

# **IGEF MEETING AGENDA NO 9**

## **CO2 BASELINE DATABASE FOR INDIAN POWER SECTOR**

# CO<sub>2</sub> Baseline Database for the Indian Electricity Grid



- Clean Development Mechanism (CDM) gives an opportunity to the developing countries to achieve their sustainable development objective, besides providing an opportunity to introduce new and efficient technologies.
- India has high potential for CDM projects particularly in power sector where concept of high efficiency and conservation can be introduced.
- Ministry of Power, GoI has accorded high priority to low carbon growth in the power sector in line with National Action Plan on Climate Change (NAPCC)

# CO<sub>2</sub> Baseline Database for the Indian Electricity Grid

- Central Electricity authority (CEA) is publishing CO<sub>2</sub> baseline data for power sector in the country to benefit prospective CDM project developers in estimating the amount of Certified Emission Reduction (CERs).
- The emission factors have been calculated based on methodologies and tools published by CDM executive Board for a grid connected electrical system.
- CEA has been publishing the CO<sub>2</sub> Baseline Data since 2006. About 500 Stations (1500 units) of Thermal (Coal, Gas and Diesel), Hydro and Nuclear type are covered in the database. Broadly, the database covers data on electricity production, fuel consumption, GCV of fuel and quantified CO<sub>2</sub> emissions.
- The weighted average CO<sub>2</sub> emission factor from grid connected power stations for Indian electrical system is 0.82 t CO<sub>2</sub>/MWh for the FY 2013-14.

# CO<sub>2</sub> Baseline Database for the Indian Electricity Grid



The database has become an indispensable tool for CDM project owners in India in view of following:

- Over 1000 registered CDM projects rely on the database published by CEA
- In 2014 alone, over 200 projects has CERs issued based on the database published by CEA
- Quantification of CO<sub>2</sub> emission baseline for grid connected power stations according to international methodologies

This database is prepared annually by CEA with the support of First Climate, Switzerland as consultant. The consultant fee as well as the publishing cost is being funded under Indo-German Bi-lateral Co-operation through GIZ, Germany.

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## **Tasks performed by CEA**

- Data Collection from Power Stations
- Checking data for completeness, plausibility and consistency
- Compilation of data into a structured database

## **Tasks performed by First Climate, Switzerland**

- Calculating CO<sub>2</sub> emission factor in line with prevalent international methodologies approved by CDM Executive Board
- Conducting independent plausibility study
- Identifying and removing data gaps in line with international standards
- Technical adaptation of the database, as required

# CO<sub>2</sub> Baseline Database for the Indian Electricity Grid

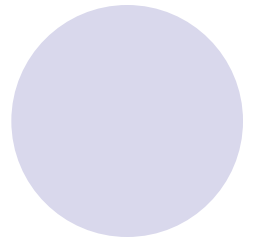
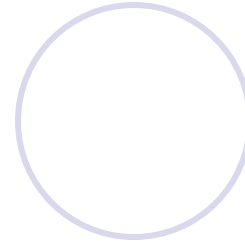
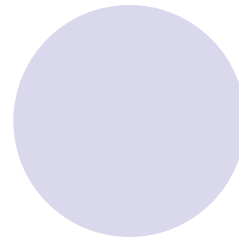
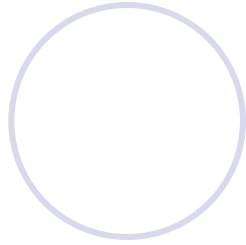
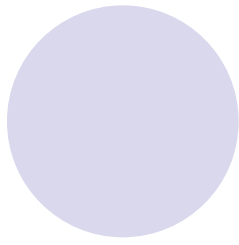
It is requested that the services rendered by M/S First Climate, Switzerland may be extended to CEA for one more year in view of following specific additional tasks for the next database (FY 2014-15):

- Till the 2013-14 the database considered, the Indian electricity system as two grid system i.e. Integrated Northern, Eastern, Western and North Eastern Grids (NEWNE Grid) and the Southern Grid. However, since December 2013, all the Indian regional grids have been synchronized and now India has only one National Grid. Re-working the database and programming of macros are required to convert the database applicable to one single electricity grid.
- Use of imported coal having different heat values than domestic Indian coal is increasing in Thermal power stations of India. The re-working of database and programming of macros are required to incorporate the concept of use of different coals as a primary fuels in thermal power stations

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- In view of above, the funding support of Govt. of Germany under IGEF programme shall be required for preparing and publishing CO<sub>2</sub> baseline data for the year 2014-15.



**THANKS**