

# Gas Goes Green Insights Forum

Thursday 27<sup>th</sup> April 2023

# Agenda

Item	Speaker
Welcome	James Earl, ENA
What to expect from Gas Goes Green in 2023	James Earl, ENA
Q&A on our programme for the rest of 2023	James Earl, ENA Vicky Mustard, Xoserve
A hydrogen vision for the UK: overview	James Earl, ENA
Deep Dive: A hydrogen vision for the UK	David Watson, Cadent
A hydrogen vision for the UK: The hydrogen opportunity in Northern Ireland	Mark Alexander, Mutual Energy
Q&A on A hydrogen vision for the UK	James Earl, ENA David Watson, Cadent
Wrap up	James Earl, ENA

## Thank you for joining the Gas Goes Green Insights Forum.

- The meeting is being recorded and will be shared on ENA's YouTube Channel. By staying on this call, you consent to this.
- If you are unable to play the audio through your device, you can dial in by calling +44 20 3855 5885 (UK London) (Conference ID: 784 303 264# ).
- Please mute your microphone to avoid disruption.
- Please submit comments and questions via Slido.com - you can join the session by scanning the below barcode or using the code: GGGIF



# What to expect from GGG 2023

## James Earl, ENA



## What to expect from Gas Goes Green in 2023

### Hydrogen Blending:

- Functional Specification
- Market frameworks
- Capacity and Connections



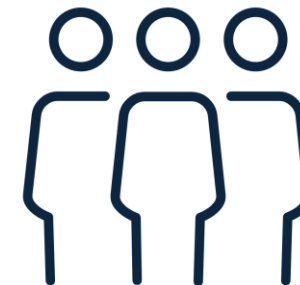
### Future of gas networks:

- A hydrogen vision for the UK
- Impacts of reducing gas demand
- Role of biomethane and hydrogen in a decarbonised grid



### Comms and stakeholder engagement:

- International Hydrogen Commitment Comparison
- Green Gas Scorecard
- Review Groups and Insights Forums



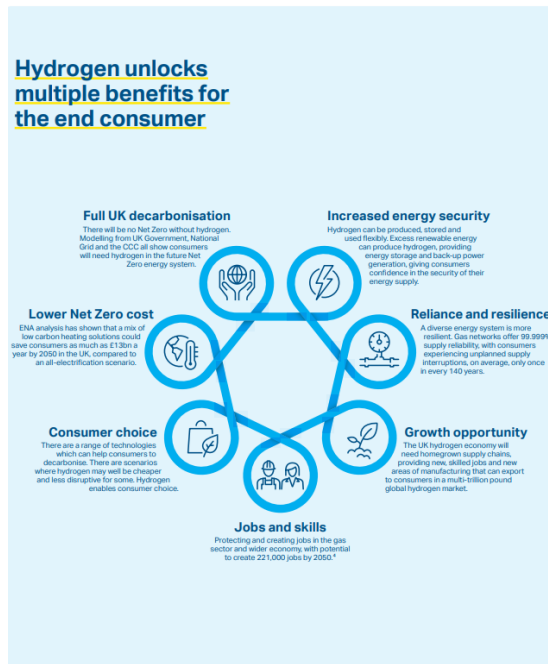
# Q&A on our programme for the rest of 2023

# A hydrogen vision for the UK David Watson, Cadent



# A hydrogen vision for the UK

- Published on Wednesday 19<sup>th</sup> April
- Collaborative project between GDNs, NGT and Mutual Energy
- Sets out a plausible vision, rooted in a robust scenario, to show the role hydrogen can play in supporting the UK meet its Net Zero target
- Brings together a series of network case studies, network pledges and clear policy asks



## Mapping out the potential

### 2030

**ENERGY TARGETS**  
UK Government: 10 GW of low carbon hydrogen production (with at least 5 GW of this from electrolytic production)  
Scottish Govt: 5 GW hydrogen production  
50 GW offshore wind  
Four CCUS Industrial Clusters  
Hydrogen Town, following delivery of a Hydrogen Village

