



Townsville Biogas

Stanwell's two mini cogeneration units in Townsville generate green electricity using biogas from wastewater treatment plants. Energy produced is used to power the wastewater treatment plants at Cleveland Bay and Mount St John.

Operating 24 hours a day, seven days a week, the cogeneration units use 100 per cent of the biogas produced at the wastewater plants, owned by Townsville City Council's Citewater.

With a generating capacity of 115 kilowatts each, the units supply 30 per cent of electricity requirements for the Cleveland Bay plant and 90 per cent of the requirements for the Mount St John plant.

Stanwell commissioned the cogeneration units in 2000, and continues to own and operate both units.

Environment

The Townsville Biogas Plant generates clean, green energy and is accredited by the Sustainable Energy Development Authority (SEDA) as a Green Power Generator. The plant's operation helps to displace greenhouse gas emissions from non-renewable energy sources.

In the energy industry, biomass is a term that refers to organic material with stored energy potential. The use of biomass for electricity generation is environmentally sustainable. Sewerage sludge from wastewater treatment plants is a source of biomass. When sewerage biomass decomposes, a methane gas, called biogas, is produced. The Townsville Biogas Plant captures the energy in this gas, which would otherwise be disposed by burning off.

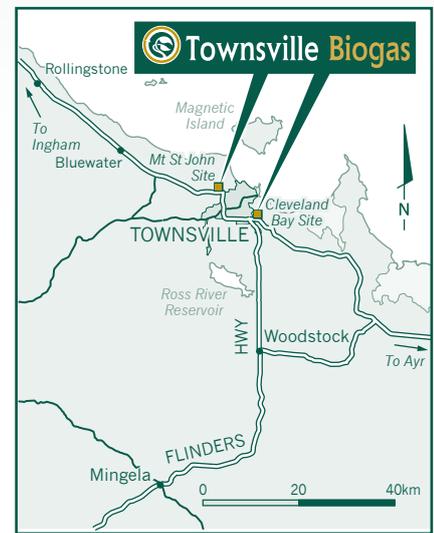


Biogas Cogeneration Plant at Mount Saint John wastewater treatment facility

Statistics (per year)

Capacity	115 kilowatts each
Greenhouse Gas Savings	700 tonnes each

Location



Townsville Biogas Plants are located at Townsville Citewater's wastewater treatment plants at Cleveland Bay and Mount St John, approximately five kilometres south and four kilometres north of Townsville Central Business District, respectively.

About Stanwell Corporation

Stanwell Corporation is a Queensland Government-owned corporation with a portfolio comprising coal, wind, hydro, and bioenergy power generation facilities. Stanwell's operations supply electricity to help meet the power demands of industrial and residential customers in Queensland and other Australian states served by the National Electricity Market.

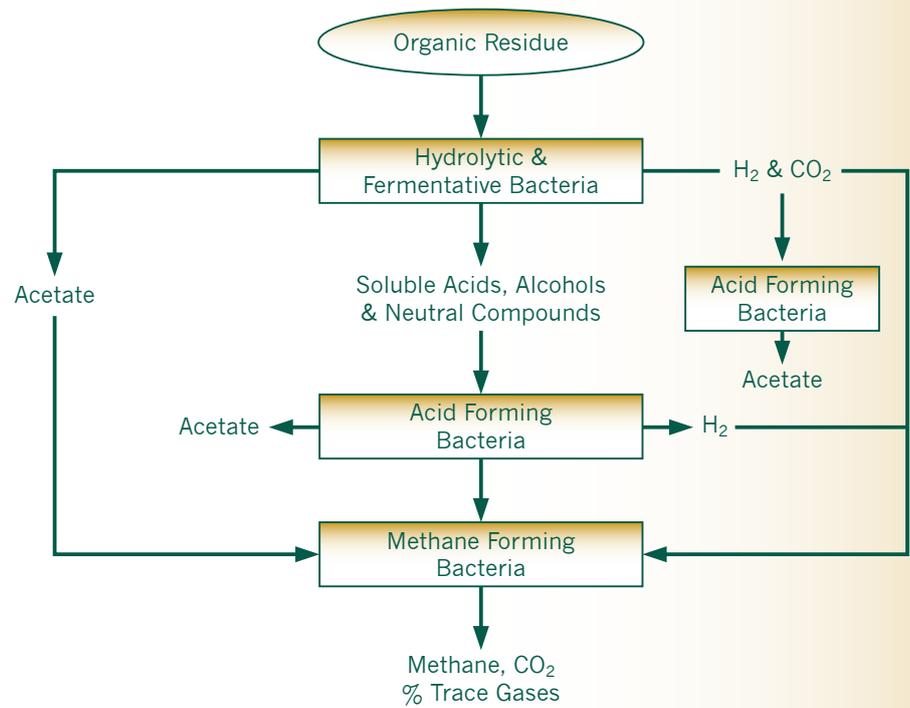
For more information please phone
1800 303 116 or visit
www.stanwell.com

Biogas production

Biogas is created during anaerobic digestion of organic matter, which is biological decay caused by micro-organisms in the absence of oxygen. This biological process represents the conversion of biomass into a combustible biogas – typically 60 per cent methane and 40 per cent carbon dioxide.

