FOLLOW UP - GD4S' meeting with Jorge Pintos Antunes, Deputy head of Cabinet of EU Commissioner Janusz Wojciechowski

20 April 2022

What is the role of DSOs in the value chain of gas supply?

Distribution Systems Operators (DSOs) are responsible for operating the gas distribution network, ensuring its maintenance, and its development. We are responsible for safely distributing natural and renewable gas to consumers (households and industry): 100% of residential consumers and over a third of industrial and commercial gas end-users are connected to local gas networks in Europe.

DSOs have a strong knowledge and operational expertise in the transportation and distribution of gas.

As an association, GD4S represents the main DSO of 7 European Member States, directly supplying 27.7 million customers in Europe (around 30% of the European market).

How can DSOs contribute in reaching REPowerEU's biomethane target and beyond?

Because of our mission, which is to distribute gas locally to consumers, DSOs are uniquely positioned to facilitate the achievement of REPowerEU's 35 bcm biomethane production target, and even more.

→ DSOs facilitate rapid injection and supply of increasing biomethane volumes to an extensive pool of consumers

Gas DSOs have a crucial role to play in achieving the objectives of RePower EU and the 35 bcm biomethane target, acting as the bridge between its production and its consumption by end-users in both residential and industrial sectors.

The extensive European gas grid, with more than 2 million kilometres of network operated by 45 TSOs and 2,000 DSOs, offers the flexibility to effectively integrate renewable gases into the network, with its 100 million points of supply. Such capillarity is a key advantage to capture the largely decentralised and local-based production of biomethane in rural areas or in urban sites, depending on the feedstock used. **The direct proximity of gas distribution grids operated by DSOs with biomethane production sites makes them a crucial asset to accelerate the supply of increasing volumes of biomethane to a large base of consumers.**

At an early stage of renewable gases development, the gas network is fundamental to connecting decentralised production of renewables gases like biomethane with areas of consumption. The proximity of gas DSO' grids with biomethane production sites will be a key factor for the development

of this renewable gas also in the European countries where potential is relevant, but production is currently relatively low (for instance, for the lack of appropriate incentives or regulatory measures).

→ DSOs can accelerate biomethane uptake at limited costs

Locally produced biomethane can be easily injected into existing local gas distribution grids and supplied to households and industries, with limited additional investments and technical requirements. Leverage on this existing infrastructure would support the consumption of biomethane by end-users in a secure and cost-effective way, significantly contributing to enhancing the market uptake of this renewable gas.

Local gas networks are already connecting biomethane plants and **can integrate as many additional volumes of biomethane as can be produced in the short/medium term**. It is estimated that local gas networks can handle the injection of significant new biomethane volumes over the next 2 years without any major technical difficulties.

On the contrary, the direct injection of biomethane into the gas TSO grids would in most cases result in much higher costs, due to the larger distance separating the network and the production sites, and the need to compress the gas at much higher pressures at which gas TSOs' grids are usually operated.

→ DSOs enhance energy efficiencies thanks to gas grids digitalisation

The key enabler of all innovations will be the digitisation of the gas networks (smart metres, sensors, etc.), which can significantly contribute to maximise the environmental benefits of biomethane injection by considerably improving energy consumption management and network efficiency.

The resultant improvements in network management also benefit end-users in several ways. For example, more accurate and updated data from smart metres will enable better control of energy consumption and induce proactive behaviours when using gas and heating appliances. A digitalized grid can control in real time gas pressure, odorant content and the quality of the gas delivered to the end users, also enabling if necessary an appropriate blending of streams of gas of different origins in order to keep the key characteristics like calorific value under control.

→ DSOs use their local expertise to support local acceptance of biomethane production plants

According to the European Biogas Association (EBA), 5 000 additional biomethane plants will have to be built to reach the 35 bcm target by 2030[1]. Yet, construction projects of biomethane plants often raise multiple concerns for local communities (noise, disturbances, impact of quality of life, etc) and sometimes even strong opposition. Local and regional stakeholders must therefore foster transparent energy planning based on local considerations and in direct dialogue with communities.

As the common ambition is to considerably accelerate the development of biomethane production, such dialogue will be necessary to make sure that the involved stakeholders (producers, consumers,

[1] REPowerEU-with-biomethane-EBA.pdf (europeanbiogas.eu)

local authorities, etc) fully understand the benefits of biomethane at multiple levels (circular economy, waste treatment, additional revenues for farmers, security of energy for consumers, etc) and guarantee social acceptance.

In this dialogue with communities and consumers, DSOs have an active role to play thanks to their expertise and know-how on the particularities of the territories and local communities they operate in.

What should the legal framework look like to incentivise biomethane production and injection?

An enabling regulatory framework is crucial to deliver. Despite grid readiness, a clear European regulatory framework and incentives are needed to massively scale-up biomethane production and injection to achieve REPowerEU's 35 bcm target by 2030.

Such a strong ambition must now be matched with concrete measures to support the production of biomethane and green hydrogen as well as their injection into the gas grids.

