



## Assessment Report for CDM proposed standardized baseline (Version 01.0)

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

<b>Title of proposed standardized baseline:</b>	Uganda's Grid Emission Factor Standardised Baseline
<b>Reference of proposed standardized baseline:</b>	PSB-0012
<b>Sector:</b>	Electricity generation/consumption sector
<b>Name of DNA:</b>	Uganda
<b>Dates Reviewed:</b>	<p>First submission was received on 3<sup>rd</sup> March 2014</p> <p>Second submission was received on 1<sup>st</sup> April 2014</p> <p>Initial assessment was finalized on 4<sup>th</sup> April 2014</p> <p>First QA/QC assessment was finalised on 28<sup>th</sup> May 2014</p> <p>Third submission was received on 8<sup>th</sup> September 2014</p> <p>Second QA/QC assessment and assessment report was finalized 11<sup>th</sup> September 2014</p>
<b>Summary of Proposed Standardized Baseline:</b>	

**Scope and application of the proposed standardized baseline:**

The proposed standardized baseline (SB) is submitted for a single Host Country, Uganda, and is developed for the purpose of:

- Baseline emission estimation

The sector to which this proposed standardized baseline applies is the electricity generation/consumption sector.

The SB is developed by Ministry of Water and Environment on behalf of Designated National Authority (DNA) of Uganda.

**Description of the proposed standardized baseline:**

The key data parameters related to this proposed standardized baselines are:

- Total annual electricity generation;
- Net calorific Values (NCVs) of fuels;
- Number of hours low cost/must run sources on the margin;
- Fuel emission factors; and
- Total annual fuel consumption.

The data for the above parameters were collected directly from individual plants by Uganda Electricity Transmission Company Ltd. and Electricity regulatory authority for developing proposed standardized baseline submission.

The grid emission factor for the Uganda is determined using the “Tool to calculate the emission factor for an electricity system” (version 03.0.0).

The relevant electricity system is the Ugandan power grid which maintains very limited occasional import/export from/to Kenya through international interconnection. In Uganda’s borders with Rwanda, Tanzania and Congo there exists limited exports/imports, which occurs between those areas of Uganda and the respective neighbouring country which are neither covered by national grid network, nor controlled by power dispatch centers of either of the countries. Due to limited electricity trade (1.2% ~ 3.4%) between Uganda and neighboring countries, electricity exports are not subtracted from the total electricity generated in Uganda and the emission factor of the imported electricity is considered as zero in accordance with the grid tool. Hence, the project electricity system in Uganda remains as the Ugandan national grid.

In case of Uganda, all low cost/must run plants are hydropower and bagasse plants constitute an average of 68.5 per cent of total electricity generation, which is more than 50 per cent of the Ugandan grid generation in the average of the five most recent years (2008 – 2012). Therefore the option of Simple Adjusted OM method is selected for the calculation of operating margin as per the “Tool to calculate the emission factor for an electricity system” (version 03.0.0).

The build margin is calculated using the data for a set of plants whose cumulative share of power generation is equal to or more than 20% of energy generation in 2012.

Data vintage required is three successive years of plant data (2010 – 2012) for each power plant.

**Summary of Assessment:**

**Assessment process:**

The assessment consisted of the following:

1. Initial document review and findings – first and second round of submissions
2. Review of the additional document submitted based on the initial assessment findings
3. Issue of further findings seeking clarifications from DNA
4. Consultation with DNA regarding the findings raised
5. Review of the additional document submitted based on the assessment findings
6. Resolution of clarifications
7. Conclusion of the final assessment report

A desk review was performed against the requirements for quality assurance and quality control of data as per the ‘guidelines for quality assurance and quality control of data used in the establishment of standardized baselines’, version 1.0 (QA/QC guidelines) on the below mentioned data/information submitted as part of the proposed standardized baseline.