Biogas can only be created when bacteria is active, and tends to occur naturally in high concentrations of wet organic matter that are oxygen deprived. The occurrence of biogas is common in sediments of stagnant lakes and ponds, swamps, intestines of animals, and the anaerobic interiors of landfill sites and sewerage plants.

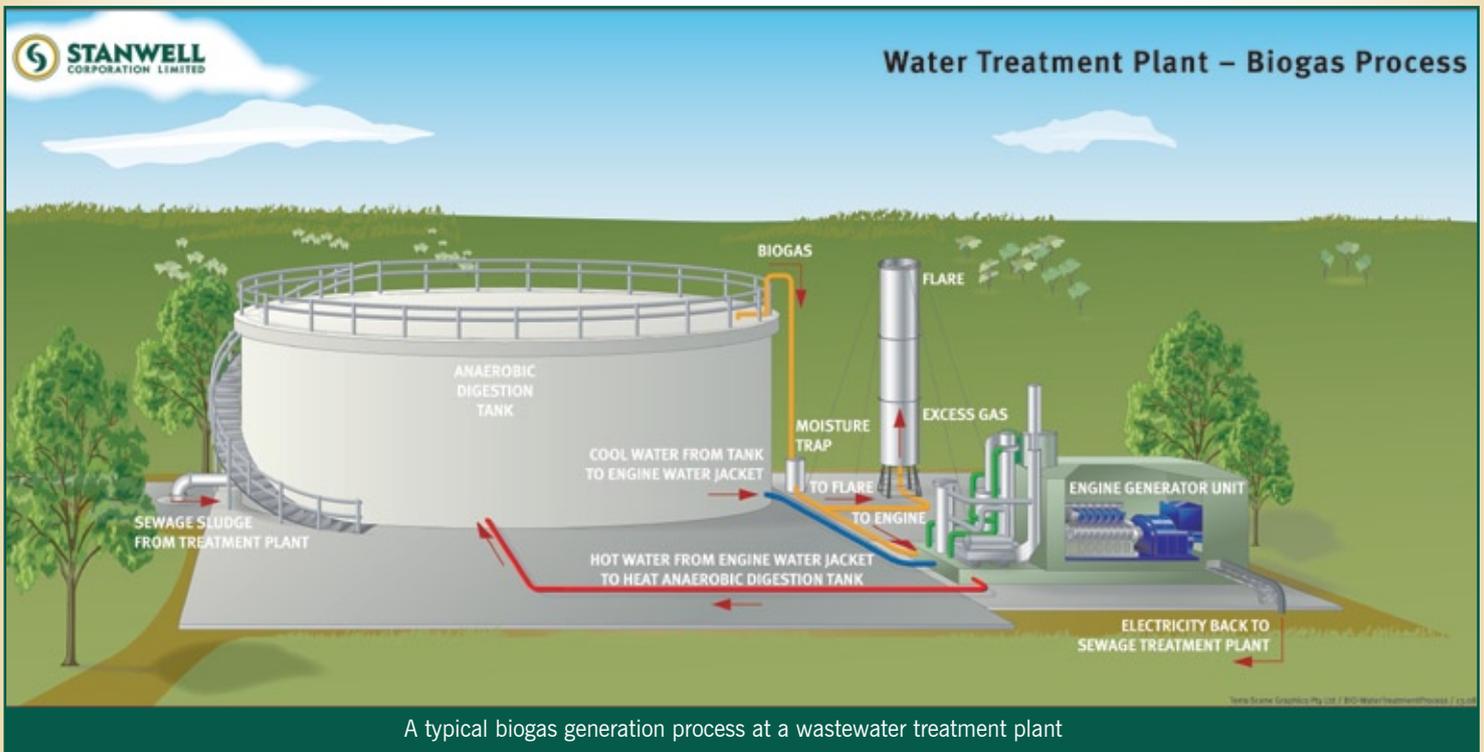
The Anaerobic Digestion Process



Converting biogas into electricity

At Townsville Biogas, raw sewerage is piped to the treatment plant and the solid components are separated from the water. The water is treated and released, and the solids are transferred to an enclosed tank known as a digester. The solids, in the form of sludge, begin to naturally decay, and the gases released are captured and piped to the generator unit.

With engineering similar to a diesel or petrol engine, the generator unit uses biogas as fuel to produce electricity. The generator unit also provides heat for the digester to increase the efficiency of the decay process.



A typical biogas generation process at a wastewater treatment plant

Media enquiries

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