



Stakeholder Update E-Bulletin

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Committee for Climate Change's path to a Net Zero Northern Ireland

Earlier this month, the Committee for Climate Change published its *The path to a Net Zero Northern Ireland*. This report sets out the CCC's views on how Northern Ireland can reach the Climate Change Act 2022 mandated target of Net Zero by 2050. This advice is a key policy milestone as it will guide DAERA's finalisation of Northern Ireland's first Climate Action Plan (draft expected for consultation in the coming months).

The CCC has set emissions targets consistent with the NI Climate Change Act of:

- the First (2023-2027), Second (2028-2032) and Third (2033-2037) Carbon Budgets to be set at levels that have average annual reductions of 33%, 48% and 62%, on 1990 levels, respectively
- the 2030 and 2040 interim targets to be set at reductions of 48% and 77% on 1990 levels, respectively

The CCC makes clear that achieving net-zero in Northern Ireland will be very difficult – the CCC Chief Executive has described the NI's Net-Zero goal as a **'mega-target'** – and will have significant implications.

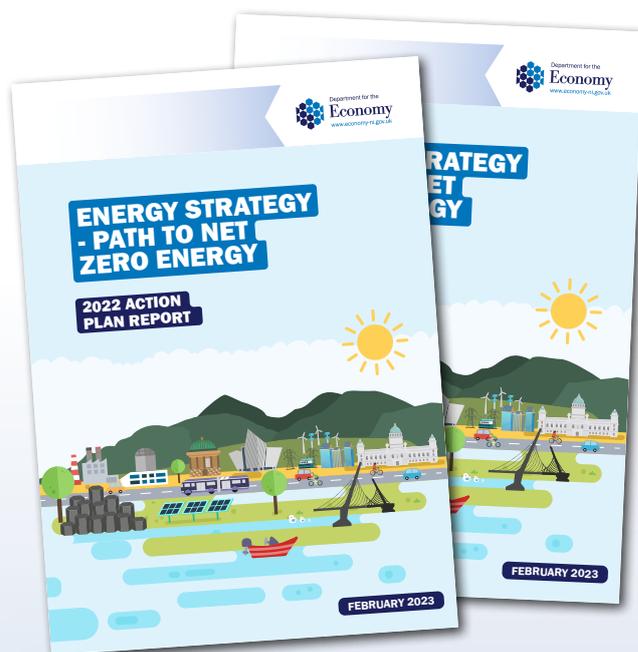
- To obtain a 83% reduction, most sectors will need to be almost completely decarbonised by 2050
- To obtain a 93% reduction, Northern Ireland will need to a) increase afforestation rates to reach 4,100 hectares per annum by 2039, and b) invest in sequestering carbon from both solid biomass grown in Northern Ireland and anaerobic digestion of wastes used to produce biomethane.
- To obtain 100% net-zero, Northern Ireland would need to either a) invest in direct air carbon capture technologies, or b) halve agricultural livestock numbers by 2050.



Energy Strategy Action Plan Update

In February, the Department for the Economy **published a report** outlining the progress made against the 2022 Energy Strategy Action Plan. The highlights from 2022 were:

- The outline business case for the Hydrogen Centre of Excellence was completed and it is intended that delivery of the centre will commence in 2023.
- Nine low carbon heat demonstrator projects commenced in 2022 including a hydrogen ready gas hybrid heat pump capable of burning natural gas mixed with up to 20% hydrogen and a gas boiler fuelled with renewable BioLPG
- The Department of Agriculture, Environment and Rural Affairs (DAERA) has established the Inter-Departmental Biomethane Working Group.



The February report was followed in March by the publication of the 2023 Energy Strategy Action Plan. The key highlights for 2023 are:

- A consultation to seek feedback on a range of evidence-based options for a multi-year Energy Efficiency Programme.
- The launch of an Energy Efficiency Support Scheme for businesses
- A discussion document to inform the development of new regulations regarding the energy efficiency of new buildings
- A consultation on proposals for a support scheme for low carbon heating
- A call for evidence regarding potential options to develop a biomethane industry in Northern Ireland
- A consultation on the future planning policy for renewable and low carbon energy

However, it is noted that the challenging NI Executive financial position for 2023/24 could impact the delivery of the 2023 actions as DfE emphasise that the delivery of the 2023 actions will be subject to resources being made available.

Ballylumford Power-to-X Hydrogen Project finishes yearlong study

The Ballylumford Power-to-X Project has finished a yearlong study which proves a fully green gas network for Northern Ireland is practical.

The Ballylumford Power-to-X project team includes local firms B9 Energy, Mutual Energy, Islandmagee Energy and Aberdeen's Net Zero Technology Centre. They collaborated to complete a front-end engineering design (FEED) study as part of the UK Government's Duration Energy Storage (LODES) Demonstration innovation competition.

The resulting FEED study data shows that the on-site production and storage of hydrogen, taken through a dedicated network, to distribution within the power and transport sectors is possible – highlighting the potential of a zero-carbon energy future for NI.

The project also found that the unique geography of Ballylumford, given its close locality to a salt cavern development project, offers a unique opportunity to create a large-scale renewable hub to help achieve clean-tech targets by 2035 – if further investment and policy support can be secured.

According to the project team, the site's geology and strategic position with strong connection to major gas and electricity transmission networks, including new offshore wind developments, is unseen anywhere else on the island of Ireland.



Monetising biomethane's whole-system benefits

A new report from the European Biogas Association shows that, in 2030, the whole system benefits of biomethane production in the EU27 + UK could range from 38-78€ billion per year, rising to 133-283€ billion by 2050.

Currently, producers of biomethane are primarily rewarded for contributing to renewable energy targets via support or market-based mechanisms. The additional positive externalities that biomethane production delivers are not currently fully rewarded or recognised by society at large.

The study, undertaken by Guidehouse, has quantified the value of these benefits for a selection of sustainable feedstocks relevant for anaerobic digestion and thermal gasification biomethane production technologies.

- **Soil health:** Biogas production from anaerobic digestion produces a nutrient rich digestate. Its application to agricultural soils has been shown to improve a range of soil health indicators and to sequester organic carbon in the soil.
- **Greenhouse gas emissions impact:** Biomethane is a versatile renewable energy vector which can be used in multiple end-use sectors, including transport (road, shipping), heating (for use in industry and buildings) and power production. Furthermore, fugitive emissions in the agricultural sector can largely be avoided by using manure as a feedstock for biomethane production.
- **Energy security:** Domestically produced biomethane can reduce the need to import gas and directly improve Europe's energy independence and security.
- **Provision of biogenic carbon dioxide:** Biomethane production through both anaerobic digestion and thermal gasification can produce a pure biogenic carbon dioxide (CO₂) stream. Biogenic CO₂ can be used as a feedstock in multiple industrial applications, permanently stored within geological features to deliver Greenhouse Gas removals, or utilised in emerging applications such as renewable fuels, chemicals and algae production.
- **Organic waste processing:** Biomethane production from organic waste feedstocks provides waste processing services, as well as energy generation services, which can improve the overall economics of the operation and contribute to a circular economy.
- **Job creation:** Biomethane production can contribute to the creation of between 1.1 and 1.8 million jobs across the value chain in Europe by 2050.

