



HYDROGEN'S ROLE IN A GREEN RECOVERY

Hydrogen has the potential to revolutionise the way we power certain parts of our economy, including hard to decarbonise sectors such as energy intensive industries and heavy transport such as HGVs, buses and shipping. Hydrogen could also play a long-term role in decarbonising heat and power.

Despite a number of leading companies in hydrogen technology, the UK is without a strategy.

The global hydrogen economy is estimated to be worth \$2.5 trillion by 2050, supporting 30 million jobs. Other nations, such as Australia, Japan, South Korea, Canada, and China have already set ambitious strategies for growing their hydrogen economies.

EDF is the UK's largest producer of low carbon energy through our nuclear power stations, wind and solar farms and we see an important role for hydrogen in meeting our climate targets.

Although in its infancy, we are already exploring the uses of hydrogen in transport and industry, and how we could make low carbon hydrogen from our nuclear power stations and renewables projects.

Today, hydrogen is mainly produced using a fossil fuel, methane gas, this is known as 'grey hydrogen'. Although available to us now, this is a very carbon intensive process. Carbon emissions from this process could be reduced in future by capturing CO₂ emitted during the process, creating what is known as "blue hydrogen". However there would still be quite significant carbon emissions from blue hydrogen, arising from incomplete CO₂ capture and emissions associated with the production and transportation of methane gas.

Why use nuclear and renewables to generate hydrogen?

Nuclear and renewable energy, such as wind, is almost zero emission.

No use of polluting fossil fuels, such as gas.

Using gas to create hydrogen may result in up to eight times more carbon produced per kwh (15g vs 120g).


Long term solution to powering heavy industries and meet climate change targets.

To gain the full benefits of low carbon hydrogen, the UK must move to creating hydrogen which is generated through nuclear or renewable energy. This method of generating hydrogen will be near zero carbon however the UK will need to build more renewable and nuclear output.

Government support to date has largely been investing in R&D projects exploring the use of hydrogen in a range of sectors and applications. We need to continue to help stimulate further innovation, but there is now a need to develop a hydrogen strategy for the UK. This will create opportunities for the UK to develop internationally competitive hydrogen activities and businesses, as well as strengthening our progress towards net zero.

We're calling for:

- A UK hydrogen strategy.
- Nuclear power to be recognised as a low carbon way of generating hydrogen.
- An energy white paper containing support for hydrogen created by renewable and nuclear energy.
- Continued support for R&D and large scale project to make low carbon hydrogen commercially viable.



EDF is also exploring the long-term role hydrogen could play as part of a low carbon energy hub linked to our Sizewell C new nuclear development and the possibility for a demonstration project at the Sizewell B site.