From this perspective, GD4S invites the Commission to consider the following measures:

→ Establish an appropriate regulatory framework to facilitate the injection of biomethane into the existing gas infrastructure

Key EU legislation for the gas sector should align with the newly stated ambitions of RePowerEU on biomethane and hydrogen;

1. **Translate the target of 35 bcm biomethane into a binding EU wide objective**, in the revision of the Renewable Energy Directive and in the Gas Package, that should be further reflected into Member States National Energy and Climate Plans;

2. **Support the DSOs with a proper regulatory framework to overcoming technical and economic aspects** related to connecting biomethane plants to the gas grids, metering, and quality control (planification with DSO/TSO cooperation, tariffs and investment decisions for grid connections and reinforcement, gas quality control procedures, etc.).

3. **Encourage cooperation among gas DSOs**, for instance through the implementation of a dedicated EU DSO entity.

4. Establish Guarantees of Origins (GO) for all renewable gases to increase the demand and encourage investment in the sector, **including the GHG emissions reduction of the renewable gas calculated on a life-cycle basis.**

5. Incentivise European consumers to better control their own energy use. **EU legislation should emphasise DSOs' active role to reach higher energy savings,** especially in supporting local authorities to improve their actions as well as the identification and support of energy vulnerable consumers.

→ **Foster knowledge sharing and cooperation among Member States to enhance biomethane production across the EU**

As the timeframe in which to act is limited, the role of the European Commission is crucial to foster high-level coordination among Member States, energy regulation agencies, markets representatives (producers and consumers) and infrastructure operators;

6. Elaborate as soon as possible **RePowerEU guidelines on best practices at local and national levels on biomethane production and injection** to support Member States and National Authorities in scaling up their efforts. Given the variety of starting points and specificities across Member States, such guidelines would be instrumental **to encourage the adoption of the needed measures to accelerate the uptake of biomethane**, such as support for connections, feed-in-tariffs, contract for differences, reverse flow investment and operation management, etc.;

7. Introduce as soon as possible **consistent guidelines on existing EU funding for biomethane production** to streamline and facilitate its use by national, regional and local authorities (Cohesion funds, ERDF, Recovery and Resilience Facility, CAP, etc.);

Case studies: a variety of starting points on biomethane production and injection in Member States

The comparison of the situation across different Member States illustrates that a pro-active and ambitious policy framework at the national level is crucial to accelerate biomethane production and injection into gas grids. While some countries are well advanced with clear legislative incentives in place, such as France, others like Romania are at the very early stages of development and require national governments to operate a quick shift towards a clear strategy and vision to support biomethane uptake in their country. Others, such as Italy, have started to support biomethane production and injection, but need to considerably accelerate the implementation of concrete incentives to move forward.

FRANCE

Current situation and potential:

- **France is among the five first biomethane producers in Europe, with 4.3 TWh produced in 2021**. It also enjoys the fastest pace of growth in the EU: production capacity has doubled last

year and the maximum annual injection capacity reached 6.4 TWh in 2021, compared with 3.9 TWh at the end of 2020.

- This represents 9.2% of the 2030 target, which is to reach 10% renewable gas in total gas consumption.
- At the end of March 2022, the 400th biomethane unit has been connected to GRDF gas grid, thus reflecting the development of the sector since 2020 (which accounted for 214 biomethane units).
- **By 2050, the production of green gas in France is expected to reach 420 TWh and would be sufficient to cover all gas consumption.** New renewable gas production and recovery processes are currently being developed in the medium and long term such as pyro gasification of solid renewable and non-renewable residue, power-to-gas and hydrothermal gasification.

Legislative and regulatory framework:

- **The current trend can be attributed to the favourable regulatory framework supporting the injection of biomethane into the natural gas grid** (Feed-tariff for Biomethane injected into the Gas grid, Guarantee of Origin System, Compensation Mechanism Associated with Feed-In Tariffs).
- **The implementation of the "right to inject",** which aims to achieve the optimum technical and economic investments required for the injection of biomethane, was strengthened in 2021, securing gas networks as an outlet for project developers.

The public authorities are working on implementing additional provisions designed to **accelerate the development of injected biomethane**, by forcing natural gas suppliers to directly finance the production of biomethane in proportion to their supply portfolio (biogas production certificate (BPC).

ROMANIA

Current situation:

- The biogas industry in Romania is in the early stage of development. Currently there are 33 biomass/biogas power plants producing electricity only. **No biomethane installations for the moment (pilot biomethane projects under analysis).**
- **The regulatory and policy framework is very fragmented**. The different authorities are not necessarily aware of the interlinkages to other areas (renewable energy, waste management, waste/water treatment, environment, and agriculture).
- There is a **clear lack of legislative framework to support the injection of biomethane** into the national natural gas grid.

Romania's potential:

- Romania produced about 7 mn tonnes of organic waste in 2016 (the last available data on Eurostat).
- Municipal waste (household and similar wastes) represented the largest amount of organic waste.
- We estimate that the biogas potential of Romania, based on organic waste reported by Eurostat (2016) and biogas yield, **ranges from 50 TWh to 70 TWh.**
- Key assumption is that all organic matter is transformed into biogas.