**HOW WILL THE CONSUMER BENEFIT?**  
Hydrogen will be available for consumers in industrial clusters, with co-located supply and demand that will be supported by local dedicated (private) networks and storage  
In these areas, businesses are able to benefit from 'first-mover' status in the pioneering of hydrogen-powered products

**TECHNICAL DETAIL**  
Only a small number of natural gas connections have converted to hydrogen, largely industrial  
Large parts of the national transmission system are converted to transport 100% hydrogen to early industrial fuel switchers and power generators. New and re-purposed sections of this network will deliver a hydrogen backbone infrastructure on a national level, linking hydrogen production with demand via downstream hydrogen ready gas networks  
In Northern Ireland, a relatively small corridor of pipeline infrastructure can connect electrolysis production sites at potential offshore wind grid connection locations, current thermal power stations, salt cavern storage sites and the existing gas transmission system  
Hydrogen storage in salt caverns and depleted oil and gas wells will come on stream in the early 2030s



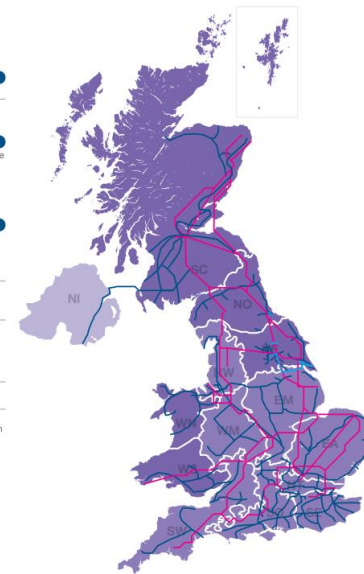
## Mapping out the potential

### 2050

**ENERGY TARGETS**  
UK to achieve Net Zero  
Additional targets likely to emerge through future Governments

**HOW WILL THE CONSUMER BENEFIT?**  
At the end of our mapping scenario, the use of hydrogen by consumers is widespread, providing low carbon energy across the economy, providing choice to consumers and keeping businesses viable

**TECHNICAL DETAIL**  
Between 50-70% of connections to our network have converted to hydrogen, with the remainder largely using alternative forms of low carbon energy  
Throughout the transition networks are focused on repurposing assets where it makes sense, reducing overall costs  
There will be a need for new pipelines in some areas – for example to support hydrogen transmission at national and regional level alongside the movement of natural gas  
In some areas of high hydrogen demand, new pipelines will be built  
Lower overall demand for gas will mean that by 2050 some areas of the distribution network will no longer be required. Parts of the pipeline network could be partially decommissioned in order to preserve network safety and reduce ongoing costs





