE DNA	
Title of the proposed standardized baseline:	Grid emission factor for the Dominican Republic
Name(s) of the Party or Parties to which the proposed standardized baseline applies:	The Dominican Republic
DNA submitting this form:	National Council for Climate Change and CDM (CNCCMDL), The Dominican Republic Regional Collaboration Centre St. George's supported the development of this proposal
Is this one of the first three submissions for a Party with 10 or fewer than 10 registered CDM project activities as of 31 December 2010? *(For such a Party, the submission of an assessment report may be omitted. Not required to check Yes or No if the submission is for a group of Parties.)*	☒ Yes ☐ No

Attachments:

- ☒ Additional documentation supporting the submission (e.g. relevant data, documentation, statistics, studies, calculation tables, etc.), where applicable (Please specify below See reference section)
- ☒ Data used to establish the proposed standardized baseline
- ☐ An assessment report on the quality of the data collection, processing and compilation prepared by a designated operational entity (DOE)
- ☐ Letters of approval of all the DNAs of the Parties to which the proposed standardized baseline applies, where the standardized baseline applies to a group of Parties

Name of authorized officer signing for the DNA:	Mr. Omar Ramirez
Date (DD/MM/YYYY) and signature for the DNA:	20 February 2014
Contact information of the focal point(s) of the DNA: *(Names, email-addresses and phone contacts for procedural and technical communication on the submission)*	Mr. Omar Ramirez Vice-Presidente Ejecutivo Consejo Nacional para el Cambio Climático y Mecanismo de Desarrollo Limpio Edificio Grucomsa, 5to Piso, Ave. Winston Churchill No. 77, Santo Domingo, República Dominicana onmdl@cambioclimatico.gob.do Tel: (+809) 472-0537
Name(s) of the proponent(s) of the proposed standardized baseline:	The Dominican Republic
Affiliation of the proponent(s):	☒ Party

(The definition of "admitted observer organization" can be found at http://unfccc.int/resource/ngo/art7_6.pdf)	☐ Project Participant (PP) ☐ International Industry Organization ☐ Admitted Observer Organization
Contact information of the focal point(s) of the proponent (s): *(Names, email-addresses and phone contacts for procedural and technical communication on the submission. Not required to complete this section if the DNA(s) is(are) the proponent(s) of the proposed standardized baseline.)*	Same as above.

Proposed standardized baseline submission form CDM-PSB-FORM (Version 02.0)

Title: Grid emission factor for the Dominican Republic

Submission date: 20 February 2014

Approach

Please state the version of the guidelines used if the proposed standardized baseline was developed using:

- *The "Guidelines for the establishment of sector specific standardized baselines"; or*
- *The "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM".*

Please provide the reference (i.e. number (if applicable), title and version) of the latest version of the approved methodology or tool[1] used if the proposed standardized baseline was developed using:

- *A methodological approach contained in an approved baseline and monitoring methodology; or*
- *A methodological approach contained in an approved methodological tool.*

The standardized baseline was developed using the methodological tool "Tool to Calculate the Emission Factor for an Electricity System," Version 04.0, CDM EB 75, Annex 15.

Elements to be standardized

Please check below all the elements to be standardized by the proposed standardized baseline.

☐ Additionality demonstration

☐ Baseline identification

☒ **Baseline emission/removal estimation**

☐ Land eligibility demonstration (applicable only to afforestation and reforestation project activities).

Further inputs requested to the DNA (To be completed by the secretariat)

Please provide a list of additional information and/or modifications that are required.

[1] In this form, the latest version of the approved methodology or tool refers to the valid version of the methodology or tool at the time of submission of the proposed standardized baseline.

SECTION A: PROPOSED STANDARDIZED BASELINE DEVELOPED USING THE "GUIDELINES FOR THE ESTABLISHMENT OF SECTOR SPECIFIC STANDARDIZED BASELINES"

Please complete this section only when the proposed standardized baseline is developed using the "Guidelines for the establishment of sector specific standardized baselines".

