

## PRESS RELEASE

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### The circular economy

## Initial test campaign to produce low-carbon gas from solid residues

ETIA, a French equipment manufacturer specialising in heat treatment processes, and GRTgaz have reached a key stage in their SYNTHANE© partnership. This project aims to produce renewable and low-carbon methane through pyrogasification<sup>1</sup> using proven technology belonging to ETIA, a company based in Compiègne.

GRTgaz and ETIA today announced the launch of an initial test campaign to analyse the gas produced from different categories of solid waste: forest biomass, non-recyclable plastics, and solid recovered fuels from household waste.

The SYNTHANE© project's originality lies in the coupling of two complementary technologies – pyrolysis and methanation<sup>2</sup> – to produce a renewable, low-carbon gas that can be injected into the French gas networks.

The coupling and instrumentation of the test facilities are now finalised. The system consists of a “Biogreen©” high-temperature pyrolysis facility that ETIA has been testing for several years. It allows inputs to be continuously heated in the absence of oxygen to break down the gaseous molecules. This facility is supplemented by a purification tool and a catalytic methanation unit to maximise the quantity of injectable methane.



BIOGREEN pyrolysis plant

GRTgaz, which supports the emergence of new renewable gas sectors, provides its expertise in measuring gas quality.

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<sup>1</sup> Pyrogasification: solid waste recovery process that breaks material down into different gaseous molecules by heating them at very high temperatures (between 800-1500°) with little (or no) oxygen.

<sup>2</sup> Methanation: a process that converts carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) into methane (CH<sub>4</sub>) through a chemical reaction with dihydrogen (H<sub>2</sub>).

## **Industrialising a new sector that supports the circular economy**

With this partnership, ETIA and GRTgaz are part of the industrialisation of the pyrogasification sector for injection into the French networks: a renewable and low-carbon means of gas production that supports the circular economy.

Injection into the gas networks from pyrogasification offers a solution to the challenges of waste treatment, in line the target set by the French Law on Energy Transition for Green Growth (LTECV) to halve the volume of waste sent to landfill by 2025.

Construction of the sector's first industrial-scale projects is expected to begin from 2023. Alongside the other renewable and low-carbon gas sectors (anaerobic digestion, hydrothermal gasification, hydrogen), these will contribute to achieving carbon neutrality by 2050.

Based on the French Environment and Energy Management Agency's (ADEME) 2021 scenarios,<sup>3</sup> and taking into account the energy recovery pathways for residues (pyrogasification, combustion, liquid fuels), 90 TWh is a realistic and achievable production target for renewable and low-carbon gases by 2050.

### **About GRTgaz**

*GRTgaz is the second-largest European gas transporter, with 32,500 km of pipes and 640 TWh of gas transported. The company has 3,000 employees with a turnover in 2020 of nearly €2.3 billion. GRTgaz has a stated core purpose: "Together, we enable an energy future that is safe, affordable and climate neutral". GRTgaz is an innovative company undergoing major transformation to adapt its network to ongoing ecological and digital challenges. The company is committed to a 100% carbon-neutral French gas mix by 2050. It supports the hydrogen and renewable gas sectors (biomethane and gas from solid and liquid waste). GRTgaz fulfils public service missions to ensure the security of transmission for its 945 customers (shippers, distributors, industrial companies, biomethane plants and producers). With its subsidiaries Elengy, the European leader in LNG terminals, and GRTgaz Deutschland, the operator of the German transmission network MEGAL, GRTgaz plays a key role in the European gas infrastructure scene. The company exports its know-how internationally, in particular services developed by its research centre, RICE.*

*Find us on: <https://www.grtgaz.com> and on Twitter.*

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### **About ETIA**

*ETIA is a French engineering group specialising in innovation, equipment and processes relating to continuous heat treatment. For more than a decade, ETIA has developed integrated solutions based on its Biogreen® technology, a continuous pyrolysis process for the thermochemical recovery of high value-added products (biochar, biogas and bio-oil) from biomass, residues and waste.*

*ETIA is part of the Norwegian group VOW ASA, and is listed on the Oslo Stock Exchange (symbol: VOW ASA). A specialist in pollution prevention and industrial decarbonisation technologies, VOW's state-of-the-art solutions convert biomass and waste into high value-added resources, generating clean energy for a wide range of marine applications and land-based industries.*

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<sup>3</sup> ADEME 2050 Transition(s) study: [ADEME - Transition\(s\) 2050](#)