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A 'HYDROGEN VALLEY' PROJECT IN NORTHERN IRELAND

 AGRICULTURE & ENERGY

One of the country's biggest industrial producers will be creating green hydrogen on-site to decarbonise its processes

Spotted: Electrifying traditionally fossil-fuel-powered technologies provides one of the most efficient ways to reduce carbon emissions, for example by replacing diesel or petrol engine vehicles with electric ones. But in the case of industrial processes that require heating products to 1,400 degrees Celsius, simply replacing fossil fuels for electrical components is **not as straightforward**. In this scenario, there is a need for a green fuel alternative.

Mannok, a major producer of cement and building materials, believes that it has found this green alternative through a partnership with Slieve Rushen Wind farm, an established site a mile from Mannok's industrial base in Northern Ireland, in a joint initiative with **Gravis**. The wind farm is consistently told to regulate its production of energy down by between **8 and 15 per cent** in order to not produce an excess supply to the grid. An efficient fuel can be created using this excess supply of electricity: hydrogen.

Usually, hydrogen production itself has a significant carbon footprint, with hydrogen derived from fossil fuels accounting for over **99 per cent** of the global market. However, a process called electrolysis can utilise electricity to split water (H₂O) into its component atoms (H₂ and O), creating green hydrogen. Mannok will be using surplus energy from Slieve Rushen to power the process. The initial plan is for Mannok to displace its fuel need by **70 per cent** by 2035 and use hydrogen to power fuel cell heavy-duty goods vehicles, with hopes of also blending the hydrogen with alternative fuels to power Mannok's cement manufacturing processes.

In 2022 the application was submitted to the UK government's Net Zero Hydrogen Fund to receive the necessary funding to take the project from conceptual to "ready to build". Ultimately, The

In the archive, Springwise has also spotted a company that has discovered a [separate green way of extracting hydrogen](#) as well as a [zero-emission ammonia production process](#).

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Takeaway:

The Hydrogen Valley project is set to reduce Mannok's on-site consumption of fossil fuels by up to [4 million litres a year](#), with distinct avenues of expansion of the [Hydrogen Valley](#) after that. These could include expanding wind and solar provision to the site, building further electrolysis capacity to produce more green hydrogen, producing new synthetic fuels, or incorporating carbon capture and storage processes. It is clear the project aims to lead the way in green energy technology implementation and help transform a highly carbon-intensive industry.