

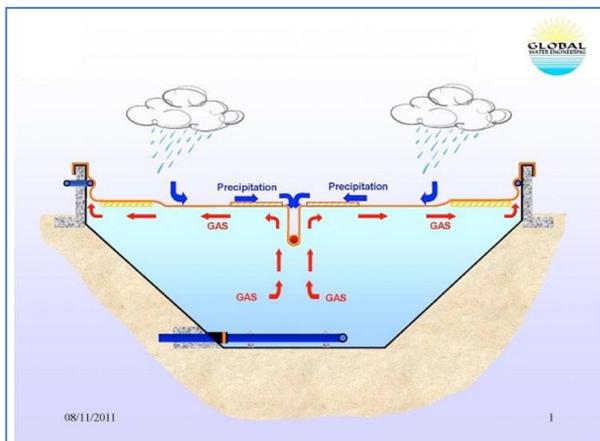
Wastewater to energy

There are two main waste streams which are both suitable for the creation of energy: solid waste in landfill, and wastewater from industrial and commercial processes.

The extraction of biogas from wastewater has been occurring for a number of years, however, recent technological advances have made this a much more attractive option for enterprises with a significant output of wastewater.

Abattoir turns waste into asset

The Oakey abattoir in Queensland is one of the largest beef processing plants in Australia. Covered High Rate Anaerobic Lagoon (COHRAL) technology has recently been installed at the Oakey plant. Similar technology has been utilised in tanks all over the world, however, this will be the first time the technology has utilised covered lagoons.



Anaerobic bacteria are used to digest 70% of the organic matter (COD, or Chemical Oxygen Demand) in the wastewater. The methane captured in the process is then harnessed for use as a direct energy source – the gas produced will be utilised in its boilers instead of purchasing gas.

The Oakey abattoir is expected to save over a million dollars a year on the cost of purchasing gas,

while simultaneously improving the quality of its effluent.

The biogas plant also saves energy due to the reduced requirement for treatment of wastewater before it is released as well as having less sludge to be removed for disposal. Thus the implementation of the biogas plant turns an environmental problem into an environmental and financial benefit.

The benefits of using wastewater to generate biogas include:

- biogas can replace other forms of energy, such as natural gas to heat water
- reduced energy requirements for waste disposal
- cleaner effluent, making it easier (and possibly cheaper) to meet local standards for discharge of wastewater
- reduced carbon footprint
- odour reduction: less bacteria = less smell!

Promoting energy savings in this way is also a good platform to build upon in any business or organisation, to encourage efficiency throughout the rest of the enterprise, as well as at home.

A number of agricultural enterprises have taken up biogas technology in the Queensland Murray-Darling Basin area, in particular piggeries and poultry farms. The technology may not be suitable for very small enterprises due to the scale of the equipment, however it is suitable for a wide range of industries, including agricultural, food and beverage processing and pulp paper plants.

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Sources:

<http://www.cstwastewater.com/oakey-abattoirs-world-environmental-initiative>