



Green Valley Landfill Gas Feasibility Study, Hong Kong

Project Profile

Background

Green Valley Landfill is 10,000 tpd facility accepting direct haul and transfer waste from areas throughout Hong Kong. The quantity of landfill gas (LFG) being generated raised the question of whether the gas could be used for electrical generation and process requirements at the site, as well as the production of Town Gas. The project offered economic and environmental benefits to the landfill and surrounding areas.

DEI Scope of Work

DEI was hired to evaluate the feasibility of developing a Town Gas production facility at the Green Valley Landfill.

DEI Team Activities

- Developed a detailed generation model to determine availability of landfill gas over time at the landfill;
- Developed a conceptual plant design and cost estimate based on available information on landfill gas availability, a computerized process simulation and budgetary cost quotations from equipment suppliers;
- Conducted an engineering and economic analysis of the relative values of LFG for the production of Town Gas feed and fuel for electrical generation;
- Estimated operating costs using similar facilities in Hong Kong and around the world; and
- Provided an analysis for a proposed joint venture model between Green Valley Landfill and Hong Kong and China Gas Co., Ltd.

Results

Using this feasibility study and conceptual design as a base, the project is currently moving forward under a joint venture arrangement between Veolia (the landfill owner) and Hong Kong China Gas.

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