

Glasgow to be home to first-of-a-kind hydrogen storage project

- UK government awards £9.4 million for first-of-a-kind new hydrogen project at the UK's largest onshore windfarm near Glasgow
- Project will look to produce hydrogen for storing energy and providing zero-carbon fuel as the country shifts to a clean energy future
- Follows the landmark COP26 climate change summit held in Glasgow earlier this month

A trailblazing hydrogen storage project near Glasgow has today been backed by nearly £10 million in UK government funding – helping create high-skilled jobs and drive progress towards decarbonising the UK transport sector.

Putting Scotland at the forefront of the UK's clean energy transition and supporting the city's ambition to become net zero by 2030, the £9.4 million cash boost will see the Whitelee green hydrogen project develop the UK's largest electrolyser, a system which converts water into hydrogen gas as a way to store energy. It will be located alongside ScottishPower's Whitelee Windfarm, the largest of its kind in the UK, and will produce and store hydrogen to supply local transport providers with zero-carbon fuel.

Developed by ITM Power and BOC, in conjunction with ScottishPower's Hydrogen division, the state-of-the-art facility will be able to produce enough green hydrogen per day – 2.5 to 4 tonnes – that, once stored, could provide the equivalent of enough zero-carbon fuel for 225 buses travelling to and from Glasgow and Edinburgh each day.

Energy and Climate Change Minister Greg Hands said:

This first-of-a-kind hydrogen facility will put Scotland at the forefront of plans to make the UK a world-leading hydrogen economy, bringing green jobs to Glasgow, while also helping to decarbonise local transport – all immediately following the historic COP26 talks.

Projects like these will be vital as we shift to a green electricity grid, helping us get the full benefit from our world-class renewables, supporting the UK as we work to eliminate the UK's contribution to climate change.

Secretary of State for Scotland Alister Jack said:

This tremendous investment at Whitelee Windfarm illustrates how serious the UK government is about supporting projects that will see us achieve net zero by 2050.

In the weeks following COP26 in Glasgow, it has never been more important to champion projects like this one, which embraces new hydrogen technology while creating highly-skilled jobs. We can, and will, achieve a greener, cleaner future.

The announcement follows COP26, the global climate change summit held in Glasgow earlier this month, and supports the city's ambition to become net zero by 2030. The Whitelee project will be the UK's largest power-to hydrogen energy storage project, using an electrolyser powered by the renewable energy from the Whitelee Windfarm. This will create green hydrogen, a zero-carbon gas that is produced via electrolysis (splitting) of water, using renewable power.

Graham Cooley, CEO of ITM Power Ltd, said:

We are very pleased to be a partner in Green Hydrogen for Scotland and this first project, Green Hydrogen for Glasgow, will see the deployment of the largest electrolyser to date in the UK.

Jim Mercer, Business President, BOC UK & Ireland said:

The Green Hydrogen for Glasgow project is both innovative and exciting. It will help to shape the future of energy storage and demonstrate the value of hydrogen to Scotland's growing low-carbon economy. This project will accelerate development across multiple disciplines – from production and storage, to transportation and end use.

Barry Carruthers, ScottishPower Hydrogen Director, said:

This blend of renewable electricity generation and green hydrogen production promises to highlight the multiple ways in which society can decarbonise by using these technologies here and now.

Building on the government's [plans to make the UK a world-leading hydrogen economy](#) and ensure the sector has the skilled workforce it needs, an additional £2.25 million in new government funding will support the development of hydrogen skills and standards in the UK.

This funding, under the Net Zero Innovation Portfolio, will see the British Standards Institution (BSI) develop technical standards for hydrogen products, and a consortium comprising Energy and Utility Skills and the Institution of Gas Engineers and Managers, will establish new standards and training specifications to facilitate the training of hydrogen gas installers.

The Whitelee project will propel the UK's Green Industrial Revolution and

create high-skilled jobs in Glasgow and at ITM Power's location in Sheffield supporting green growth. It will also create opportunities across the country in the near term and set the groundwork for longer-term economic growth, with the expansion of hydrogen businesses across the UK underpinning high-quality green jobs, putting the UK at the forefront of this new international market.

As part of the [UK government's plans to decarbonise the UK's power system by 2035](#), it is accelerating the transition to clean, renewable energy – however, the unpredictable nature of renewables like wind power means that energy can be produced when it is not needed by the grid. Hydrogen has the ability to store energy for long periods of time and in large quantities making it a vital part of the green energy future, as it provides the opportunity to convert excess renewable energy into a fuel for use across the economy. This means hydrogen storage will play key role in the shift towards a fully decarbonised energy system, which is crucial to the UK reaching net zero carbon emissions by 2050.

The Whitelee hydrogen project is funded through the [BEIS Energy Innovation Portfolio](#). The funding recipients are ITM Power and BOC.

ITM Power will develop and manufacture the electrolyser in Sheffield, while industrial gas company BOC will handle the project's engineering and operations. They will work in conjunction with ScottishPower Hydrogen to integrate the electrolyser with ScottishPower's Whitelee Windfarm near Glasgow. With 215 turbines and 539MW capacity, it is the UK's largest onshore windfarm.

About ITM Power

ITM Power manufactures integrated hydrogen energy solutions for grid balancing, energy storage and the production of renewable hydrogen for transport, renewable heat and chemicals. ITM specialise in the manufacture of PEM (proton exchange membrane) electrolysers (the type of electrolyser that will be developed at Whitelee) and operate the world's largest electrolyser manufacturing facility in Sheffield with a capacity of 1GW (1,000MW) per annum.

About BOC

BOC is supporting the UK and Ireland's drive to enable commercial and private hydrogen transport supported by a UK-wide refuelling network. BOC's clean fuels team designs, builds and operates proven, reliable and scalable refuelling station solutions that offer fast and familiar refuelling, using hydrogen. It supports local councils and transport operators who are aiming to take immediate action on air pollution and achieve net zero emissions by 2050.

BOC has over 25-years' experience progressing hydrogen as a fuel. It has worked on a range of infrastructure projects including the UK's first open access hydrogen refuelling station in Swindon and the UK's largest and highest performing refuelling station at Kittybrewster, Aberdeen. It has also delivered ground-breaking ventures internationally, including the roll-out of

hydrogen-fuelled trains in Germany with project partners, Alstom