Necessary steps to boost the biomethane development:

- Develop existing and missing legislation on biomethane, including the rights of the biomethane producer to access the natural gas network in a non-discriminatory way.
- Introduce a sustainable support scheme, including injection costs sharing between the natural gas grid operator and the biomethane producer.
- Set up a regulatory framework to allow biomethane projects implementation.
- Draft technical norms.
- Build a sustainable and credible incentive scheme of feed-in type tariffs.

ITALY

Current situation:

- Biogas industry developed mainly for power generation, due to favourable incentives in the past years
- Currently around 50 injection points in operation; 90% of which from organic waste and agro-industrial residues
- Operative incentive schemes only for biomethane used as a fuel for transport; waiting for DG COMP approval of operative measure for extending support to generic injection into the gas grids
- Under construction a regulatory scheme for supporting DSOs à TSOs reverse flows (ongoing NRA procedure)

Potential:

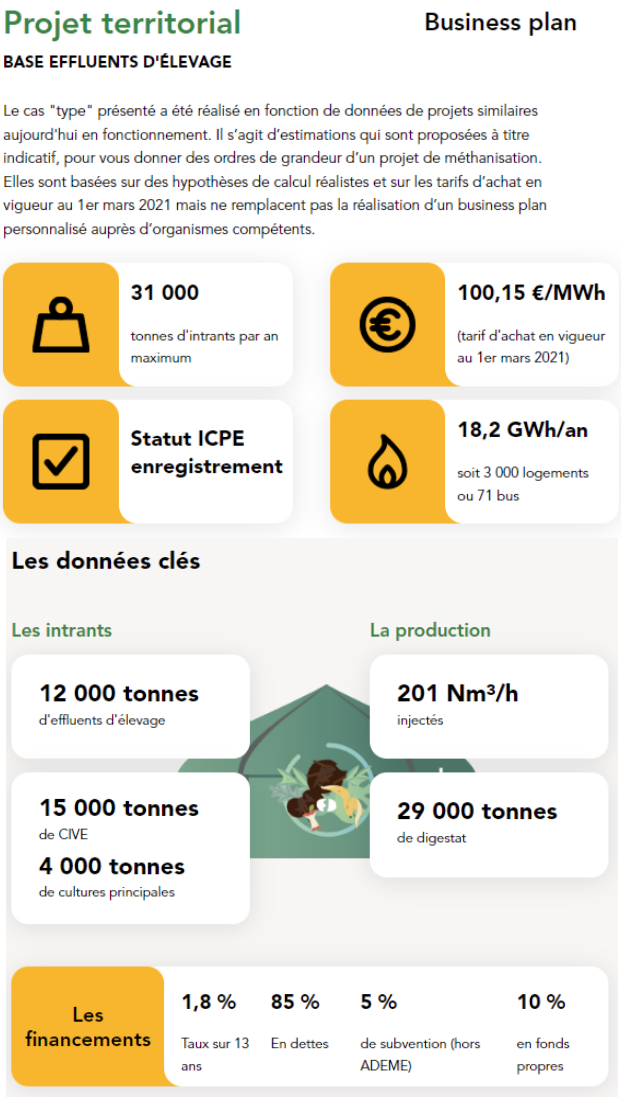
- **8 bcm of biomethane potential** estimated based on ENEA calculations
- **5,5 bcm (60 TWh) achievable at 2030** also with conversion/upgrading of current biogas production plants (approx. 10% of expected gas consumption)

Necessary steps to boost the biomethane development:

- Key factors are an appropriate incentives scheme in place, fair burden sharing between gas producers and grid operators, regulation supporting reverse flows.

Focus: business models on biomethane

Example of an agricultural project for biomethane production using manure (source: GRDF website)



Key figures:

- 31,000 tonnes of inputs per year maximum
- 100.15 EUR/MWh (purchase price in force on 1st March 2021)
- 18.2 GWh/year, either 3,000 housing or 71 buses

Inputs:

- 12,000 tons of livestock manure
- 15,000 tons of intermediate culture with an energy vocation
- 4,000 tons of main crops

Outputs:

- 201 Nm3/h of biomethane injected
- 29,000 tons of digestate

Funding:

- 1,8% rate over 13 years
- 85% in debts
- 5% subsidies
- 10% equity

Données économiques

Investissements (en k€)

Études et autres frais de développement		530
Process	Incorporation	410
	Procédé de méthanisation	1 300
	Électricité et automatisme	360
	Épuration	1 190
	Stockage	570
Raccordement GRDF		220
Autres	Tuyauterie	180
	Voieries et réseau divers + gros œuvre	1 270
	Frais de mise en service	50
	Divers	300
Total		**6 700**

Exploitation annuelle (en k€)

Chiffre d'affaires		1 825
Process	Achat substrats	430
	Charges courantes unité méthanisation	170
	Charges courantes épuration	190
	Épandages digestats	0
Autres	Ressources humaines	65
	Divers	240
Total		**1 100**