# Gas Goes Green Insights Forum

## The Hydrogen Opportunity in Northern Ireland

**Mark Alexander, Energy Transition Manager (Mutual Energy)**



## Who We Are

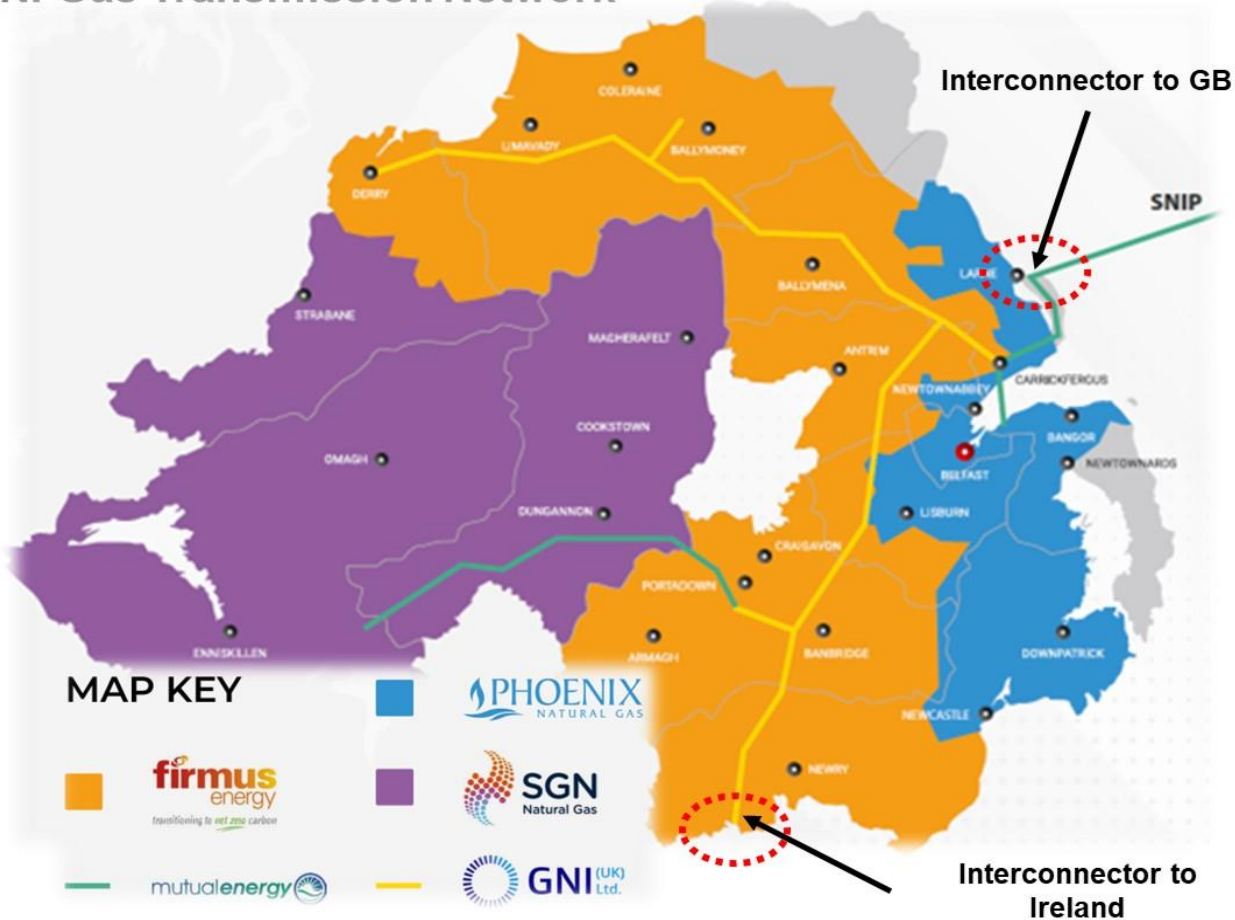


- Own, operate and manage energy infrastructure on behalf of Northern Irish consumers
  - Interconnection assets
  - On-shore gas transmission
- With GNI UK, provide TSO and gas market operator services



