

WATERNET - AMSTERDAM'S WWTP HEATS HOMES AND FUELS CARS WITH GREEN GAS

CASE STUDY



Partnering with:



BIOGAS UPGRADE AT WATERNET

Households and cargo cars in Amsterdam are now running on green gas thanks to DMT's biogas upgrading system at Waternet. DMT's Carborex[®]MS upgrades the biogas into biomethane which is injected into the national gas grid and used as transportation fuel. This project uses a **Total Solutions Provider** model including engineering, procurement, commissioning, maintenance, operation and trading

ABOUT THE PROJECT

Waternet cleans and purifies wastewater for 1.3 million people in Amsterdam and a large part of the provinces of Utrecht and NoordHolland. DMT delivered a total engineering and design package to process 2050 Nm³/h of raw biogas into biomethane. The design included the purification, conditioning, compression and drying of the gas.

As a greenfield project, DMT was responsible for the development of the entire site. This included ground preparation such as soil investigation, pipework, HDD drilling, power supply, powering the building, fencing, entrance gates and security installation. It also included all the permitting approval process (e.g., environmental, emissions, building, and gas grid injection).

In this Total Solutions Provider concept, the build of the entire biogas upgrading site included installation, civil works, grid injection and fuelling stations. Additionally, DMT is not only responsible for plant performance

but also for its biomethane production. Currently, the

Start of Operation: March 2021
Location: Amsterdam, Netherlands
Product: Carborex[®]MS
Plant Capacity: 2500 Nm³/h
Biogas Feedstock: WWTP
Application: Bio-CNG & Gas to grid

agreement is for DMT to operate the facility for 15 years.

THE RESULT

In March 2021, Waternet's biomethane successfully injected into the Dutch national gas grid. This biomethane will provide green gas to households in the metropolitan area of Amsterdam. 14,7 million m³ of raw biogas is upgraded into 9,7 million m³ of biomethane using the Carborex[®]MS. This is equivalent to 10% of the total amount of green gas used by the national grid in the Netherlands. While part of the biomethane is injected into the gas grid, the remaining is compressed into Bio-CNG, in collaboration with OrangeGas. Trucks, public transport, and taxis use this green gas as clean fuel. In this consortium, OrangeGas is also responsible for the gas trading. By transitioning to green energy, this project will reduce carbon emissions equal to 13,2 million kilometres. The result is a significant carbon footprint reduction for Amsterdam's transportation sector. This is good news as the world nears the historic record for the highest CO₂ concentration in the atmosphere.