Not applicable (N/A)

Applicability of the proposed standardized baseline

Please provide the following information:

- *The host country(ies) or region(s) within a host country to which the proposed standardized baseline is applicable. In case of disaggregation by region(s) within a host country, please document transparently the geographical boundaries of the region (e.g. provinces, electric grids, etc).*
- *Other factors for disaggregation (e.g. output capacity, age of facilities) relating to the applicability of the proposed standardized baseline.*
- *The sector(s) to which the proposed standardized baselines is applied. Note that a sector refers to a segment of a national economy that delivers defined output(s) (e.g. clinker production, domestic / household energy supply). The sector is characterized by the output(s) O_i it generates.*
- *The output to which the proposed standardized baseline is applied, i.e. the goods or services with comparable quality, properties, and application areas (e.g.clinker, lighting, residential cooking).*
- The measure(s) to which the proposed standardized baseline is applicable is/are:

  ☐ Fuel and feedstock switch;

  ☐ Switch of technology with or without change of energy source (including energy efficiency improvement);

  ☐ Methane destruction;

  ☐ Methane formation avoidance.

Additionality demonstration

Please explain how the "Guidelines for the establishment of sector specific standardized baselines" were applied to demonstrate additionality and develop a positive list of project activities or programme of activities that are deemed additional. Follow the steps and guidance of the "Guidelines for the establishment of sector specific standardized baselines". Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Baseline identification

Please explain how the "Guidelines for the establishment of sector specific standardized baselines" were applied to identify the baseline for the measures. Follow the steps and guidance of the "Guidelines for the establishment of sector specific standardized baselines". Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Baseline emission factor estimation

Please explain how the "Guidelines for the establishment of sector specific standardized baselines" were applied to determine a baseline emission factor. Follow the steps and guidance of the "Guidelines for the establishment of sector specific standardized baselines". Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Use of the proposed standardized baseline with an approved methodology

Please explain how the proposed standardized baseline will be used with the latest version(s) of a relevant approved methodology(ies) i.e. how the approved methodology(ies) will be used in conjunction with the proposed standardized baseline. Please take into account and/or describe the following:

- *A standardized baseline derived from the "Guidelines for the establishment of sector specific standardized baselines" will include demonstration of additionality, identification of the baseline scenario and the determination of baseline emissions;*
- *Which parts of the relevant methodology(ies) (such as applicability, project boundary, project emissions, leakage emissions and monitoring) will be used with the standardized baseline; and*
- *Additional provisions on applicability, project boundary, project emissions, leakage emissions and monitoring to be included in the standardized baseline.*

If an approved methodology to be used with the proposed standardized baseline is not available, a new or revised methodology shall be proposed in accordance with the "Procedure: development, revision and clarification of baseline and monitoring methodologies and methodological tools". In this case, please indicate the title of the proposed new methodology or proposed revised methodology.

Validity of the proposed standardized baseline

Please state the period of time for which the proposed standardized baseline is valid. Please note that Appendix I of the "Guidelines for the establishment of sector specific standardized baselines" provide interim values for data vintage and the frequency of update.

Deviations from the guidelines (if applicable)

Please provide descriptions of and justifications for any deviations from the "Guidelines for the establishment of sector specific standardized baselines" to develop the proposed standardized baseline.

References and any other information

SECTION B: PROPOSED STANDARDIZED BASELINE DEVELOPED USING A METHODOLOGICAL APPROACH CONTAINED IN AN APPROVED METHODOLOGY

Please complete this section only when the proposed standardized baseline is developed using a methodological approach contained in the latest version of an approved methodology.

Not applicable (N/A)

Applicability of the proposed standardized baseline

Please state the host country(ies) or region(s) within a host country to which the proposed standardized baseline is applicable. In case of region(s) within a host country, please document transparently the geographical boundaries of the region (e.g. provinces, electric grids, etc).

Additionality demonstration (if applicable)

Please explain how a standardized procedure is developed for additionality demonstration according to the methodological approach contained in the latest version of the approved methodology. Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Baseline identification (if applicable)

Please explain how the methodological approach contained in the latest version of the approved methodology was applied to identify the baseline. Follow the steps and guidance of the approved methodology. Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Baseline emission estimation (if applicable)

Please explain how the methodological approach contained in the latest version of the approved methodology was applied to estimate the baseline emissions of a project activity or programme of activities in (a) country(ies) or region. Follow the steps and guidance of the approved methodologies. Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner. Note that the underlying methodology has to provide a methodological approach to derive the baseline emissions for a country or region in order to apply this step.

Use of the proposed standardized baseline with the approved methodology

Please explain how the proposed standardized baseline will be used with the latest version of the relevant approved methodology(ies), i.e. which (parts of) the approved methodology(ies) are replaced by the proposed standardized baseline.

Validity of the proposed standardized baseline

Please state the period of time for which the proposed standardized baseline is valid in accordance with, if any, the relevant requirements contained in the latest version of the approved methodology. If the approved methodology does not contain the relevant requirements, please note that Appendix I of the "Guidelines for the establishment of sector specific standardized baselines" provide interim values for data vintage and the frequency of update.

