



Biomethane fact sheet

EDL is a leading global producer of sustainable distributed energy. Headquartered in Australia, we build, own and operate biomethane plants that deliver rapid decarbonisation.

With a 30-year track record of innovation, EDL's success is fuelled by our ability to leverage and integrate different technologies to deliver reliable, cost-effective clean energy.

What is biomethane?

Biomethane (also known as Renewable Natural Gas or RNG) is a gas produced by decomposing organic matter found in landfills, wastewater, agricultural and livestock waste. The biomethane (CH_4) is produced with carbon dioxide (CO_2) to form biogas. The biomethane component can be purified and used as a replacement for natural gas, providing a way to decarbonise hard-to-electrify industrial processes and heavy transport. Once separated, the CO_2 can be used in a range of applications.

Biomethane significantly reduces greenhouse gas emissions, contributing to a circular economy. When used as a vehicle fuel, biomethane reduces CO_2 emissions by 85% compared to diesel.

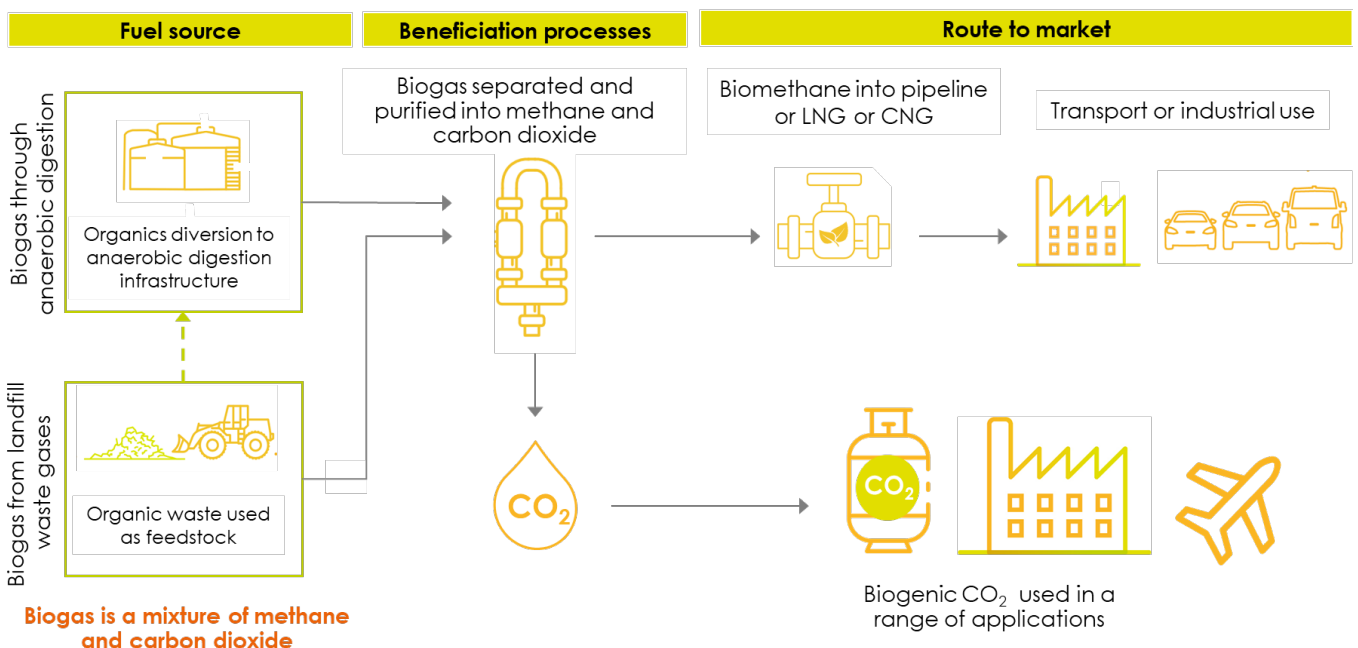
Key points

Biomethane produces clean energy, heat and low carbon transport biofuels

Biomethane is cheaper to produce than renewable hydrogen and can be made now. It is widely used in the United States and Europe

In 2021, two-thirds of gas-fuelled vehicles in the United States ran on biomethane, reducing greenhouse gas emissions by 3.44 million tonnes of $\text{CO}_2\text{-e}$, the equivalent of displacing 1.6 billion litres of diesel

Australia could produce over 100PJ of pipeline-quality biomethane every year ([ARENA 2021 Bioenergy Roadmap](#))



It is fully interchangeable with conventional methane and **can be transported in existing natural gas pipelines, avoiding expensive upgrades or modifications, or as compressed natural gas (CNG) or liquified natural gas (LNG).**

Today, most hydrogen is produced from fossil fuel natural gas, but the same processes can produce renewable hydrogen from biomethane. It can even be combined with hydrogen to produce more biomethane, known as **Synthetic Natural Gas (SNG)**. Other processes can convert CO₂ and biomethane or hydrogen into renewable liquid fuels such as synthetic diesel and **Sustainable Aviation Fuel (SAF)**. Biomethane is also an **effective renewable hydrogen carrier** for domestic use or export as it is easier to store and transport than hydrogen.

Where is biomethane used?

There are 250 biomethane plants in the United States (US), with many more either under construction or planned. **US biomethane production has increased by 234% over the last five years.**

In the European Union (EU), there were over 1,000 operational biomethane plants in 2020, **up 20% from 2019.**

Japan is investing heavily in SNG, with Tokyo and Osaka planning to use SNG instead of hydrogen to decarbonise city gas networks.



EDL's Wood Road RNG plant in Michigan, USA

An Australian biomethane industry

Biomethane cannot meet all of Australia's gas needs, however it can be produced today to help decarbonise industry and transport. **Australia is well placed to establish a biomethane industry** using our existing gas pipeline infrastructure. Biomethane can also easily blend with LNG for export.

As in the US and EU, **a policy framework is needed to provide the investment certainty required to build a local industry.** This involves:

- a renewable gas target that includes biomethane
- extending the Guarantee of Origin scheme currently in development for hydrogen to other renewable gases, including biomethane
- a national harmonised approach to project regulation, funding and approvals
- appropriately targeted funding support.

EDL's biomethane expertise

EDL operates [three biomethane plants in the United States](#), with two more under construction. Our portfolio **produces over 7PJ per annum.** For more information, see edlenergy.com

EDL owns and operates a global portfolio of power and gas facilities in Australia, North America and Europe.



Renewables



Waste coal mine gas



Landfill gas



LNG



Remote energy



Renewable natural gas