

Coking Waste Heat Recovery Project, China

Power consumption has continuously grown in China over the last years. More than 80% of total electricity is generated from coal-based power plants. Both public and private parties are struggling to meet the demand of electricity.

South Pole supports energy efficiency projects like this to contribute to bridge the gap between supply and demand of power in a sustainable manner on a regional and national level.

The Location



The county Wu'an, where the project is located, has a population of around 70,000 people and is part of the municipal region of Handan in the very South of Hebei province. Handan was the capital of the ancient state of Zhao. Even though it is now mainly an industrial city it still owns a rich cultural heritage from this time.

The Project

This Gold Standard Clean Development Mechanism (CDM) project aims to utilize waste heat from the coking process for power generation. Waste heat contained in the tail gas from coke ovens and in the flowing gas within the coke dry quenching (CDQ) system is collected through



heat-exchange-type boilers. Steam propelling turbines and generators are used for generation of electricity to be exported to the national power grid. Besides electricity generation, a small portion of the steam generated by boilers will be used to supply heat to the residential areas of the plant in winter. Non renewable sources are being saved by utilization of waste heat in accordance with the national and local industry policies.

Greenhouse gas (GHG) emissions are being reduced by avoiding CO₂ emissions from those fuel-based power plants connected to the grid and in addition by avoiding CO₂ emissions from the coal-based boiler in the plant.

Overall, six boilers will be installed, achieving a total installation capacity of 60 MW. In absence of the project, equivalent amount of electricity exported to the grid by the proposed project would be supplied by the coal-based North China Power Grid, and the heat necessary for the residential areas of the plant during winter months would be supplied by a coal-based boiler.



The Benefits

- The proposed project will contribute in mitigating the global warming and climate change by preventing anthropogenic emissions of greenhouse gas that would have otherwise happened in absence of the project activity.
- The project activity will add new capacity to the national grid and will help improving electricity availability.
- The project will carry environmental benefits to the country's soil and water sources (water saving will be about 300,000 tons/year).
- Besides reducing CO₂ emissions, the project will significantly reduce SO_x and NO_x emissions, mitigating air pollution and its adverse impacts on human health.
- By installing de-dusting facility, dust emissions will be greatly reduced.
- By utilizing the modern technology of clean coking ovens with heat recovery technology, the proposed project will contribute in promoting advanced environment-friendly technology in coking industry of China.
- The proposed project activity will bring more employment opportunities for local people. The plant owner has estimated that more than 200 people will be engaged during the construction period of one year and there will be 154 people engaged on the plant operation on a regular basis.
- Located in a poor municipality with an annual income lower than 500 Euro per capita, the project will generate additional income for people involved.

The Details

KEY DATA South Pole Project No. 300 114
Average Emission Reductions per year: 308'000 t CO₂
Commissioning date: 2009
Expected Standard: Gold Standard VER



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