Deviations from the approved methodology (if applicable)

Please provide descriptions of and justifications for any deviations from the latest version of the approved methodology to develop the proposed standardized baseline.

References and any other information

SECTION C: PROPOSED STANDARDIZED BASELINE DEVELOPED USING A METHODOLOGICAL APPROACH CONTAINED IN AN APPROVED TOOL

Please complete this section only when the proposed standardized baseline is developed using a methodological approach contained in the latest version of an approved tool. An example for this is the application of the "Tool to calculate the emission factor for an electricity system" to estimate the emission factor for an electric grid.

Applicability of the proposed standardized baseline

Please state the host country(ies) or region(s) within a host country to which the proposed standardized baseline is applicable. In case of region(s) within a host country, please document transparently the geographical boundaries of the region (e.g. provinces, electric grids, etc).

The Dominican Republic

Baseline emission factor estimation

Please explain how the methodological approach contained in the approved tool was applied to estimate the baseline emission factor. Follow the steps and guidance of the approved tool. Document all underlying data, data sources, assumptions, calculation steps and outcomes in a clear and transparent manner. Note that the underlying tool has to provide a methodological approach to derive the baseline emission factor for a country or region in order to apply this step. This applies, for example, to the methodological tool "Tool to determine the emission factor of an electricity system".

Version 04.0 of the 'Tool to Calculate the Emission Factor for an Electricity System' was followed. The results of the factors for operating and build margins are:

Operating Margin (OM)	0.5628 tCO_2/MWh
Build Margin (BM)	0.3939 tCO_2/MWh

Therefore, the Combined Margin (CM) is determined as 0.4783 tCO_2/MWh (50 OM: 50 BM) or 0.5206 tCO_2/MWh (75 OM:25 BM).

The data vintage for calculating the Grid Emission Factor (GEF) is sourced from the most recent 3 years of 2010, 2011, and 2012. The report presenting all the calculation steps, the data used for the calculation, the assumptions, and the outcomes is attached.

Background to the Dominican Republic grid system

The Dominican Republic has an interconnected system for the distribution of electricity (the National Interconnected Electrical System, SENI from Spanish).

The generation capacity in Dominican Republic is 3,313.64 MW (Page 22, table 5, SENI Annual Report 2012, available at http://www.oc.org.do/INFORMES/Memorias/A%C3%B1o2012.aspx). SENI grid

consists (as of 2012) of combined cycle power plants of 804 MW, internal combustion engine power plants of 883.29 MW, gas turbines of 336 MW, steam turbines of 606.1 MW, hydropower plants of 604.8 MW and wind power plants of 79.45 MW.

The electricity generation in 2012 was 13,356 GWh (Page 34, Table 11, SENI Annual Report 2012, available at http://www.oc.org.do/INFORMES/Memorias/A%C3%B1o2012.aspx). Approximately 24.4% was generated by combined cycle, 35.3% by internal combustion engines, 10.7% by gas turbines, 15.6% by steam turbines, 13.3% by hydropower plants, and 0.7% by wind turbines. Technology installed capacity and generation are summarized below, as per page 22, table 5 and page 38, figure 6, SENI Annual Report 2012.[2]

Table: Technology wise capacity and generation, 2012

Type of plant	Capacity, MW (*)	Generation, % (**)
Combined Cycle	804.00	24.4
Internal Combustion Engine	883.29	35.3
Gas Turbine	336.00	10.7
Steam Turbine	606.10	15.6
Hydropower plant	604.80	13.3
Wind Turbine	79.45	0.7
Total	**3,313.64**	**100 (13,356 GWh)**

Source: (*) Page 22, table 5 and *page 38, figure 6, SENI Annual Report 2012*

(**) Page 38, figure 6, SENI Annual Report 2012

The data of the GEF has been taken from publically available information from the Coordinating Organisation of the National Interconnected Electrical System of the Dominican Republic *(Organismo Coordinador del Sistema Eléctrico Interconectado de la República Dominicana, SENI).*

Operating margin (OM) – Simple OM method, Option A (not including off-grid power units)

- **Source of emission factors:** IPCC 2006 (exact details found in calculation spreadsheet)

[2]Annual Reports (Memoria Anual) for 2010, 2011, and 2012 are found in Coordinator Organism SENI website in Informes then Memorias: http://www.oc.org.do/Reportes.aspx.
For 2010 http://184.168.74.190/dnnoc/INFORMES/Memorias/A%C3%B1o2010.aspx,
for 2011 http://184.168.74.190/dnnoc/INFORMES/Memorias/A%C3%B1o2011.aspx, and
for 2012 http://www.oc.org.do/INFORMES/Memorias/A%C3%B1o2012.aspx.
For 2000-2009 click "INFORMES" on the top of the website and drag the mouse to the last column "Memorias" to download annual reports.

