

Extracts from UK Government Net Zero strategy October 2021

P 20 - We will significantly reduce emissions from traditional oil and gas fuel supplies, whilst scaling-up the production of low carbon alternatives such as hydrogen and biofuels. Current gas prices spikes underline the need to get off hydrocarbons as quickly as possible. *There are over five hundred references to hydrogen.*

P 30 - Point 2 of the Prime Minister's ten point plan of actions for net zero includes:-

- Published the [Hydrogen Strategy](#), setting out our comprehensive approach to growing the UK hydrogen economy.
- Commenced an allocation process for electrolytic hydrogen in 2022 to award up to 100MW of contracts in 2023 and up to 400MW of contracts in 2024 and announcing a funding envelope in 2022 that will enable us to award the first contracts to CCUS-enabled hydrogen from 2023 through the Cluster Sequencing process, to deliver up to 1GW of CCUS-enabled hydrogen.
- Announced a £60 million competition to fund projects to develop innovative low carbon hydrogen supply solutions.
- Started preparations for a hydrogen heating neighbourhood trial in Levenmouth, Fife

Building heating

P 72 – **2050 Scenario 2:** High resource

Explores the impact of using low carbon hydrogen more extensively, particularly for decarbonising buildings, power, and heavy vehicles. This pathway sees low carbon hydrogen generation increasing to around 500 TWh. As hydrogen is the main energy source for heating, electricity demand and therefore generation is lower than in scenario 1 at 610 TWh. Electricity and district heat still play a role in both residential and non-domestic buildings but the majority of building heat demand is assumed to be met by hydrogen.

P 136 - Establishing large scale trials of hydrogen for heating to take decisions in 2026 on the role of hydrogen in decarbonising heating, and consult on the case for enabling or requiring hydrogen-ready boilers and broader heating system efficiencies.

P 141-142 - **High hydrogen scenario 19.**

In this scenario, hydrogen has proven feasible and preferable as a solution for heating most UK buildings, and decisions taken in 2026 set the UK on a path to converting most of the national gas grid to hydrogen. We would expect to begin the transition by converting a pilot hydrogen town by the end of the decade and then accelerate rollout. The conversion would likely start by building out from existing hydrogen production and use in industrial clusters, and roll-out would involve switchover on an area-by-area basis in different locations. 20. Due to the infrastructure and supply chain requirements of a hydrogen conversion we estimate that in this scenario, we would convert around 4 million homes to using low carbon hydrogen by 2035. New heating system installations should be low carbon or hydrogen-ready, meaning ready for a planned future conversion, from 2035. We estimate that by 2035 roughly 13 million homes will have low carbon heating, comprising around 7 million with heat pumps, 4 million using hydrogen, and around 2 million homes using heat networks.

P 141 Chapter 3 – Reducing Emissions across the Economy Dual energy system scenarios 21. In this scenario, both hydrogen and electrification prove feasible and preferable as heating solutions to large numbers of consumers. This could arise in several forms:

- All or most of the gas grid is converted to low carbon hydrogen, but the costs and benefits of switching to hydrogen versus installing a heat pump are viewed differently by different consumers. This could result in a high switchover to both hydrogen and heat pumps on the gas grid.

- There is partial but still extensive conversion of the gas grid to hydrogen, based on differing geographical or built environment factors. This would require careful consideration of which parts of the grid would be converted and where responsibility for decisions about the costs and benefits of converting different areas should lie.
- There is widespread consumer demand for hybrid systems that utilise a mix of energy sources.

It is too early to determine the policy framework that might support this mixed transition. Any scenario in which hydrogen is an available option for consumers will require public policy decisions to enable cost-effective and co-ordinated investment in infrastructure and supply chains, and ensure consumer choice and other public interests are protected. If the case for converting the network to hydrogen differs strongly from area to area, more of the preparation may need to take place at a regional or local level.

P 144 - Hydrogen boilers will likely work in a similar way to gas boilers. Some adaptive measures might be needed to enable hydrogen, but requirements for this and associated costs are still uncertain and could vary significantly between different types of buildings. When switching over to hydrogen, the initial grid conversion process is likely to require streets or areas to be converted at the same time. It is expected that an engineer will need to have access to homes to do the changeover in a particular timeframe, and building residents are unlikely to have control over when this happens.

Transport

P 46 Wrightbus (Belfast) - £11.2 million from UK Government to develop zero-emission buses hydrogen-fuel.

P 69 - Biomass combined with CCUS can remove carbon from the atmosphere and support low carbon electricity and hydrogen generation with low carbon hydrogen production scaling up to 240 TWh by 2050. Biomass and other wastes can also support low carbon fuels for industry, buildings, and transport.

P 152 - Invest £2 billion in cycling and walking, building first hundreds, then thousands of miles of segregated cycle lane and more low-traffic neighbourhoods with the aim that half of all journeys in towns and cities will be cycled or walked by 2030.

Natural resources

P 167 - We will work with key stakeholders to develop a policy roadmap to increase the use of timber in construction in England, and will create a cross-government and industry working group tasked with identifying key actions to safely increase timber use and reduce embodied carbon.

The strategy covers 368 pages.

I have not studied its **Chapter 4 - Supporting the Transition across the Economy:-**

- 4i. Innovation for net zero (from page 206)
- 4ii. Green Investment
- 4iii. Green Jobs, Skills, and Industries
- 4iv. Embedding Net Zero in Government
- 4v. Local Climate Action
- 4vi. Empowering the Public and Business to Make Green Choices
- 4vii. International Leadership and Collaboration