



Clients: Ameresco, Inc. (USA) and Climate Change Capital (UK)

Services Provided:

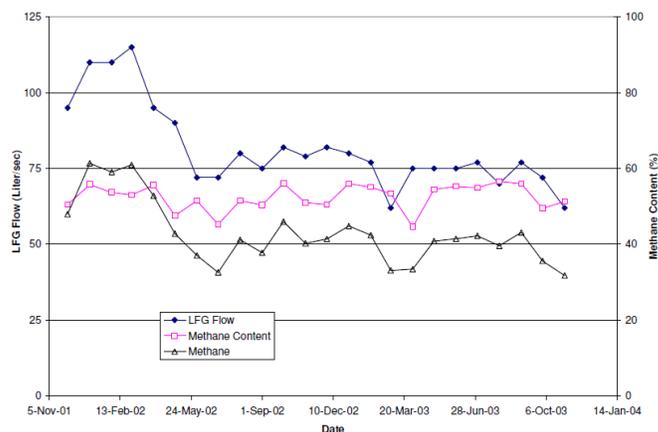
- ✓ Estimates of carbon credits
- ✓ Estimates of renewable energy
- ✓ Estimate of project cash flows
- ✓ Technical and financial risk assessment
- ✓ Infrastructure investment valuation and cost-benefit analysis using **DNPV** modeling

Project Objective

In March 2007, the City of Bogota, Colombia issued an international tender to lease the landfill gas rights from one of their largest landfills. The terms were that the lessee would have exclusive rights to the gas for a period of 21 years in return for a share of the revenues from carbon emission offset credits. To manage their risk, the city ingeniously drew up contract documents that included a number of provisions to transfer risk to the developer that could not be captured using traditional NPV valuation. Geosyntec’s objective was to provide technical and financial modeling support to Ameresco, one of the largest landfill gas (LFG) developers in the USA, working with Climate Change Capital, at the time the world’s largest investor in climate change mitigation projects.

Geosyntec’s Scope of Services

To estimate based on waste receipt, and composition, the potential LFG that could be captured at the facility. Geosyntec visited the site, evaluated the operations, review the existing liner design and developed a LFG production model for the duration of the contract taking into consideration the variability of the LFG generation. The services also included an evaluation of the contract terms. Under the terms of the tender, the successful bidder would supply the city each year with the number of credits offered in its bid, regardless of the actual number of credits obtained. In other words, the successful bidders had to guarantee the estimated number of credits offered to the city each year. If operational issues were to reduce the amount of LFG managed in any given year (and, hence, the number of credits earned), bidders were still obliged to supply the city with the number of credits originally offered in the bid. On the other hand, if the actual amount of LFG controlled and number of credits earned were higher than originally offered to the city, bidders were required to share one half of the additional credits earned. Using real options to estimate the contingency associated with the variability of LFG combined with a methodology termed decoupled net present value (DNPV), Geosyntec monetized the risks associated with the contract terms and included them in the financial model.



Notable Accomplishments

Geosyntec’s analysis indicated that the technical risk associated with the project coupled with the risks introduced by the contract terms made the project unfeasible. Based on these findings, Geosyntec recommended an alternative investment strategy that reduced the financial risk to our clients. These terms were not accepted by the city who awarded the contract to another developer under what turned out to be loss-making conditions.