Assessment Report for CDM proposed standardized baseline (Version 02.0)

*(To be **used** by the **UNFCCC secretariat** in assessing the quality of a proposed standardized baseline only when requested by eligible DNAs.)*

Title of proposed standardized baseline:	**Grid Emission Factor for Grenada**
Reference of proposed standardized baseline:	PSB0023
Name(s) of the Party or Parties to which the proposed standardized baseline applies:	Grenada
Name(s) of the proponent(s) of the proposed standardized baseline:	Ministry of Finance, Planning, Economy, Energy, and Cooperatives, Grenada
History of the submission & assessment:	1) 13/10/2014: first submission was received 2) 23/10/2014: initial assessment has been concluded 3) 19/11/2015: second submission was received 4) 18/07/2016: third submission was received 5) 05/09/2016: fourth submission was received 6) 23/09/2016: fifth submission was received

Conclusion:	
(a) The quality assurance and quality control system complied with the provisions and data quality objectives of the valid "Guidelines for quality assurance and quality control of data in the establishment of standardized baselines"	☒ Yes ☐ No ☐ N/A
(b) The approach used by this proposed standardized baseline complied with one of the approaches referred to in the valid "Procedure for development, revision, clarification and update of standardized baselines":	☒ Yes ☐ No One of the four approved approaches: ☐ The "Guidelines for the establishment of sector specific standardized baselines"; ☐ A methodological approach contained in an approved baseline and monitoring methodology; ☒ A methodological approach contained in an approved methodological tool "Tool to calculate the emission factor for an electricity system" (version 05.0.0); ☐ The "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM".
Date when the assessment report is completed:	06/09/2016

SECTION A. Summary of Proposed Standardized Baseline

A.1. Scope and application of the proposed standardized baseline

1. The proposed standardized baseline (PSB) is developed for

   (a) ☐ Additionality demonstration;

   (b) ☐ Baseline identification;

   (c) ☒ Baseline emission estimation

2. This PSB applies to the energy industries sector, which includes electricity generation/ consumption in Grenada.

3. Projects shall use the standardized baseline together with the approved methodologies where the "Tool to calculate the emission factor for an electricity system" (hereinafter referred to as "the tool") is referred.

A.2. Description of the proposed standardized baseline

4. Key data parameters and data sources:

Key data parameters	Data sources
Fuel properties (NCV, emission factor)	For NCV and density: Grenada Electricity Services Ltd. (GRENLEC) For EF (lower limit of 95% C.I.): IPCC 2006 Guidelines, Vol. 2, Table 1.4
Fuel consumption	(GRENLEC)
Electricity generation in the national grid	(GRENLEC)
Electricity imports/exports	N/A

5. The scope and coverage of the data:

   (a) The PSB identifies three independent electricity systems:

      (i) Electric grid from the island of Grenada;

      (ii) Electric grid from the island of Carriacou;

      (iii) Electric grid from the island of Petit Martinique.

   (b) The data include key information of each facility (name, electricity generation, fuel type/consumption)

   (c) The data represent all regions in the country

   (d) The data represent three years (2010, 2011 and 2012).

6. The DNA uses a data template in accordance with the approved tool.

7. The development of the PSB includes only grid-connected power plants.

8. As each electricity system has less than five power plants, the requirements of the tool to determine the Build Margin emission factor cannot be met. Therefore, according to the paragraph 82 of the tool, Simplified Combined Margin is determined and average OM method is applied.

9. Data vintage of 2010-2012 is used for OM calculation.

SECTION B. Summary of Assessment

B.1. Assessment process

10. The purpose of assessment conducted by the secretariat is: i) to ensure that the QA/QC system implemented by the DNA complies with the provisions and data quality objectives of the “Guidelines for quality assurance and quality control of data used in the establishment of standardized baselines” (hereinafter referred to as QA/QC guidelines); and ii) to ensure that the PSB complies with the requirements of the tool.

11. The assessment consisted of the following:

   (a) Review of the documents submitted;

(b) Identification of issues (assessment findings) and draft of the assessment "findings and resolution" note;

(c) Communication of assessment findings with the DNA and request for their resolution and response;

(d) Direct communication with the DNA*;*

(e) Review of the additional documents and/or responses provided by the DNA;

(f) Closing the findings;

(g) Conclusion of the assessment report.