- **Net generation data:** Net generation data (MWh) were provided in SIMPLE_OM_OPTION_A worksheet (Column D, Net electricity) of the calculation sheet. Data sourced from Annual Report and Operating Statistics of the Interconnected Electric System of the Dominican Republic *(Memoria Anual y Estadísticas de Operación del Sistema Eléctrico Nacional Interconectado. SENI)*, 2010/ 2011/ 2012. Please refer to footnote 2 for the links of respective years.

- **Amount of fuel consumed:** Provided in SIMPLE_OM_OPTION_A worksheet (Column G, amount of fuel type) of the calculation sheet. Data sourced from Fuel Consumption of Units *(Consumo de Combustible de las Unidades)* 2001-2012, downloaded from SENI website. LINK TO FUEL DATA (2001-2012): http://184.168.74.190/dnnoc/INFORMES/Operaci%C3%B3ndelSENI/Programaci%C3%B3ndelSENI.aspx. Download file "Consumo de Combustible Anual 2012.xls" from sub-folder "2012" under folder "Consumo Combustible Anual". The file "Consumo de Combustible Anual 2012.xls" contains fuel data for all the years from 2001 to 2012.

- **Low cost must run:** As low cost/must run plants constitute 11.8%, 12.7%, 12.0%, 12.2% and 14.0% of total grid generation (excluding electricity generated by off-grid power plants) in 2008, 2009, 2010, 2011 and 2012 respectively, which is less than 50% of the Dominican Republic grid generation in the average of the five most recent years (2008 - 2012), the Simple OM method is selected. Low cost/ must run plants are mainly the hydropower plants. A table with details is provided in Grid Emission Factor Calculation Report.

Build margin (BM) – Option 1 (ex-ante, most recent information available in plants)

- **Standard fuels:** Net calorific values of Fuel Oil # 2 (referred to as Gas Oil in the calculation sheet), Fuel Oil # 6, Natural Gas and Coal are sourced from IPCC 2006.

- **Amount of fuel consumed:** Provided in BUILD_MARGIN_DATA worksheet (Columns E-H) of the calculation sheet. Data sourced from Fuel Consumption of Units (Consumo de Combustible de las Unidades) 2001-2012, downloaded from SENI website. LINK TO FUEL DATA (2001-2012): **http://184.168.74.190/dnnoc/INFORMES/Operaci%C3%B3ndelSENI/Programaci%C3%B3ndelSENI.aspx**. Download file "Consumo de Combustible Anual 2012.xls" from sub-folder "2012" under folder "Consumo Combustible Anual". The file "Consumo de Combustible Anual 2012.xls" contains fuel data for all the years from 2001 to 2012.

- **Net generation data:** Sum of national generation (MWh) in 2012 was provided in BUILD_MARGIN_DATA worksheet (Column C, row 33) of calculation sheet. Data sourced from Annual Report and Operating Statistics of the Interconnected Electric System of the Dominican Republic *(Memoria Anual y Estadísticas de Operación del Sistema Eléctrico Nacional Interconectado. SENI)*, 2012. Please refer to footnote 2 for the link of 2012.

- **Emission factors:** IPCC 2006 (exact details found in calculation spreadsheet).

- **Recent plants:** Provided in BUILD_MARGIN_DATA worksheet (Column A) of the calculation sheet. Data sourced from Annual Report and Operating Statistics of the Interconnected Electric System of the Dominican Republic (Memoria Anual y Estadísticas de Operación del Sistema Eléctrico Nacional Interconectado. SENI), 2000-2012. Please refer to footnote 2 for the links of respective years. Three CDM project activities (Ref 0175, registered on 20 Oct 2006; Ref 2595,

registered on 09 Apr 2010; and Ref 5456, registered on 28 Nov 2011) have been identified separately in the same sheet and excluded from the calculation.

