

## **Gas Sector Priorities – European Level**

Eurogas – Finnish Gas Association Helsinki – 10 April 2019

## **Our members – mid and downstream & DSOs**



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## Gas...in EU daily lives and our economy today



<sup>1</sup> Source: BP Statistical Review of World Energy 2018 <sup>234</sup> Expressed in shares, in EU residential sector. Source: Eurostat <sup>5</sup> source: European Commission, Gas Market Report Q4 2017

<sup>6</sup> Source: European Commission with reference to Eurostat



## Full Eurogas EU market demand projection to 2050

Demand for natural gas could be 400+ bcm in 2050 according to the PRIMES modelling in 2017



## **Eurogas forecasts for Gas to 2050 in different sectors**

Important gas customer sector demand predictions

#### Residential

- 76% of current houses still remain in 2050.
- High renovation rates.
- Quite stable gas demand to 2030.



#### Industry

- Economic growth is a key parameter
- Efficiency and some alternatives drive energy-use; chemicals is a separate sector.





## **Comments on the Eurogas Forecasts**

- The Eurogas PRIMES study envisages a major shift into hydrogen by 2050 – over 70% of demand will be met by it
- Power to gas is increasingly an option for Europe
- Strong biomethane growth
- Opportunities exist for natural gas as a feedstock for hydrogen
- EU could still need to import gas in 2050 likely to be hydrogen
- Consideration for CCS development not just in EU but in neighbouring regions



## **European Commission Long Term Strategy Forecast**



■ non-energy fossil fuels use ■ solids ■ fossil liquids ■ natural gas ■ nuclear ■ e-liquids ■ e-gas ■ renewables



Figure 2. Fuel mix in Gross Inland Consumption

- The European Commission has called for a carbon neutral economy in 2050, net zero carbon emissions
- Massive reduction in gaseous fuels
- Have been told 'You must decarbonise to stay in the game'
- However, Member States are less enthusiastic to embrace this pathway to 2050
- Will be decided throughout the course of this year



### **Cost is the battle ground – European Climate Foundation Forecasts**



Source: Element Energy and Cambridge Econometrics

**FIGURE 14:** Annualised costs in 2050 of key elements of alternative decarbonisation scenarios (total for six 'archetype' countries)



## **Frontier Economics – Cost Saving of Gas Use**

Figure 26Min and max cost savings of a continued use of gas per year in<br/>2050 along the supply chain for the countries analysed



Source: Frontier Economics/IAEW



# The Gas Package and the potential for decarbonisation utilising natural gas



The 2050 decarbonisation targets can be reached cost effectively by utilising renewable gas (r-gas) & decarbonised gas (d-gas).

Gas infrastructure already in place is largely amortised and covers over 2.2 million Kms at the DSO level.

With biomethane we could decarbonize heating - for individuals and district heating - with an easy product switch in a click. Without any investment on site. Very fast decarbonisation.



- 17 National Climate and Energy Plans recognise value of natural gas to 2030
- A further 19 mention biogas/biomethane for different uses heat, transport, power
- 21 mention Hydrogen but many on transport side need wider consideration



## **Renewable Gas Market Picking Up - GRDF**



Number of biomethane plants



## **Challenges to Solve**

- Hydrogen production cost needs to be brought down through scale, what are best pathways to scale?
- Need to address:
  - Blending strengths i.e. how much hydrogen, biomethane and natural gas can you blend?
  - At what point do biogas and hydrogen become competitive?
- Eurogas Study underway results in October



- Introduce an EU target for renewable and decarbonised gases
- Develop a European blueprint for Guarantees of Origin (GOs) for hydrogen
- Obligation for joint gas/electricity infrastructure planning to take an integrated system view
- > Favour gasification and digestion over the incineration of waste
- Enable the development of technologies to decarbonize the gas supply e.g. pyrolysis, CCS/U and SMR



## **Renewable and decarbonized gases – available now!**

GROUP MEDIA INVESTORS JOBS PRODUCTS

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 consortium, corr the media VERBUND and Austrian Power Grid (APG) as well as the research-partners K1-MET and ECN, the c one of the world's largest electrolysis plants for producing green hydrogen. The project-partners w cooperatively on implementing an innovative hydrogen demonstration plant at the voestalpine si

Solutions are being examined now:

- Cadent gas and H21 projects in the UK
- Standardisation work in CEN
- Technical conclusions from Marcogaz on H2 injection

C S W About Casum – For the media – News – 2016 18.05.2016

Information about Gasum Responsibility

QE

About Gasum Insights

#### 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

x<sup>8</sup> ~ 90 / 4× c/2 ENG 13

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## 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
- This implies the creation of jobs and wealth in Europe through the energy transition



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