# Gas Market Overview

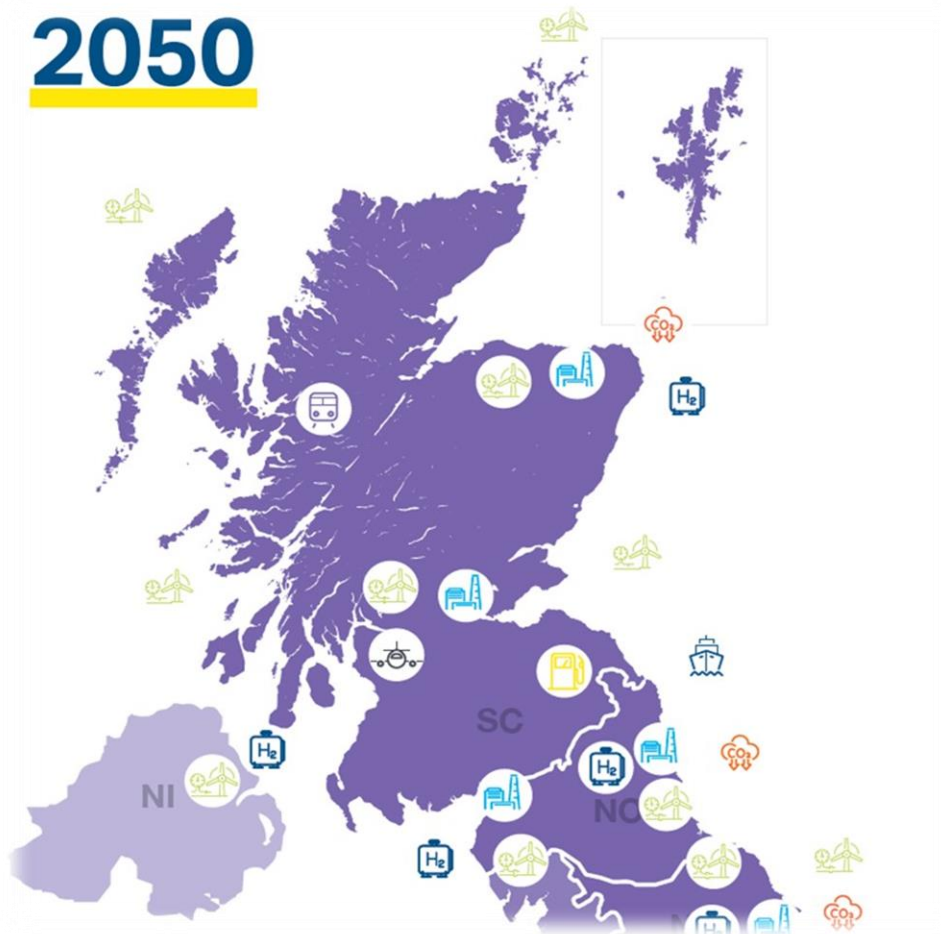
## NI Gas Transmission Network



- Modern network infrastructure – PE distribution pipes
- Small but growing market - annual demand c17TWhs, c320k customers
- Majority of gas imported from GB - average c4 mscm/day



## Gas Network Decarbonisation



- Large agricultural sector - significant potential for biomethane in NI
- Biomethane expected to play a greater role in decarbonising gas supply than in GB
- Hydrogen however critical to achieving net zero targets



