



INNOVATION  
IN BIOGAS  
UPGRADING

DESPITE FACING MANY DIFFICULT CHALLENGES OVER THE LAST 5 YEARS, THE UK NOW HAS OVER 60 BIOGAS UPGRADING PLANTS INJECTING BIOMETHANE INTO THE GAS GRID. CAPACITY HAS REACHED ALMOST 3.5TWH/Y, ENOUGH TO DISPLACE ALMOST FOUR 60,000 TONNE LNG TANKERS!

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However, achieving Gas Safety (Management) Regulations 1996 (GSMR), Renewable Heat Incentive (RHI) budget caps, tariff uncertainty, achieving Sustainability Criteria, low natural gas prices and limited network capacity all pose unique obstacles to overcome going forward. Biomethane as a transport fuel could offer some hope to developers if Government go ahead with the Renewable Transport Fuel Obligation (RTFO) proposals currently under consultation.

Elsewhere, further innovation may be necessary to overcome some of these more challenging factors.

In 2014 Puregas Solutions were instrumental in the development of the UK's first virtual biomethane network. Mark Storey, Director at Puregas Solutions explains;

"Around 2,000Nm<sup>3</sup>/h of biogas from the anaerobic digestion of manure and crop residues is upgraded to biomethane, the gas is then compressed to 250bar prior to transportation to a remote grid injection site. Here the biomethane is blended into a high pressure transmission line with yearlong capacity to accommodate the gas, and without the need for the addition of propane. In the absence of a local grid connection, exporting the gas was the perfect solution. Subsequently, other sites now also inject biomethane into the same injection point, reducing the costs associated with expensive Network Entry Facilities (NEF) which meter, monitor and regulate the gas prior to grid injection"

Over 23 million UK homes are heated by gas, however not everyone is lucky enough to be connected to the national grid. In 2017 the latest ground breaking project from Puregas Solutions, involves up to 2,000Nm<sup>3</sup>/h biogas from the anaerobic digestion of food waste is upgraded to biomethane and further compressed to 250bar. The bioCNG is then fed into trailers capable of carrying up to 5,000Nm<sup>3</sup> for transportation to remotely located Combined Heat and Power (CHP) co-generation plants. Here the electricity and heat generated is used to efficiently supply local homes and business.

For the first time, Biomethane is now playing an important role in providing flexible, cost effective, renewable energy to off grid customers tackling fuel poverty. To find out more contact [info@puregas-solutions.com](mailto:info@puregas-solutions.com)

Anaerobic Digestion. Biogas. Biomethane. CNG. bioCNG. Gas to Grid. Renewable Natural Gas. Virtual Pipeline. Innovation in Biogas Upgrading. R

## ABOUT PUREGAS SOLUTIONS

**Puregas Solutions is a Swedish based company delivering highly efficient and extremely reliable biogas upgrading solutions. A Global market leader, Puregas has subsidiaries in the UK, Denmark, Germany and the USA.**

With over 20 years of experience Puregas Solutions manufactures and supplies Biogas Upgrading Plants. The unique CApure upgrading process recovers over 99.9% of the available methane from the raw biogas, maximising biomethane yields and revenues with exceptionally low operational costs. Puregas provides fully integrated solutions for biogas upgrading and have over 30 plants already operating.

Our process recovers over 99.9% of the biomethane present in the raw biogas by separating the CO<sub>2</sub> from the biogas through a process of chemical adsorption. The selective organic solvents used in this process are so efficient that the end product can contain more than 99% methane and is suitable for vehicle fuel or to be injected into the natural gas grid.

[www.puregas-solutions.com](http://www.puregas-solutions.com)

FUELLING  
OUR FUTURE

