

How is renewable natural gas (RNG) produced from landfills?

Renewable natural gas (RNG) is produced from the methane emitted during the decomposition of organic waste, including garbage from landfills. Landfill gas containing methane, CO₂ and other impurities goes through a multi-step process using specialized cleaning and conditioning equipment to become pipeline-quality RNG:



Landfill Gas

Average starting composition:
50% Methane
40% CO₂
9% Nitrogen
1% O₂
~500 ppm H₂S
fully saturated



1 Vacuum Service & H₂S Treating:

Vacuum pressure is applied to landfill to satisfy wellfield emissions. Hydrogen sulfide (H₂S) is cleaned and removed.



2 CO₂ and VOC Removal:

Carbon dioxide (CO₂) and volatile organic compounds (VOC) are cleaned and removed.



3 Nitrogen Removal:

Clean and remove nitrogen.



6 Final Compression:

Condition gas for transport to productive users across the US.

Average final composition:
97% Methane
2% Nitrogen
1% CO₂



5 Oxygen Removal:

Clean and remove oxygen.



4 Thermal Oxidizer:

The Thermal Oxidizer provides safe destruction of CO₂, nitrogen and volatile organic compounds (VOCs).