

## What Support Is Needed For The Decarbonisation Of Energy Intensive Industries?

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James Watson Secretary General

## **Energy Sector must provide clean competitively priced energy for Ells**

- Important to ensure competitiveness for Ells in a highly competitive global context
- Important to ensure competitive energy sources no one size fits all energy approach
- Must provide clean energy and support the decarbonisation of Ells



## How can we deliver competitive decarbonized energy?

- A competitive gas market to ensure competitiveness on the international market – diverse sources
- Scaling up the production of renewable and decarbonised gases to ensure continuity in the energy provided whilst gradually reducing its carbon footprint
- Ensuring decarbonised gas is recognised in the objectives which Member States have to achieve in terms of reducing GHG emissions



## The industrial opportunity of renewable and decarbonized gases



Uddeholm is now testing liquefied biogas (LBG) in its production. Four years ago, the company replaced heavy fuel oil (HFO) with liquefied natural gas (LNG). LBG can replace LNG and can be used directly into the same processes.

The reason is that both gases consist mainly of methane, they are interchangeable and thus the same LNG supply chain can be used. By replacing natural gas with biomethane, Uddeholm will reduce its carbon dioxide (CO2) emissions from production even further.

#### Bronkhorstspruit biogas is powering BMW South Africa's X3 production

Bronkhorstspruit is providing BMW clean energy for its X3 production.



### The industrial opportunity of renewable and decarbonized gases



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voestalpine, Siemens and VERBUND are building a pilot facility for green hydrogen at the Linz location





7 February 2017 | The European Commission has awarded the H2FUTURE project consortiur VERBUND and Austrian Power Grid (APG) as well as the research-partners K1-MET and ECN, one of the world's largest electrolysis plants for producing green hydrogen. The project-parti cooperatively on implementing an innovative hydrogen demonstration plant at the voestalp

18.05.2016

#### Leading steel industry company BE Group begins to use biogas in steel and metal product manufacturing

One of the largest providers of steel and metals distribution and production services in Northern Europe, BE Group Oy Ab will begin to manufacture steels and metals using 100% Finnish Gasum biogas made from local biodegradable waste at its Lahti facility. BE Group Oy Ab will buy the biogas from Lahti Energy. BE Group is the first company in Finland to offer its customers ecological and environmentally friendly steel and metal products made with biogas.

"We specialize in the pre-processing of steel and want to provide our customers with a more environmentally friendly service. As a major purchaser we're an attractive cooperation





## Flexibility for the energy system which keeps costs low

- The gas infrastructure is by nature, flexible
  - Can store a large quantity of energy through compression
- CHP is flexibility and produces electricity and heat
- Sector coupling
  - Currently: CCGTs provide flexibility to the electricity system in case of peak demand
  - Developing: P2G can provide flexibility to excess intermittent electricity and congestion on the electricity grid by converting it to H2
- A smarter grid and smarter coordination between electricity and gas sector can ensure complementary infrastructure in the future



## **Challenges to Solve**

- Gas infrastructure already exists, largely amortised so offers a good base for competitiveness
- Hydrogen production cost needs to be brought down through scale
- Need to address:
  - Blending strengths i.e. how much hydrogen, biogas and natural gas can you blend?
- Solutions are being examined now: Cadent gas and H21 projects in the UK Standardisation work in CEN Technical conclusions from Marcogaz on H2 injection



# Eurogas proposals for the gas package that can help solve the competitiveness-decarbonisation conundrum

- 1. Introduce an EU target for renewable and decarbonised gases
- 2. Develop a European blueprint for Guarantees of Origin (GOs)
- 3. Market design to enable r-gas and d-gas to reach maturity and deployment at scale, and to be integrated into the wholesale market
- 4. Enable the development of carbon capture and storage value chains



## The industrial opportunity of Renewable and Decarbonised Gas

- Europe leads on the industrial production of:
  - Anaerobic digestors
  - Electrolysers
  - LNG Engines for ships
- Gas industry in itself offers industrial opportunities for Europe to lead on low carbon technologies



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