

# Waste to Energy Partnership

Municipal bio-solids drying  
Christchurch City Council

“

The use of wood waste as a fuel source for drying the biosolids will allow the Council to maximise the benefits of the use of biogas and landfill gas at Council facilities at other sites where gas use is most appropriate.

JAMES FEARY - TREATMENT PLANT MANAGER,  
CHRISTCHURCH CITY COUNCIL

”

## Pioneer energy

As part of the Christchurch City Council's long-term vision for the city's energy future, the Council made the decision to dry and beneficially utilise the city's biosolids instead of landfilling wet sludge.

The heat used for the drying operation is produced using 100% renewable fuels, including the city's surplus landfill gas and local wood energy resources.

This operation is a reference site for other city councils in New Zealand, demonstrating best practice for the sustainable management of city waste streams and municipal biosolids.

### PIONEER'S ROLE

As a leading clean energy solutions partner for New Zealand industry Pioneer Energy provides some of New Zealand's leading institutions, exporters, manufacturers, councils and health providers with globally competitive sustainable energy solutions.

Pioneer works with customers to discover their energy future and strives to maintain the integrity of the natural environment, while maximising the value

of natural energy resources and reducing greenhouse gas emissions.

Responding to the Christchurch City Council's tender to supply heat under a 15 year Design, Build and Operate (DBO) arrangement an innovative solution using a reliability centred design approach consisting of two boilers with an integrated wood fuel supply was chosen.

Pioneer Energy encourages the uptake of renewable dual fuel heat plants for New Zealand industrial customers as it sees a bright future for wood energy and biomass fuels and is well positioned to satisfy the growing demand for lower carbon renewable fuel options.

### COST EFFECTIVE AND REGIONALLY SIGNIFICANT

With a reliable fuel supply chain and the ability to supply closely monitored, high quality chipped wood fuel, Pioneer encourages the uptake of renewable fuel heat plants in and around Christchurch.

The biosolids drying plant diverts wood from landfill and enables it to be beneficially used for energy, making Christchurch a reference site. This is an innovative solution to the council's sustainability goals and is a model that can be used by other councils or businesses.





The adoption of a total renewable energy solution provided Christchurch City Council with comfort that we had a contract party with a similar dedication to sustainable development as the Council.

MARK CHRISTISON - MANAGER CITY WATER AND WASTE  
CHRISTCHURCH CITY COUNCIL



## WOOD CHIP FUEL

To ensure the reliable supply of quality, renewable fuel, Pioneer has established a reliable wood fuel supply chain with fuel supply hubs in Canterbury and Otago.

Strong relationships have been established with forest owners and wood residue suppliers and large storage and stock capability at its strategically located regional wood hubs ensures year round guaranteed surety of supply.



**Pioneer Energy can help you reduce energy use, lower your operating costs, free up capital, and contribute to a cleaner energy future.**

From a suite of intelligent energy management solutions, Pioneer works with you to build the right energy solution for your business.

Contact us to find out more about how we can help.

## Facts at a glance

### Project Description

**Customer:**

Christchurch City Council, NZ

**Location:**

Christchurch Waste Water Treatment Plant, Bromley, Christchurch, NZ

**Application:**

Process heat for biosolids drying

**Scope:**

Design, build, operate biosolids energy centre

**Capacity:**

2 x 4.2 MWth Hot Water Boilers

**Fuel:**

Wood residues (chipped wood fuel) and landfill gas.

**Wood Fuel Moisture Content:** 30% average.

### System Highlights

First NZ biosolids drying plant to produce Grade A biosolids using 100% renewable fuel

**Commissioned date:**

September 2010

**Availability:**

Exceeds 98%

**Avoided Emissions CO<sub>2</sub>:**

3,200 tonnes pa  
Displaces: Diesel



### Contact

**P** +64 3 440 0022

**E** [enquire@pioneerenergy.co.nz](mailto:enquire@pioneerenergy.co.nz)

**W** [www.pioneerenergy.co.nz](http://www.pioneerenergy.co.nz)