- **Commissioning dates:** Commissioning dates of power plants were provided in BUILD_MARGIN_DATA worksheet (Column B) of the calculation sheet. Data sourced from Annual Report and Operating Statistics of the Interconnected Electric System of the Dominican Republic *(Memoria Anual y Estadísticas de Operación del Sistema Eléctrico Nacional Interconectado. SENI)*, 2000-2012. Please refer to footnote 2 for the links of respective years. For each year indicated, the respective annual report indicates the date of commissioning / start-up of each plant. This information is shown in different sections of annual report of each year.

The Dominican Republic has official public data from the year 2000, when the country defined a legal framework that governs the electrical system and that makes it mandatory for the utility company to publish statistics regarding its operation. Therefore, for all units commissioned before 2000 are labeled as "before 2000". This fact would not affect the calculations for BM as the 5% of most recent plants were commissioned after 2000.

Validity of the proposed standardized baseline

Please state the period of time for which the proposed standardized baseline is valid in accordance with, if any, the relevant requirements contained in the approved tool(s). If the approved tool(s) does(do) not contain the relevant requirements, please note that Appendix I of the "Guidelines for the establishment of sector specific standardized baselines" provide interim values for data vintage and the frequency of update.

The data vintage for calculating the GEF is the most recent 3 years; **2010, 2011, and 2012**. Additionally, in accordance with the requirements of the tool, vintages of 2008 and 2009 were used for determination of Low-Cost/Must-Runs.

It is proposed that the standardized baseline shall be valid for 3 years from the date of adoption, as per Appendix I of the Guidelines for the establishment of sector specific standardized baselines (version 02.0), CDM EB 65 Annex 23.

Deviations from the approved tool (if applicable)

Please provide descriptions of and justifications for any deviations from the approved tool to develop the proposed standardized baseline.

Not applicable (N/A)

References and any other information

- GEF calculation Dominican Republic (spread sheet)

- Quality Control (QC) Report Dominican Republic in PDF

- Data Delivery Protocol Dominican Republic in PDF

- Grid Emission Factor calculation report in PDF

- Net generation data in Annual Reports (2010-2012) in PDF

- Fuel consumption data (2001-2012) in spread sheet.

- Reference to List of Countries with 10 or fewer CDM project activities as of 31 December 2010: https://cdm.unfccc.int/methodologies/standard_base/cdmprojects.pdf

SECTION D: PROPOSED STANDARDIZED BASELINE DEVELOPED USING THE "GUIDELINE: ESTABLISHMENT OF STANDARDIZED BASELINES FOR AFFORESTATION AND REFORESTATION PROJECT ACTIVITIES UNDER THE CDM"

Please complete this section only when the proposed standardized baseline is developed using the guideline "Establishment of standardized baselines for afforestation and reforestation project activities under the CDM".

Applicability of the proposed standardized baseline

Please provide the following information:

- *The host country(ies) or region(s) within a host country to which the proposed standardized baseline is applicable. In case of region(s) within a host country, please document transparently the geographical boundaries of the region (e.g. administrative units, geo-referenced coordinates).*

Additionality demonstration

Please explain how the "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM" was applied to demonstrate additionality of A/R CDM project activities undertaken in the areas of land included under the scope of the proposed standardized baseline. Please document all relevant data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Baseline identification

Please explain how the "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM" was applied to determine the baseline of A/R CDM project activities undertaken in the areas of land included under the scope of the proposed standardized baseline. Please document all relevant data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Baseline removals estimation (if applicable)

Please explain how the "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM" was applied to estimate the net GHG removals in the baseline of A/R CDM project activities undertaken in the areas of land included under the scope of the proposed standardized baseline. Please document all relevant data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Land eligibility demonstration (if applicable)

Please explain whether eligibility of the lands included under the scope of the proposed standardized baseline for CDM is confirmed by the proposed standardized baseline.

If not, please explain whether well-defined approaches for demonstrating eligibility of lands for the CDM have been provided which will help the project participants in demonstrating eligibility of the lands under their projects.

In either case, please document all relevant data sources, assumptions, calculation steps and outcomes in a clear and transparent manner.

Validity of the proposed standardized baseline

Please state the period of time for which the proposed standardized baseline is valid.

Deviations from the guideline (if applicable)

Please provide descriptions of and justifications for any deviations from the "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM" to develop the proposed standardized baseline.

References and any other information

Document information

Version	*Date*	*Description*
02.0	1 December 2013	The document title has changed from "Proposed standardized baseline form" (F-CDM-PSB) to "Proposed standardized baseline submission form" (CDM-PSB-FORM). Revision to: • Reflect updated requirements in the "Procedure: Development, revision, clarification and update of standardized baselines" • Include editorial improvement
01.0	23 March 2012	Initial publication.

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