

Renewable Gas

Frequently Asked Questions



What is renewable gas?

- Renewable gas, also known as “green gas” or biogas, is methane gas obtained through three primary means:
- Landfills – methane gas emissions from decomposed landfill waste, which is collected through a system of pipes.
- Digesters – a process that involves micro-organisms consuming biomass, such as manure and corn stalks, which produces methane and carbon dioxide.
- Gasifiers – a process whereby biomass like wood and crop residue is subjected to heat and pressure in a low oxygen environment, which converts biomass into a combustible gas.

Does renewable gas burn like traditional natural gas?

Yes. Natural gas is composed of about 94 percent methane, with smaller hydrocarbon contents of ethane, propane, butanes and pentanes. Whether it is extracted from a traditional natural gas wellhead or collected through a landfill, digester or gasifier system, the gas must undergo extensive processing to remove almost all non-methane materials. Processing and removing impurities increases the energy content of gas, measured in British Thermal Units (BTUs), making it ready as end-use fuel. Gas from a renewable source (methane gas) is refined just like traditional natural gas and can therefore be used in place of traditional natural gas.

Can renewable gas meet pipeline quality standards?

Yes. With appropriate processing, renewable gas can meet pipeline quality standards, which usually implies each cubic foot (CF) of gas contains 950 to 1,000 BTUs of heating value.

How is renewable gas transported?

If renewable gas is processed and its energy value raised to pipeline quality standards (>950 BTU/CF), then renewable gas can be comingled into pipelines carrying traditional natural gas. However, in some cases, renewable gas has too many impurities and it becomes economically unviable to raise its energy value to pipeline quality standards through processing. In such cases, the renewable gas may need to be burned on site for power generation or heat.



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How much renewable gas is available?

According to the Environmental Protection Agency, there are currently over 6,000 landfills in the US. Approximately 200 of these landfills produce a large enough supply (at least 4,000 MCF*/day) to make it economically viable to gather the gas for commercial transport. There also are a small number of digester and gasifier production facilities across the nation. Although the current digester and gasifier production capability is very small, producers have announced several new commercial-scale projects in the last two years. Ultimately, production capacity is limited only by the amount of available biomass feedstock and the offsetting cost of traditional natural gas. At \$8 per MCF*, the national production capability is estimated to be 3.2 TCF* per year or 15 percent of the US market.

Sources

Other sources of information include:

U.S. Department of Energy –
Energy Efficiency
and Renewable Energy
www.eere.energy.gov

Database of State Incentives
for Renewables & Efficiency
www.dsireusa.org

Environmental Protection
Agency Clean and
Renewable Energy
[www.epa.gov/energy/
renwenergy](http://www.epa.gov/energy/renwenergy)

Environmental Protection
Agency Landfill Methane
Outreach Program
www.epa.gov/lmop

Why should I consider buying renewable gas?

Traditional wellhead natural gas offers a number of environmental benefits over other sources of energy, particularly other fossil fuels. Because renewable gas is a waste byproduct, using it creates additional environmental benefits, saving wellhead gas for future generations.

Also, as the result of the Renewable Fuel Standard, the Renewable Portfolio Standard and the Clean Energy Act of 2007, a number of federal and state incentives are available for producing and using renewable gas. Electric generators receive tradable Renewable Energy Credits (RECs) for using renewable gas to fuel power plants. Ethanol producers receive extra Renewable Identification Numbers (RINs) for every gallon of ethanol produced using renewable gas as a fuel source. Public and private companies may use renewable gas to offset their carbon emissions. Whether for financial benefits, supplementing traditional supply sources, or reducing carbon emissions, using renewable gas is a good idea for the future.

How much does renewable gas cost?

Just like traditional natural gas, the cost of renewable gas will depend on supply and demand, location of the gas source and the cost to transport it to your service meter. In general, renewable gas cost will have a base price of traditional gas plus a premium that captures the value of the RIN, REC or carbon emission offset.

Where can I learn more about renewable gas?

If you are interested in learning more about renewable gas, please contact your CenterPoint Energy Services (CES) account executive. If you are not an existing CES customer, please feel free to contact us at 1-800-495-9880 or CES_Communications@CenterPointEnergy.com.

* MCF and TCF are industry-wide acronyms used to measure large quantities of natural gas. 1 MCF is equal to 1,000,000 (one million) cubic feet of natural gas. 1 TCF is equal to 1,000,000,000,000 (one trillion) cubic feet of natural gas.



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