



Landfill Gas Recovery

An opportunity to mitigate methane emissions, generate clean energy and drive revenue through carbon finance.

Methane (CH₄) is a hydrocarbon, the primary constituent of natural gas and is a potent greenhouse gas (GHG). Current atmospheric concentration levels of methane are more than double the known natural range over the last 650,000 years¹.

Methane is 21 times more effective at trapping heat than carbon dioxide (CO₂), so although global emissions are small by comparison, it's effect on global warming is significant, accounting for 14% of global GHG emissions.

Major sources of methane:

Man-made (60%) = coal mining, landfills, agriculture, oil & gas

Natural (40%) = wetlands, permafrost, gas hydrates, termites

Landfill Gas (LFG) occurs naturally from the decomposition of organic waste in landfills and consists of about 50% methane and about 50% carbon dioxide with trace amounts of other organic compounds.

Landfills emit approximately 223 million tCO₂e annually, accounting for 13% of global man-made greenhouse gas emissions².

With millions more tons of waste being produced and disposed of in landfills around the world every year, LFG represents a significant potential source of methane and therefore, if utilized appropriately, of cleaner, renewable energy.

In order to benefit from this GHG source, the landfill must first be covered, trapping the methane.

A series of wells connected to a suction system collects the gas and directs it to be processed for a variety of possible uses including: electricity production using turbines, feedstock for boilers and manufacturing industry, and pipeline gas.

Beyond reducing GHG emissions, capturing LFG reduces the build-up of methane which can cause explosions, subsurface gas migration and unpleasant local air pollution.

Green Holdings

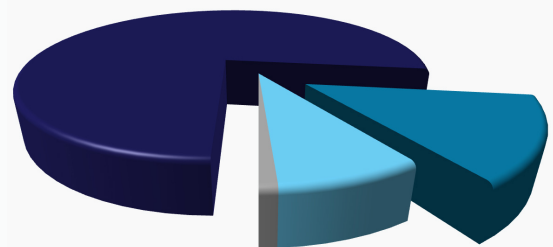
- technical knowledge to help clients identify and assess potential projects
- engineering and financial structuring experience to implement a project
- a clear understanding of the complex registration and reporting processes required to qualify for carbon credits

Benefits

- reduce GHG emissions
- utilise a cleaner, renewable energy source
- generate revenue

Global Man-made GHG Emissions - 2004

methane 14%
nitrous oxide 8%
carbon dioxide 77%
high global warming potential gases 1%



Source: IPCC Fourth Assessment Report: Climate Change 2007

¹ IPCC Fourth Assessment Report: Climate Change 2007

² 'Landfill Methane Recovery and Use Opportunities' Methane to Markets, August 2006

