

## Appendix 1. Quality control (QC) report

Sector	Power / Energy industries (renewable - / non-renewable sources)
Name of DNA	Mr. Gerelt-Od Tsogtbaatar Head Of CDM National Bureau, Ministry of Environment and Tourism of Mongolia
Primary Person Responsible for QC Procedures	Ms. Undarmaa Khurelbaatar Officer, CDM National Bureau Nature Conservation Fund, Ministry of Environment and Tourism of Mongolia
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Implementation Dates of QC Procedures	
Please describe how your QC procedures were implemented	
<p><u>Pre-submission QC:</u> Sources for data are given in the calculation sheet submitted with the CDM-PSB form, which describes data type, description, and sources. from as follows:</p> <ul style="list-style-type: none"> <li>• Information related to power units and transmission lines: National Dispatching Centre, Ministry of Energy Mongolia</li> <li>• Total annual electricity generation: National Dispatching Centre, Ministry of Energy Mongolia</li> <li>• Total fuel consumption: National Dispatching Centre, Ministry of Energy Mongolia</li> <li>• Net Calorific Value (NCV) of lignite coal: Mongolian national standard MNS 5919: 2008</li> <li>• Net Calorific Value (NCV) of diesel oil: IPCC guideline for National Greenhouse Gas Inventories 2006, Chapter 2, stationary combustion</li> <li>• CO<sub>2</sub> emission factors of lignite coal and diesel oil: IPCC guideline for National Greenhouse Gas Inventories 2006, Chapter 2, stationary combustion</li> </ul> <p><u>Post-submission QC:</u> Data collected and used for the calculation of grid emission factor will be maintained in line with the monitoring methodology outlined in the tool "Tool to Calculate the Emission Factor for an Electricity System," Version 05.0, CDM EB 87, Annex 9.</p> <p>All data collected will be archived electronically and will be kept for at least three years by the DNA. Changes and development related to the power plants and transmission systems will be monitored and archived. The data will be archived and maintained in such a way that allow for the reproduction of the calculation of the emission factor of national electricity grid.</p>	
Please specify how the credibility of the data sources was checked.	
Activity data was obtained from National Dispatching Centre of Ministry of Energy Mongolia. The National Dispatching Centre is the national authority responsible for collecting and publishing national electricity generation data, coordinate daily system operation of all power and heat sector entities which includes the real time coordination of the power plants operation, transmission and distribution. Default values established by the IPCC were used in case national value is not available.	
Please specify how the accuracy of the data was checked.	
The activity data was compiled by the National Dispatching Centre using data templates prepared by the DNA. Activity data was cross-referenced with data collected by research institutes for the calculation of grid emission factor of the previous years and the publicly available data provided by international organizations. Sampling method was not necessary.	
Please specify how the consistency was achieved in particular where multiple secondary data sources were used.	
No secondary source was used for activity data.	

Please specify how the "Standard for data coverage and validity of standardized baselines" was complied with.
<p>The calculation method used in formulating this standardized baseline followed the methodological tool "Tool to Calculate the Emission Factor for an Electricity System," Version 05.0, CDM EB 87, Annex 9.</p> <p>The activity data used in the calculation was from the most recent 3 years (2013-2015) before the year of submission (2016), in line with the requirement for initial submission provided by the Standard.</p>
Please specify how the completeness was achieved.
<p>The activity data used in the calculation includes primary data provided by the National Dispatching Centre, Ministry of Energy Mongolia and secondary data obtained from national standard, approved by the Mongolian Agency for Standardization and Metrology (MAMS).</p> <p>Completeness of the data is ensured as required electricity generation and fuel consumption data in year 2013, 2014, and 2015 were available and sufficient for the calculation of the grid emission factor. Where power plant fuel consumption data was not available, such as by small diesel power plants, the respective power plants are excluded from the calculation process, taking into consideration the low significance of their emission to the overall calculation.</p>
Please specify how the transparency was achieved.
The National Dispatching Centre, Ministry of Energy Mongolia publishes relevant data annually in a transparent manner. All data in the calculation sheet and calculation report of this calculation are open to the public to ensure transparency.
Please specify major issues and uncertainties identified during the QC procedures.
As the DNA has yet to publish a delineation of the grid electricity system for the years covered, the determination of national grid electricity system was undertaken to clarify the diverse information contained in publicly available documents.
Please specify major corrective actions taken during the QC procedures.
Not applicable.
Please justify the conservativeness of the approaches taken during the QC procedures.
Electricity generated by off grid power plants and on-grid/off-grid power plants registered under the CDM is not included in this calculation.
Please summarize key findings and present a plan to improve the data quality in the future.
<p>The following is the potential improvement for data quality in the future:</p> <ul style="list-style-type: none"> <li>• To publish a delineation of national grid electricity system in cooperation with the National Dispatching Centre, Ministry of Energy Mongolia</li> <li>• To organize collection of electricity generation data from small diesel power plants</li> <li>• To seek the possibility of publishing official annual report on electricity generation in English language, to enhance transparency for the international community and attract investments</li> <li>• To seek the possibility of estimating emissions from off-grid power plants.</li> </ul>

Date to finalize this report

28 Dec, 2016

Signature of DNA



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