



## GAS TO ELECTRICITY LANDFILL

EnviroWaste, Hampton Downs, New Zealand

### Project:

Landfill Gas to Electricity Treatment Plant, Flare and 4x1MW  
Containerised Reciprocating Generators

### MTL Role:

MTL designed and project managed the delivery of the landfill gas treatment plant, flare and generator sets. The treatment plant incorporated unique energy saving features for conditioning the methane and the entire project was designed to cater for changing methane levels. As a result modular generator sets were used and the treatment plant was designed to allow for future expansion or relocation to another site.

### Project Outcome:

The plant has performed well to date.

### Project Partners:

McMahon, Entec, Windsor Engineering, Aims Electrical

*"This project exploits a fuel which is a highly dynamic mixture of methane and CO2 from a local landfill and converts it into a valuable energy resource."*

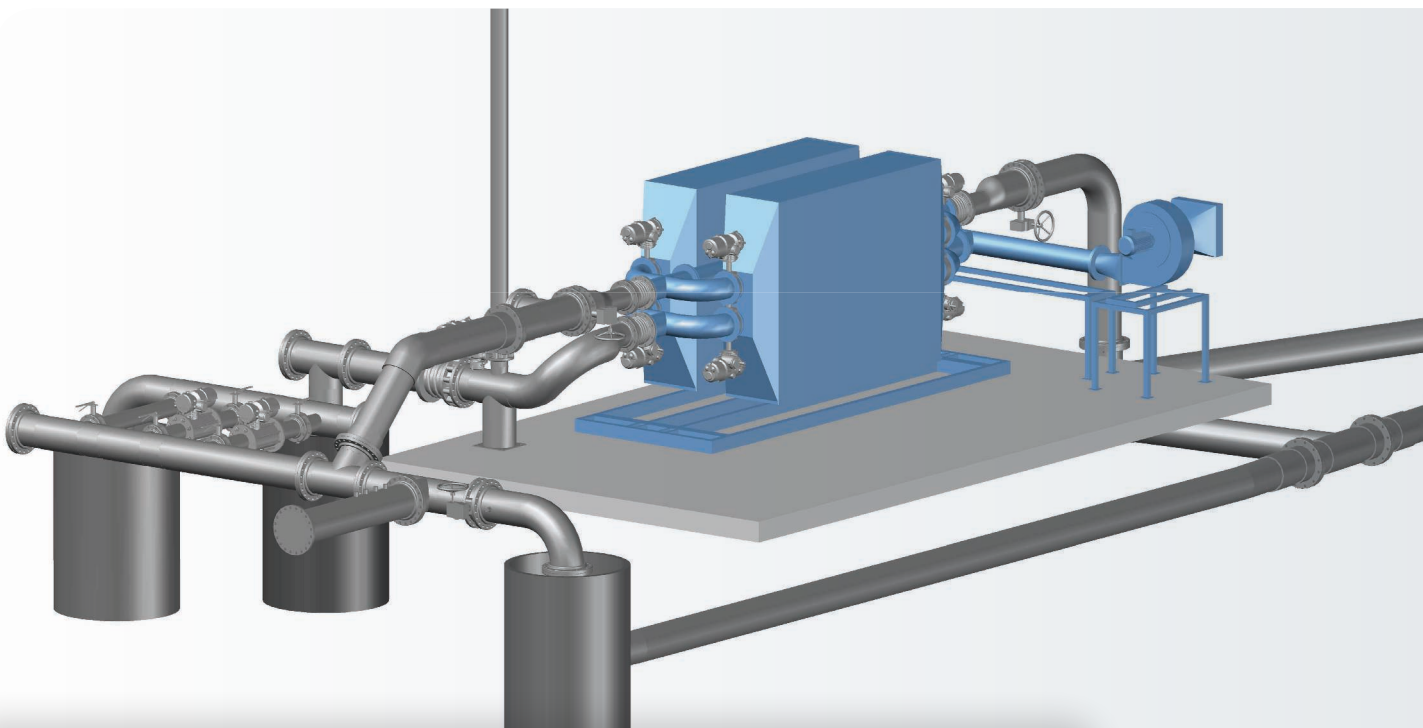
**Chris Mann – Project Manager**



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## SILOXANE REMOVAL SYSTEM

EnviroWaste Services Limited (ESL), New Zealand

### Project:

Implementation of NZ's first Regenerative Siloxane Filter

### MTL Role:

Siloxane deposits in reciprocating engines operating on landfill gas is a worldwide problem. The siloxane deposits significantly increase engine maintenance costs. MTL were engaged to explore possible methods for removing siloxanes from the landfill gas (LFG) and undertook extensive investigations into the potential use of a relatively new regenerative siloxane scrubber system offered by PP Tek. A project feasibility study was completed including a business case which highlighted the benefits of installing the system. MTL subsequently undertook the detailed design, assisted with contractual negotiations and provided site technical assistance.

### Project Outcome:

A superior solution, compared to traditional adsorption filters, was implemented in that; the system self-regenerates, minimising pressure drop, eliminates the risk of contamination through filter media breakdown; and removes other VOC's from the LFG.

### Project Partners:

PP Tek, McMahon Electrical





## 3.2MW GAS ENGINE POWER STATION

Greymouth Petroleum, Papakura, New Zealand

### Project:

3.2MW Cat Gas Engine Power Station

### MTL Role:

MTL designed and project managed this gas fired power station. The engine was second hand, relocated from an Australian mining power station. The design is innovative, with a post tensioned engine foundation slab constructed in sections, and tilt slab building.

MTL's role included detailed design of the pipework, specifying the noise control elements and balance of plant equipment.

### Project Outcome:

The plant has been in service since 2008.

### Project Partners:

Greymouth Petroleum, Craig Wallen, McMahon Engineering Consultants, Thorburn Consultants, and Cassidy Construction.