The first assessment was performed on the following submission (second submission) dated 1<sup>st</sup> April 2014, which was considered complete:

- Proposed standardized baseline (F-CDM-PSB) dated 28<sup>th</sup> February 2014 prepared on 11<sup>th</sup> March 2014
- Report on Ugandan grid emission factor by Climate Focus, version 1.0 dated 3<sup>rd</sup> December 2013
- Validation report by DOE on calculation of grid emission factor for Uganda, version 3.0 dated 3<sup>rd</sup> December 2013
- Excel file containing supporting data and calculation of grid emission factor, version 1.0 dated 3<sup>rd</sup> December 2013

Assessment findings were communicated to the DNA on 28<sup>th</sup> May 2014, in response to which the DNA submitted the revised documents and additional relevant documents.

Third submission dated 8<sup>th</sup> September 2014 included:

- QC report by DNA dated 19<sup>th</sup> August 2014 (in word and PDF format)
- Letter from Electricity Regulatory Authority dated 26<sup>th</sup> August 2014 as supporting document for response on clarification 1
- Letter from Uganda Electricity Transmission Company Ltd. dated 27<sup>th</sup> August 2014 as supporting document for response on clarification 1
- Response to assessment findings
- Excel file containing supporting data and calculation of grid emission factor, version 2.0 dated 15<sup>th</sup> July 2014 and version 3.0 dated 6<sup>th</sup> August 2014

The third submission was considered to clarify all issues raised by the secretariat.

**Assessment findings and resolution:**

Following section covers the explanation on how guidance provided by QA/QC guidelines was followed by DNA while collecting, compiling and processing the data required for development of the proposed standardized baseline.

The details of findings identified by the secretariat and the responses provided by the DNA/(SB developer) are summarized in Appendix-1 to this document.

Requirements	Explanation
<b>The data quality was checked before/during/or after data collection:</b>	Data quality has been checked during the data collection, compilation and processing.

<p>(a) QC system (resource/procedure) was implemented.</p>	<p>QC report has been submitted that provides clear explanation on the QC system.</p> <p>In addition, all the sources of data/information for Uganda national grid and power plants connected to the grid were checked for their credibility and an additional check was made against data presented in previously registered CDM projects and their final validation reports.</p>
<p>(b) QC activities was clearly documented (e.g. QC report).</p>	<p>QC report has been submitted that provides explanation on the QC activities.</p> <p>In addition, the QC procedure has been reviewed by an independent entity while conducting the validation of grid emission factor calculation.</p>
<p><b>Were all required documents and data available for assessment?</b></p>	<p>All the data were available and easily accessible for assessment.</p>
<p><b>The proposed standardized baselines were established through consultation processes:</b></p>	<p>The primary data used for the SB were established through consultation process as explained below.</p>
<p>(a) The sector or data providers were engaged and communicated enough to provide valid inputs/data.</p>	<p>The data used for calculation of the grid emission factor were received from Uganda Electricity Transmission Company Ltd. and Electricity Regulatory Authority of Uganda through official requests. The DNA of Uganda under the Ministry of Water and Environment coordinated the process of data collection.</p>
<p>(b) Stakeholders were invited to provide inputs and comments where applicable.</p>	<p>The DNA of Uganda with the support from the Belgian Development Agency (BTC) has checked the transparency in the process of data supply and calculations. In addition the validation team from an independent entity has interviewed several official contacts responsible for data supply to assure the transparency.</p>
<p>(c) The public consultation report was clearly documented if applicable.</p>	<p>The validation report from an independent entity and the QC report from DNA provide information on the consultation process.</p>
<p><b>The data quality objectives and the general provisions of the QA/QC Guidelines were met. If the QC report is available, this session can be skipped unless further explanation is needed (when conservative approaches were taken, further explanation is required):</b></p>	<p>The QC report is made available by the DNA which is in line with the guidance given in the QA/QC guidelines.</p>

(a) Relevant data were used to the establishment of sector-specific standardized baselines.	As per QC report.
(b) The data scope was comprehensive enough to produce “true and fair” representative standardized baselines in the particular sector.	As per QC report.
(c) The key data and information are consistently presented.	As per QC report.
(d) The credibility of the data sources was ensured.	As per QC report.
(e) The most recent available data were utilized. If applicable, the pre-determined data vintage was met.	As per QC report.
(f) Duplications and errors were avoided or corrected.	As per QC report.
(g) If any, assumptions or interpretations for data processing/ calculations were justifiable.	As per QC report.
(h) The security of datasets including confidentiality was well maintained in accordance with pre-established procedures if requested.	As per QC report.
<b>The assessment is concluded successfully, based on the overall evaluation.</b>	The data used for development of SB is meeting the data quality objectives and general provisions of QA/QC guidelines.