12. A desk review was performed on the following data/information submitted as part of the PSB:

(a) Submissions included:

(i) Grenada grid emission factor standardized baseline report;

(ii) Proposed standardized baseline form (F-CDM-PSB v3.0);

(iii) Calculation sheet;

(iv) Quality control report

(b) Assessment findings were communicated to the DNA on 11/05/2016, in response to which the DNA submitted the revised calculation and additional relevant documents;

(c) The fifth submission was sufficient to prepare a final recommendation.

B.2. Assessment opinion:

13. In accordance with the QA/QC guidelines, the secretariat concluded that the all the following requirements were met by this PSB:

(a) QC system (resource/procedure) was implemented to check the data quality. All primary data come directly from GRENLEC. The information regarding plants performance (electricity generation, fuel consumption) is monitored continuously by GRENLEC. The data will be archived and maintained in such a way that allow for the reproduction of the calculation of the emission factor of the grids;

(b) QC activities were clearly documented in the QC report. GRENLEC has volumetric meters at each plant which continuously record and report the fossil fuel consumed. Continuous electricity meters provide the gross and net electricity generated at each plant. Staff in charge of the operations at each GRENLEC plant are responsible to extract and prepare the monthly reports based on data recorded by the meters. The Energy division of the Ministry of Finance (DNA), uses the information of fuel importing records of the division of Customs & Excise, to cross-check the fuel consumption reported by GRENLEC monthly;

(c) All relevant documents and data were available for assessment;

(d) The key data source is GRENLEC, which is the only utility in the country, which generates, transmits and distributes electricity;

(e) The data scope was comprehensive enough to produce a "true and fair" representative standardized baseline in the particular sector;

(f) The key data and information are consistently presented;

(g) The data vintage (three years) was met as per the provisions of the “Tool to calculate the emission factor for an electricity system” (version 05.0.0);

(h) The assumptions and conservative approaches for data processing and calculations were justified.

14. The details of issues (assessment findings) identified by the secretariat and the responses provided by the DNA are provided in Appendix 1 to this document.

15. The secretariat concluded that the PSB complied with the requirements of the tool.

Appendix 1. Findings and resolutions

CL No.	Request for Clarification (CL)	Reference to general provisions of guidelines on quality assurance and quality control of data used for sector-specific standardized baselines	Responses and corrective actions of DNA	Conclusion (open/closed)
1	**Public consultation report:** The QC report does not include how to take into account stakeholders' comments. Please elaborate how to conduct a public consultation in the QC report	Documentation provisions; public consultation report specified in paragraph 31 (d) of the QA/QC Guidelines, version 2.0.	The standardized baseline of the grid emission factor (GEF) for Grenada was presented at a workshop attended by the key stakeholders in the country from the various sector, including, the utility company (GRENLEC), waste sector stakeholders, academia, NGOs and the relevant media houses. The workshop was hold at St. George's University on 19 and 20 March 2015.	The DNA had explained that the GEF calculation was presented during a meeting held at St. George's University, on 19 and 20/03/2015. The QC Report has included this information. Therefore, this issue is **CLOSED**.
2	**Data consistency:** i. The QC report specifies the source of fuel data (Petro Caribe Grenada Limited) , which is different from the data source (Grenada Electricity Services Ltd) specified in the excel calculations spread sheet. Please make them consistent. ii. The data of power generation in the excel calculations spread sheet are slightly different from the five year operational record in the reference (Annual report, 2012, page 55).	Data quality objectives; consistency specified in paragraph 15 (c) of the QA/QC Guidelines, version 2.0	i. The excel calculations spread sheet and the QC report are both now consistent as GRENLEC was used as source of fuel consumption and power generation data. ii. GRENLEC was requested to provide clarification on data differences of annual report 2014. GRENLEC provided signed letter (here attached)	i. The DNA has corrected the source of the information to "Grenada Electricity Services Ltd" in the QC Report. Therefore, this issue is **CLOSED**. ii. The DNA has presented a letter from GRENLEC, explaining that the data contained minor discrepancies and the submission has been revised accordingly.

