Access of renewable & low-carbon gases to the existing gas infrastructure

Perspective of renewable gas producers

35th Meeting of the European Gas Regulatory Forum

Philipp Lukas | 29th April 2021
Renewable gases are essential for an integrated, resource-efficient energy system and for a cost-efficient transition

- Storable and dispatchable renewable energy alongside wind and solar PV
- Heat to buildings that have gas grid connections, including using hybrid heating solutions
- High temperature heat and feedstock in energy-intensive heavy industry
- Energy-dense fuel for heavy and long-distance road transport and shipping

- Feedstock for synthetic kerosene for aviation
- Cross-sectoral advantages in terms of waste management, soil biodiversity, negative emissions
- Future-proof jobs and foster rural economies

A smart combination of renewable gas and electricity, together with existing gas grids, will be the optimal way to decarbonise the EU energy system, with the system becoming fully renewable
Availability and scalability of biomethane have been widely recognised

Europe's biomethane potential for 2030, 2040 and 2050 as calculated by various studies, expressed in bcm and TWh

Current production (2019)
(Raw biogas included)

18 bcm/193 TWh

44 bcm/467 TWh
CE Delft (2030)

35 bcm/375 TWh
Eurogas (2030)

35 bcm/370 TWh
Gas for Climate (2030)

124 bcm/1,316 TWh
Cerre (no timeframe given)

95 bcm/1,008 TWh
Eurogas (2050)

125 bcm/1,326 TWh
IEA (2040)

95 bcm/1,020 TWh
Gas for Climate (2050)
A European enabling framework is needed to unlock the potential of biomethane

- Establish an EU target for renewable gas as a driver for development
- Apply a sector-integration approach beyond the energy sector, thereby valuing positive externalities
- Recognise LCA emissions savings and circular economy benefits
- Facilitate the connection of biomethane production to the grid
- Ensure technological neutrality in the demand side (heating and transport)
- Create a European market for biomethane on the basis of GOs
The revisions of the gas package and of RED II are closely tied in lifting up regulatory barriers and setting up new incentives.

To deliver on the potential of renewable gases, the Green Deal is an opportunity to establish an EU regulatory framework that promotes the production, market uptake and system integration of renewable gases.

**New proposed measure**
- Driving the demand up
- Facilitating production and delivery
- Ensuring a well-functioning market

**Gas Directive and Regulation**
- EU-level GHG intensity reduction target as a complementary target including low-carbon gases
- Leveraging the existing grid through fair cost-sharing of network connection and reinforcement
- Extension of non-discriminatory rules to new gases
  - Acknowledging the off-grid gas infrastructure, e.g. LNG-terminals and road transport deliveries.

**RED II revised**
- EU-wide binding target of renewable gas in final gas consumption
- Common rules on sustainability: total life-cycle emission-based rules (included avoided emissions). Full recognition of the renewable character of biomethane use in H&C
- Definition of renewable gases
  - Enhanced GO system to enable cross-border trade and accounting towards EU objectives
Facilitating investment in production and injection with fair rules for all
A European « right to inject »

1. Right for project developers to be connected to the gas grids, even if they are located outside a gas-served zone
2. Coordinated planification by TSOs and DSOs with involvement of the regulator
3. NRAs shall validate grid reinforcements (reverse flows and local distribution network meshing) based on technical-economic criteria and the biomethane potential assessed with local authorities
4. NRAs shall define financing rules for:
   • Grid reinforcement, based on a technical-economic criterion
   • Grid connection, based on cost-sharing between producers and grid operators and amongst producers where relevant

Enabling the utilization of a by-product of biomethane production in a circular economy

Preference of biogenic CO₂ over fossil CO₂

Transparency principle applied to the European biogenic CO₂ market

Tapping into the market potential of areas where grid connection is not profitable

Integration of the distribution and supply of off-grid renewable gases in the Gas Directive
GO-based System
for the EU market of renewable and low-carbon gases

What?
EU-wide system based on Guarantees of Origin (GO) recognized as a tool for tracing the origin of supplied and consumed renewable and low-carbon gases in the Internal Energy Market and the EU ETS.

How?
Use the current GO system linked with the sustainability certificate as a purchase record of gases in the EU ETS (see Figure 1 on the right).

Why?
Standardized and cost-effective decarbonization solution for gas consumers, e.g., EU ETS Operators.

The best price for the climate green value via a liquid EU-wide GO market decoupled from the physical market (just as for other carriers).

Workable and harmonized solution for the implementation of the revised EU ETS Monitoring and Reporting Regulation from 1 January 2022 – there is no time to wait for the set-up of specific databases for tracing gas transfers.

We would like to discuss with DG ENER and DG CLIMA a workable solution operational from 1st January 2022.
Thank you!

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