**Appendix 1. Findings and resolution**

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	<p>Data sources for raw data - The worksheets ‘Raw Data – Generation’ and ‘Raw Data – Thermal’ did not provide data sources for the key raw data such as for the plant generation data contained in the ‘Raw Data – Generation’ worksheet and fuel consumption and density of fuel contained in the ‘Raw Data – Thermal’ worksheet.</p> <p>The DNA is requested to provide data source being used in these worksheets.</p>	<p>Documentation provisions, data quality for use of secondary data, data traceability paragraph 11 (a) to (k) of the QA/QC Guidelines, version 1.0</p>	<p>The source of raw data in worksheets Raw Data – Generation’ and ‘Raw Data – Thermal’ is now included in the spreadsheet. We confirm that the Uganda Electricity Transmission Company Limited (UETCL) was the ultimate source for these data and information except for worksheet ‘Raw data – Thermal 2’ where the source was the Electricity Regulatory Authority (ERA). The updated spreadsheet is re-submitted for consideration. The personal contacts for data inquiry were:                      ERA: Mr. Kagaba Paul Mukiibi; Mr. Peter Kityo;                      UETCL: Mr. Sebugenyi H.M., Mr. Byaruhanga B. and Mr. John Othieno</p> <p>These gentlemen were also</p>	<p>Closed.</p> <p>The worksheets ‘Raw Data – Generation’ and ‘Raw Data – Thermal’ mention the source of information as Uganda Electricity Transmission Company Limited (UETCL) and Electricity Regulatory Authority (ERA) respectively. The DNA provided signed letters from these organizations dated 27<sup>th</sup> August and 26<sup>th</sup> August respectively confirming accuracy and correctness of the data. This is also confirmed from the report from DOE regarding validation of grid emission factor for Uganda.</p>

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)
			interviewed by the DOE for data transparency, credibility and quality as well.	
2	Transparency – The DNA is requested to provide information how transparency was ensured while developing this submission for Standardized baseline.	General provisions paragraph 21 of the QA/QC Guidelines, version 1.0	The DNA of Ugandan with the support from the Belgian Development Agency (BTC) has checked the transparency in the process of Ugandan GEF data supply and calculations by hiring a UNFCCC approved DOE (Carbon Check) to validate the process. The validation team from Carbon Check visited the authorities responsible for data supply and interviewed several official contacts to assure transparency. The DOE also validated the GEF calculation according to the principles of the Validation and Verification Standard (VVS) and the GEF tool, ensuring that all calculations were transparent and replicable. The validation was	Closed. The report from the DOE regarding validation of grid emission factor for Uganda of was reviewed and it is noted that the DOE has interviewed the stakeholders to know; i) purpose and approach being used of grid emission factor calculation, ii) delineation of the Uganda electricity system, iii) reliability and the accuracy of the data being used.

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)
			concluded successfully and the final validation report of the process is attached for your consideration.	
3	Data quality control - The information regarding QC procedure implemented by the DNA is missing. The DNA is requested to provide information related to QC procedure.	Quality control paragraph 22 of the QA/QC Guidelines, version 1.0	The QC report by the DNA is attached for your consideration.	Closed. The QC report submitted by the DNA is reviewed and found acceptable.



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**History of the document**

<b>Version</b>	<b>Date</b>	<b>Nature of revision(s)</b>
01.0	27 May 2013	Initial publication.
<b>Decision Class:</b> Regulatory <b>Document Type:</b> Form, (for Secretariat use only) <b>Business Function:</b> Methodology <b>Keywords:</b> Assessment, Standardized baselines, Methodologies		