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	(http://grenlec.com/Portals/0/AnnualReportsPDF/Report2012.pdf) For example, the total power generation for 2012 is "199.45 (GWh)" in the excel calculations spread sheet but the gross power generation for 2012 is "199.7 (GWh)" in the annual report. Please justify these inconsistent data.		with clarification and new December monthly reports were also provided and used to update the GEF excel spreadsheet calculation. Data inconsistency was corrected.	Therefore, this issue is **CLOSED**.
3	**Data accuracy:** The excel calculations use the density of diesel (850 g/litre) sourced from "Table A3.8 Page 181 of the Energy Statistics Manual of OECD/IEA, 2004". However, the Manual shows a different value (843.9 kg/m3). Please refer the correct value (http://ec.europa.eu/eurostat/ramon/statmanuals/files/Energy_statistics_manual_2004_EN.pdf) and accordingly modify the excel calculations with the correct density of diesel, which will result in different emission factors for all three power plants.	Data quality objectives; accuracy specified in paragraph 15 (f) of the QA/QC Guidelines, version 2.0	The fuel density data corrections were made in the excel calculations using the Monthly Reports data provided by GRENLEC. The QA/QC report and the spreadsheet have been revised to show that consistent values of the density.	Calculation spreadsheet was corrected. Values from the GRENLEC reports have been applied. This issue is **CLOSED.**
4	**Data traceability:** The link specified in the QC report is not accessible (http://www.grenlec.com/index.php/corporate-information/annualreport.html). Please modify the QC report with the correct link (http://grenlec.com/OurCompany/AnnualReport.aspx).	Data quality objectives; traceability specified in paragraph 15 (k) of the QA/QC Guidelines, version 2.0	The link was corrected	The link was corrected and is now accessible. Therefore, this issue can be **CLOSED**.
5	**Data currentness**	Paragraph 15 (e) of the QA/QC Guidelines, version 2.0	The data vintage used, i.e. from 2010 to 2012, was the most recent data available at the time of	The DNA has confirmed that the data vintage used to calculate the grid

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	The data vintage used is from 2010 to 2012. Please confirm whether this is the most recent data available.		calculation and initial submission of the standardized baseline calculation.	emission factor was the most recent available at the time of the initial submission of the SBL. Therefore, this issue is **CLOSED**.
6	**Data relevance** The QC report indicates that the values of diesel consumed by the plants are derived from the quarterly and annual reports prepared by Petro Caribe Grenada Ltd. However, the monthly reports prepared by GRENLEC contain data of both "fuel received" and "fuel used" and the data used in the calculation was based on the fuel used. Please clarify which is the correct data source and provide the proper QC procedures for this parameter, if appropriate.	Data quality objectives; credibility specified in paragraph 15 (d) of the QA/QC Guidelines, version 2.0	The correct source of fossil fuel consumed by power plants are the monthly reports prepared and published by GRENLEC.	Petro Caribe Grenada Limited is not the only entity supplying fuel to GRENLEC (Grenada Electricity Services Ltd.). Therefore records from Petro Caribe Grenada Limited are used as a data source for cross-check. GRENLEC has volumetric meters at each plant which continuously record and report the fossil fuel consumed. The QC report is updated accordingly. Therefore, this issue is CLOSED
7	**Data credibility** The QC report indicates, in the section "Please specify how the accuracy of the data was checked" (page 3) that *"DNA has carried out a cross checking activity for the aggregate electricity generation and fuel consumption data by comparing the data collected with the generation and distribution*	Data quality objectives; credibility specified in paragraph 15 (d) of the QA/QC Guidelines, version 2.0	Data on electricity generation was crosschecked against publically available annual reports. Although the values are aggregated, the total amount of electricity generated by the three plants match the sum of the amounts of each plant in the	The Energy division of the Ministry of Finance (the DNA) has confirmed the credibility of data. The DNA uses the information of fuel importing records of the division of Customs

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	companies and found the collected data to be credible" and, as indicated in the same QC report, GRENLEC is the sole generation and distribution company in Grenada. Please substantiate the credibility of cross-checking data from the same source, since it appears that the cross-checking is made between "the aggregate electricity generation and fuel consumption data" (sourced by GRENLEC) and "the data collected with the generation and distribution companies" (which is GRENLEC).		spreadsheet sourced from the Monthly Reports, therefore, they are deemed accurate and credibly. In addition, the DNA confirms that values are correct. Data on fuel consumption is used for commercial transaction so deem accurate. In addition, the QC control shows a check that confirms that values are within the range of efficiency established in the Tool.	& Excise, to cross-check the fuel consumption reported by GRENLEC monthly. The DNA also crosschecks the electricity generation data against GRENLEC company's on-line/public annual report. Therefore, this issue is CLOSED

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Document information

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01.0	27 May 2013	Initial publication
02.0	01 June 2015	Modified in order to take into account the Board's decision and improve clarity and consistency

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