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Renewable Bio-Energy

Concept Design and Cost-Benefit Analysis

Client: NH Foods Oakey

Scope: cost benefit analysis of the operational Covered High Rate Anaerobic Lagoon (COHRAL) and an ex-ante CBA for a biogas fired co-generation engine.

A mass and energy balance was created and used to compare operational performance with the basis of design. Biogas flows and throughputs were modelled then used for the concept design and associated feasibility study of a biogas fired cogeneration engine operating in grid-parallel mode.



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BIOENERGY

TECHNO-ECONOMIC MODEL FOR THE GENERATION OF RENEWABLE ENERGY FROM ORGANICS

Client: Unitywater

Scope: The creation of a spreadsheet based model for rapid preliminary capital cost estimation and quantification of associated benefits (reduced waste management costs, renewable energy credits, thermal heating) for facilities to convert organics into bioenergy via the use of biogas fired co-generation engines.

The preliminary design and associated economic implications of bioenergy facilities were distilled down to the most critical parameters to increase the rate at which different scenarios could be considered.

Feed stocks considered included primary & secondary sludge as well as additional substrates.