## The Green Hydrogen Opportunity

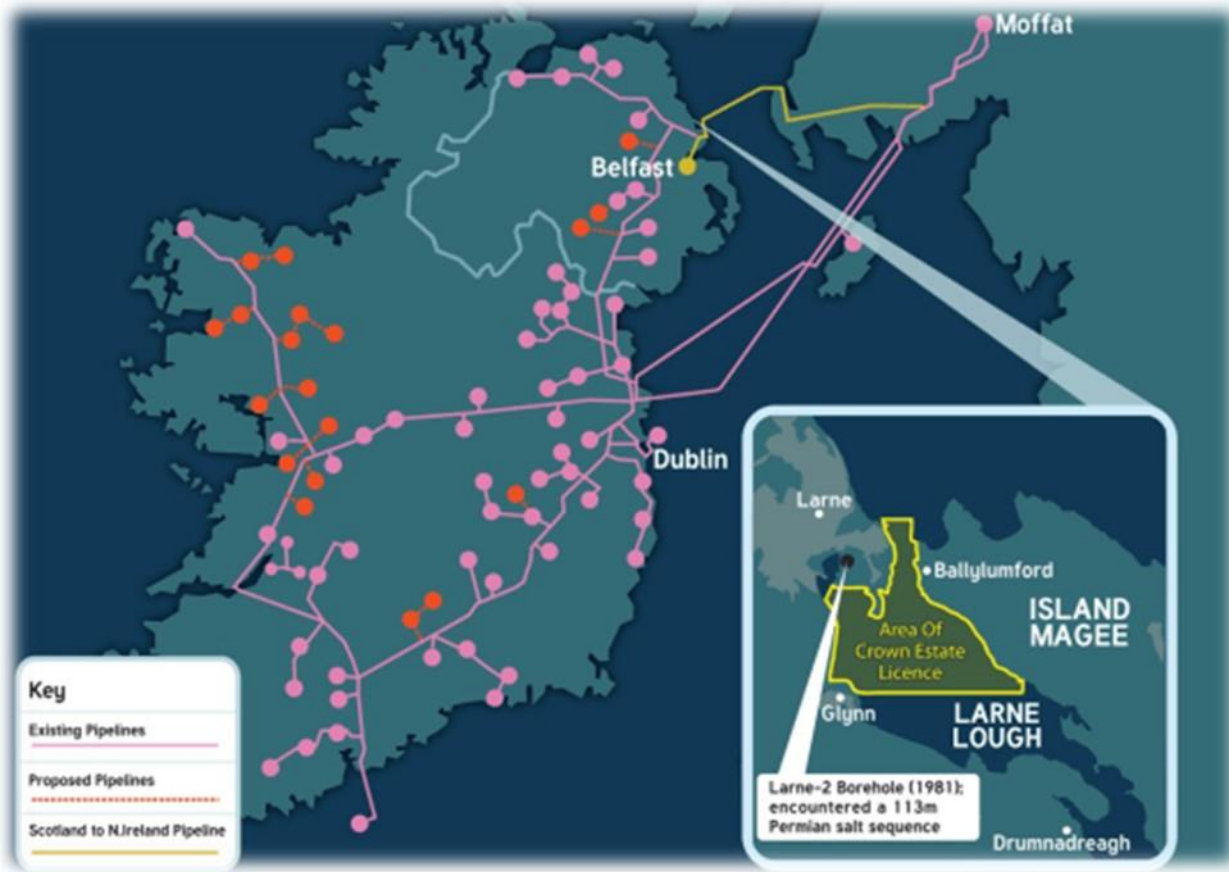


- Synergies between wind generation and green hydrogen production
  - Ambitious renewable electricity targets
  - Reducing electrical export opportunity
- **Green hydrogen production essential to maximise NI's renewable energy potential**





## Hydrogen Storage Potential



- Potential for salt-cavern hydrogen storage:
  - Provide inter-seasonal storage solution for renewable energy
  - Help reduce Northern Ireland's reliance on imported fossil fuels
  - **Improve future security of supply of decarbonised energy across GB and Ireland**



# Hydrogen Readiness



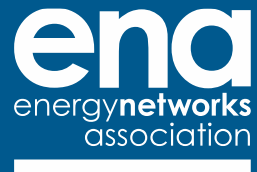
- Collaborating with NG and GNI UK on roadmap for introduction of hydrogen at Moffat
- Partnering in the pre-development of two potential projects
- Development of indicated hydrogen pipeline could help facilitate emergence of a ‘hydrogen valley’

<b>Project Curran</b>	Hydrogen blending project with Phoenix Natural Gas
<b>Ballylumford P2X</b>	Large-scale project aiming to combine offshore wind and electrolytic hydrogen production with salt-cavern storage and power generation.

**Essential Northern Ireland keeps pace with Great Britain**

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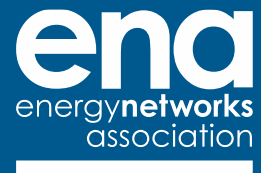


# Q&A: A hydrogen vision for the UK

# Wrap up James Earl, ENA

## Wrap up

- **Thank you for attending today**
- **The recording will be uploaded to YouTube**
- **The next Insights Forum will be held in October 2023**
- **If you would like to contact the programme team directly, please do so at [GasGoesGreen@energynetworks.org](mailto:GasGoesGreen@energynetworks.org)**



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