Council Snapshot
Council Name: Hobart City Council
Size: 78 sq km
Population: 44,000
Council website: www.hobartcity.com.au
Contact name for publication: Jeff Holmes
Contact phone number: (03) 6238 2782
Contact email address: holmesje@hobartcity.com.au

From waste to power – gas from McRobies Gully landfill
A plant has been installed at the McRobies Gully landfill that extracts methane and converts it into electricity, while also converting the methane into carbon dioxide. This dramatically reduces the greenhouse gas impact of the landfill. The plant is a 1 megawatt electricity generating facility, producing enough power to supply around 1000 average Tasmanian homes per year.

The problem with methane
The nature of a landfill is that it generates methane as the organic material that has been deposited and buried decomposes. As a greenhouse gas, methane is 21 times more harmful than carbon dioxide. So, using methane that comes from the landfill as a source of electricity generation, at the same time converting it into carbon dioxide, is an effective way to turn a severe problem into an economic and environmental asset.

A three-way partnership
The McRobies Gully landfill project, and its sister project at Glenorchy, was undertaken as part of a three-way partnership between Hobart City Council, Glenorchy City Council and AGL, a private contractor in the gas extraction field. AGL funded the project and the Councils receive royalties from the sale of electricity generated.

An effective source of energy
The first step in this kind of venture is to ascertain whether there is enough methane being generated within the landfill before installing an electricity generating plant. In 2004 we conducted flaring tests, which provided valuable information about the amount of gas capable of being extracted, and aided in identifying the size of the electricity generator we needed. The generator was installed in 2006.

Since then the plant has produced enough electricity to power 3200 average Tasmanian homes, and destroyed greenhouse gases equivalent to removing over 46,000 vehicles from the road. The project also provides environmental benefits by producing electricity that would have otherwise been created by other means, displacing a further 7000 tonnes of carbon dioxide equivalent.
Ongoing effort to keep the project on track

Landfills are dynamic. As sections at McRobies Gully are filled we'll need to raise and move gas pipes. When the landfill is completely full we'll rehabilitate it by capping it, which will improve the gas collection efficiency by trapping methane and preventing it from being released into the environment. The majority of methane generated from the site will be collected and converted into a much less harmful greenhouse gas (carbon dioxide), while also providing electricity.

AGL reports annually to Council on the performance of the plant, providing details about the amount of electricity produced and the amount of methane converted to carbon dioxide.

The project is ongoing, and landfill gas will continue to be extracted for many years to come.