Creating dispatchable renewable energy and abating harmful methane gas

Landfills across Australia have the potential to be at the forefront of our clean energy future. The biogas generated naturally at these sites can power our homes today!

LGI collaborated closely with the ACT Government to design, install, operate, maintain (and recently upgrade) a 4MW renewable hybrid power station in our nation's capital. In addition, this site features a siloxane removal system (SRS) integrated with the power station as pioneered by LGI in Australia. It's turned the Mugga Lane Resource Recovery Centre into an energy generation and carbon abatement powerhouse.

Focused on dispatchable, renewable energy on the distribution network, where and when it's needed has been the goal.

In our first year operating the site, LGI doubled the amount of carbon abatement by increasing biogas extraction at the site by combusting harmful methane gas.

Here are the stats so far*

Biogas Captured m3
44.1 million

Energy generated
57.7 GWh since 2020

Carbon Credit Units generated
98 thousand

CO2 emissions reduced
420 thousand tonnes

That's the equivalent of planting 7 million seedlings over the next 10 years!

When organic waste decomposes, it releases various gases into the atmosphere. One of those is methane, which is 28 times worse for climate change than carbon dioxide.

Capturing and processing landfill biogas transforms this waste into a valuable resource — energy. The Mugga Lane power station alone produces more than 35,000 MWh of green electricity a year.

Landfills will be part of the waste management system for many more years and even if they all closed tomorrow, they'll keep producing harmful methane gas for decades. However, we can and should minimise their impact on the environment and turn them into a positive by making 100% renewables possible sooner.


Clean Energy Regulator and LGI staff visiting the site

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* Results Achieved to March 2023

LGI

CLEAN ENERGY & CARBON ABATEMENT

- ✓ Provides renewable energy
- ✓ Reduces greenhouse gas emissions
- ✓ Best practice landfill management
- ✓ Reduces landfill odours
- ✓ Improves air quality
- ✓ Reduces demand for fossil fuels
- ✓ Stabilises the local electricity system
- ✓ Stores energy in batteries for efficiency



Mugga Lane is one of the largest facilities in our portfolio. Because Australia will continue to rely on landfills for the foreseeable future, we must do everything we can to reduce the emissions that they generate.

-Adam Bloomer,
LGI Founder

People engineering, a clean energy, zero carbon future

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