

I'm writing today to share our third Phoenix Natural Gas Energy Transition Update.

This ongoing series of Energy Transition Updates seeks to inform interested stakeholders we've engaged with over the past months and years about recent Energy Transition developments and the emerging research which is informing our approach to decarbonising the NI Gas Network.

In our last update in December we were eagerly looking forward to the publication of the Northern Ireland Energy Strategy and, just in time for Christmas, the Department for the Economy published "*The Path to Net-Zero Energy*" on 16th December.

The Energy Strategy was warmly welcomed by the gas industry as it sets out a clear direction for the decarbonisation of energy. With greater certainty, industry can now press ahead with implementing its pathway to net-zero.

However, there is always a fear with any well placed strategy that the momentum enjoyed during the development stage may not transfer on to the implementation stage. That's why it was so welcome to see the Department for the Economy immediately shifting focus to the implementation of the strategy with the publication of its 2022 Energy Strategy Action Plan.

This focus on implementation is vitally important if we are to ensure that Northern Ireland doesn't fall behind our competitors in an increasingly vibrant global market for renewable gases.

Denmark recently [celebrated](#) reaching the milestone of biomethane contributing 25% of its total gas consumption. Biomethane production is rapidly expanding in Denmark and its expected to meet 75% of Danish gas consumption by 2030 and 100% by 2034.

Worldwide hydrogen electrolyser sales are expected to [quadruple](#) in 2022 – rising from 458 MW in 2021 to 1.8-2.5 GW. The size of individual electrolyser projects is also rapidly increasing. Spain for example is pushing ahead with [plans](#) for a 500 MW electrolyser in Aragon to produce 40,000 tonnes of hydrogen per year.

Closer to home, the [pipeline](#) of green hydrogen projects in the UK continues to grow and now stands at 484 MW. This reflects a growing hydrogen ambition across the UK underlined by the Scottish Government pushing ahead with the finalisation of its [Hydrogen Action Plan](#) which sets out the actions required to realise Scotland's ambition of 5 GW installed hydrogen production capacity by 2030.

The rise of a global Hydrogen economy is a significant green growth opportunity for Northern Ireland. However, if we don't have an ironclad focus on implementation, and act quickly to get the necessary enablers in place, we will be forever chasing to catch up.

I hope you find this update helpful and informative

Best wishes,

Iain Hoy

Energy Transition Manager
Phoenix Natural Gas

British Hydrogen Blending Delivery Plan published

As part of its [Gas Goes Green](#) initiative, the Energy Networks Association has published its [Hydrogen Blending Delivery Plan](#) for Britain.

Hydrogen blending refers to the process of mixing natural gas with up to 20% hydrogen to achieve significant carbon savings and create a ready-made route to market for Hydrogen producers (vital for investor confidence). The ENA have calculated that a 20% Hydrogen blend in the GB gas grid could lead to savings of up to 6 million tonnes of carbon dioxide equivalent every year - the equivalent of taking 2.5 million cars off the road.

This detailed report outlines a series of policy recommendations designed to accelerate the roll-out of hydrogen blending in Britain. In particular, the ENA highlights that the existing market legislative and regulatory frameworks assume the conveyance and trading of a relatively homogeneous natural gas. Therefore, as the ENA states, it's a matter of urgency for these frameworks to be updated to ensure that blending can commence once operational trials have demonstrated that it is technically safe and economically efficient to do so (read H21 update [here](#)).

This issue applies to Northern Ireland as well as Great Britain. Energy policy is a devolved issue in Northern Ireland and so preparations will need to be put in place for NI to swiftly implement the necessary changes to relevant legislation and regulations. The NI Energy Strategy recognises this, committing to review of legislative provision for injecting Hydrogen into the network by 2025.

Scotland pushing ahead with a Hydrogen Action Plan

The Scottish Government has published its draft [Hydrogen Action Plan](#) which articulates the actions Scotland will take over the next five years to support the development of a Hydrogen Economy. The Scottish Government's earlier [Hydrogen Policy Statement](#) set an ambition of 5 GW installed hydrogen production capacity by 2030 and 25 GW by 2045.

This ambitious Action Plan outlines a Hydrogen route map to 2030 and 2045, stresses the importance of learning by doing (the draft plan identifies 47 different hydrogen projects currently underway in Scotland) and outlines the necessity of establishing regional energy hubs. The Plan also identifies 37 different actions falling under six key headline challenges:

1. Scaling up hydrogen production in Scotland
2. Facilitating the development of a domestic market
3. Maximising the benefits of integrating hydrogen into our energy system
4. Enabling the growth and transition of Scotland's supply chain and workforce
5. Establishing and strengthening international partnerships and markets
6. Strengthening innovation and research

Some of the highlights from this lengthy list of actions include developing a visible pipeline of projects to support suppliers, identifying the most advantageous locations for hydrogen electrolysis to reduce electricity constraints and deliver maximum value (report expected Spring 2022), and ensuring the regulatory, planning and consenting framework for renewable energy and hydrogen developments supports the scale-up of hydrogen production at pace.

The upfront costs of decarbonising homes

The Energy & Utilities Alliance have published a [report](#) examining the upfront costs of decarbonising domestic properties. Basing its findings on BEIS statistics & research, the report offers an overview of the pros & cons of the various different options for decarbonising homes and analyses the upfront capital costs associated with each option (including the cost of any required home upgrades).

The report's three key findings are:

- Decarbonisation of the current housing stock is key to achieving the UK's Net Zero ambitions and is likely to require a mix of technological solutions including hydrogen-ready boilers, district heating, and heat pumps.
- A 'one size fits all' approach will not work – the optimal choice of heating solution for each individual household will vary with location and property type, consumer preferences and behaviour, policy interventions, and commodity prices.
- Regardless of the type of property, the upfront capital cost for installing a heat pump today is notably higher than for hydrogen-ready boilers, and this disparity increases once the costs for home upgrades - energy efficiency measures, new heat distribution systems etc. – are accounted for.

Biomethane and the future of the NI Agri-Food Sector

The Independent Strategic Review of NI Agri-Food Sector has published its final [report](#). The Review, led by Sir Peter Kendall, explores the challenges and opportunities that the agri-food sector in Northern Ireland faces and establishes a set of recommendations for both Government and Industry.

The Review recognises that *“There is a very strong case for expanding the production of biomethane in NI, and at speed. Biomethane (green gas) produced from litter, slurry and manure has the potential to provide a significant proportion of Northern Ireland's gas supply and help the energy sector to further decarbonise”* and goes on to conclude that *“...biomethane production from slurry will probably be the single biggest factor enabling the livestock sector to continue to operate at current levels in Northern Ireland.”*

Phoenix Natural Gas is participating in a collaborative research project – alongside Phoenix, Queen's University Belfast, Centre for Advanced Sustainable Energy, Agri-AD, Enerchem, AFBI – to quantify the volume of biomethane which could be harnessed from Northern Ireland's comparatively large agriculture sector.

Initial results suggest that Northern Ireland has an opportunity to produce more biomethane from agricultural waste and underutilised grassland than hitherto thought possible – at the uppermost level, sufficient to displace the majority of Northern Ireland's current distribution network demand.

A full report quantifying Northern Ireland's biomethane potential is in the final stages of development.

More details

All feedback is very welcome, so if you have any comments, queries or are interested in discussing any of the issues raised in this update then please contact our Energy Transition Manager at iain.hoy@phoenixnaturalgas.com

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