



## Renewable Gas — Vision for a Sustainable Gas Network

### Fact Sheet

#### Key Points

- ◆ Renewable gas is a viable option and should be considered as an alternative energy source similar to wind or solar power. There is a significant disparity between policies supporting renewable gas and renewable electricity.
- ◆ The biggest driver of renewable gas is GHG reduction, but what makes renewable gas more compelling is that it also enhances diversity of supply while providing a solution for using local waste resources to produce renewable energy.
- ◆ The technology behind renewable gas exists today, but requires more research and investment to recognize its full potential.
- ◆ Government support is critical in developing this resource and, without action now, a great opportunity could be missed.

The move toward a low-carbon economy is picking up momentum. Policymakers are working to formulate a comprehensive U.S. energy policy that addresses climate change, security of supply and affordability within a framework that supports the transition to a low-carbon future. Business leaders are considering sustainable growth strategies and integrating sustainability in the way they manage their businesses. While these discussions continue, it is also clear that the future of energy will include a mix of renewable technologies and other emerging technologies, such as large-scale carbon capture and storage (CCS), and a new fleet of nuclear generation.

National Grid believes that renewable gas can play a significant role in helping our nation meet a growing demand for green energy alternatives. It has the potential to reduce greenhouse gas (GHG) emissions, create local jobs and enhance security of supply. National Grid is committed to collaborating with all stakeholders to deliver a low-carbon, sustainable energy future.

**What is Renewable Gas?**

Renewable gas, also known as biomethane, is pipeline quality gas derived from biomass that is fully interchangeable with natural gas. Produced mainly via thermal gasification (TG) or anaerobic digestion (AD), renewable gas can be injected into the natural gas distribution network for direct use in existing natural gas appliances.

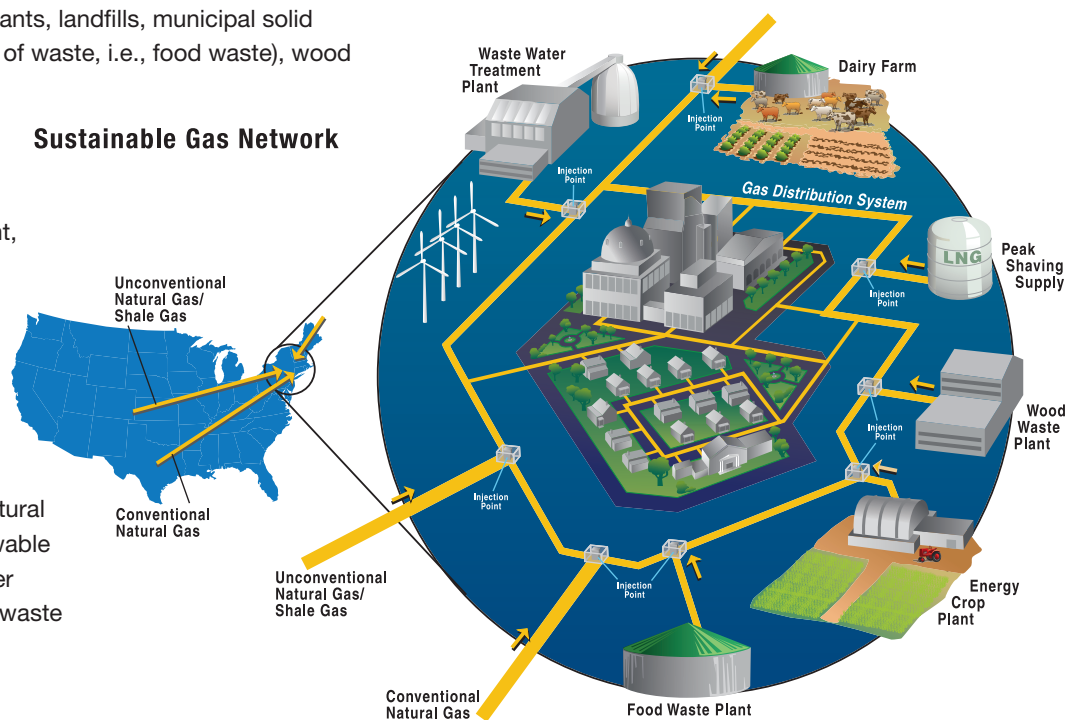
With regards to technology, AD is commercially viable, and there are many commercial injection facilities around the world. TG is a proven technology that is not currently commercially available for biomass; however, there are a number of demonstration projects in the U.S. and across Europe, and National Grid expects that the technology will be commercially available over the next few years.

**Potential Sources of Renewable Gas**

Renewable gas is produced from biomass. Sources of biomass include waste water treatment plants, landfills, municipal solid waste (including organic fraction of waste, i.e., food waste), wood residues, agricultural residues and energy crops.

**Scope and Opportunity**

As shown in the figure to the right, National Grid’s vision for renewable gas includes a natural gas network supplied by conventional sources as well as unconventional sources such as shale gas and liquefied natural gas (LNG). The future natural gas network will also carry renewable gas from dairy farms, waste water treatment plants, landfills, wood waste and food waste plants.



Excluding demand for power generation, renewable gas has the long-term potential to meet up to 25 percent of the natural gas demand in the four states served by National Grid (Massachusetts, New Hampshire, New York and Rhode Island). The capital investment required to deliver the renewable gas across our four states is estimated to be around \$7 billion, which can create up to 9,000 new local jobs, and reduce carbon dioxide emissions by approximately 16 million tons per year (equal to annual carbon dioxide emissions of approximately 3 million cars).

**What is National Grid Doing?**

National Grid is seeking to establish itself as a facilitator for the connection of renewable gas to the natural gas distribution network by developing appropriate business processes. Initially, the company is focusing its attention on raising the profile and highlighting the opportunity. To this end we are looking to develop a small number of demonstration projects to prove the concept and share the lessons learned.

**Summary**

Renewable gas is a viable option to achieving a sustainable low-carbon economy, and National Grid is committed to taking a leadership role in stimulating and facilitating this industry by collaborating with all stakeholders to deliver this important resource. For more information, please review National Grid’s White Paper, “Renewable Gas — Vision for a Sustainable Gas Network,” at [www.nationalgridus.com](http://www.nationalgridus.com).

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