Project Description

The Luohe MSW Landfill Site LFG Recovery to Power Project aims to recover and destroy landfill gas generated at the municipal solid waste (MSW) landfill site in Luohe city, Henan province (China). The collected LFG will be used for electricity production.

The Luohe city landfill area #1, started operation in 2004 and has a capacity of 2.4 million tons of solid waste. It is expected to run for a total of 15 years, till 2019. Degassing pipelines have been installed on the landfill site for safety reasons only and since no LFG collection and/or destruction facilities existed prior to the proposed project activity, the baseline scenario without the project envisaged the release of LFG directly into the atmosphere.

The project will employ a gas collection, transmitting and pretreatment system as well as gas engines with a capacity of 2 MW. The recovered LFG will be combusted in the gas engines to produce electricity which will be fed into the Central China Power Grid (CCPG) afterwards. GHG emission reductions will be claimed from both methane recovery and the replacement of fossil fuel based electricity.

It is estimated that during the 10 years crediting period the proposed project activity will destroy 14,500 tons of methane and replace 177,000 MWh of electricity otherwise generated via fossil fuel combustion: this will mean a potential GHG reduction of approximately 290,000 t CO₂e.

Key Facts

- **Project Type**: Landfill Gas (LFG)
- **Project Owner**: Shanghai Baichuan Changyin Co., Ltd (BCCY)
- **Project Developer**: UPM Umwelt-Projekt-Management GmbH
- **Location**: Luohe city, Henan province, China
- **Methodology**: Landfill methane recovery - AMS-III.G., ver. 6
- **Grid connected renewable electricity generation – AMS-1.D, ver. 15**
- **Carbon Credit Standard**: CDM Certified Emission Reductions (CDM CERs), CDM Ref. 5238
- **Validator (DOE)**: Germanischer Lloyd Certification GmbH
- **Development Status**: Registered (CDM)
- **Registration Date**: 07/10/2011
- **Date of First Credit Issuance**: Fourth Quarter of 2013 (expected)
- **Annual Credit Volume**: approximately 44,000 CERs
- **Crediting Period**: 10 years
Sustainability Benefits

The proposed project activity not only reduces GHG emissions, but also brings the following economic, social, environmental and technological benefits to the local community:

- **Economic Benefits:** By replacing Central China Power Grid (CCPG) electricity based on fossil fuel use, the project activity allows to reduce China’s dependency on fossil energy sources and contributes to stabilizing power supply for businesses and private households in the project area.

- **Social Benefits:** The project activity is expected to increase job opportunities by way of creating 15 new posts available to local residents during both construction and operation of the power plant. Furthermore, the LFG project reduces potential dangers of fire and explosion on the landfill site by recovering the LFG. This strongly enhances the safety conditions of the landfill site.

- **Environmental Benefits:** The proposed project activity will reduce air pollution by destroying LFG which contains H$_2$S, thus avoiding unbearable H$_2$S odours. As a consequence, the living conditions of the neighbourhood are improved considerably.

- **Technological Benefits:** By promoting LFG recovery and utilization, the proposed project activity provides a tangible demonstration of successful application of this technology in China.

Flow diagram and project boundaries of the Luohe landfill gas project.

Project Location

The project plant is located at Luohe City MSW landfill site, one kilometer south of Chengang village, Luohe City, in China’s Henan Province.

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