



Guatemala – Geothermal power, Department of Escuintla

Overview: Geothermal electricity generation, displacing fossil-fuelled generation plant.

The project is a geothermal power plant, comprising three turbines with a combined installed capacity of 25.2 MW, and can generate over 160,000 MWh per annum. The project utilises the geological resources at the site to generate renewable power, which is then dispatched to the relatively carbon-intensive Guatemalan electricity Grid.



Credit: Sigrg

Benefits: Emissions reductions and sustainable development

Greenhouse gas emissions are reduced by the project since its output displaces electricity would otherwise have been generated in the existing fossil fuel powered plants in the grid or by the addition of new generation. The CDM baseline and monitoring methodologies used is ACM0002 – “ Consolidated methodology for grid-connected electricity generation from renewable sources” (Version 6), and the monitoring report confirms that around 0.47 tonnes CO₂ equivalent are achieved for each megawatt-hour of electricity exported to the grid

Other project benefits include the creation of 20 permanent jobs, and a program to reduce flooding of the local area through the repair of road infrastructure and the reforestation of hillsides with over 5,000 trees. Furthermore, geothermal-derived electricity is relatively free of seasonal or fuel-driven supply fluctuations, so the project increases stability of power supply to consumers and to the national economy.

Project carbon credits

During the verification period from 10 February 2007 to 11 December 2008, total greenhouse gas reductions by this project amounted to 104,344 tonnes of CO₂ equivalent. Carbon credits were verified to the Voluntary Carbon Standard (2007) in June 2009 by DNV. (Certificate available upon request). This project has subsequently been validated under the CDM programme.