PGES Net Zero Gas Mains - Mark Taylor, BEIS

Summary text

Low carbon hydrogen will be vital for meeting our legally binding commitment to achieving net zero by 2050, with potential to help decarbonise vital UK industry sectors and provide flexible energy across heat, power and transport. The Prime Minister's 10 Point Plan confirmed our aim, working with industry, for 5GW of low carbon hydrogen production capacity by 2030 for use across the economy. As we progress towards this ambition, we would hope to see around 1GW of hydrogen production capacity by 2025.

The ambition will be supported by a package of measures, including the first ever UK Hydrogen Strategy set to be published in Q2 of this year which will set out the key steps needed in the 2020s to deliver our 5GW ambition and set the context for further scale up on the way to net zero.

The UK has expertise and assets to support both electrolytic (green) and Carbon Capture Utilisation and Storage (CCUS) enabled (blue) hydrogen. Our twin track approach to enable both routes will drive cost effective supply volumes in the 2020s in line with our 2030 5GW ambition, whilst scaling up green hydrogen.

To give a sense of the state of technologies, recent Government investments by the Net Zero Innovation Portfolio (NZIP) and its predecessor portfolio that support leading-edge hydrogen projects were described. These include:

- The £33 million Hydrogen Supply competition, which is achieving on its aims of identifying how to supply low cost, low carbon hydrogen at scale, and reducing supply costs. It supports the exciting Dolphyn wind power project, demonstration of Johnson Matthey reformation technology with enhanced carbon capture, and more.

- The £20m Industrial Fuel Switching competition, which is developing and de-risking technologies that enable a switch to low carbon fuels such as hydrogen for industrial processes, greatly increasing the potential for industry to decarbonise.

- The £25 million Hy4Heat programme, which has proven that domestic hydrogen appliances are viable. There are now Hy4Heat boilers installed at the Cumbria Hystreet test site and HyHouse in Gateshead will soon open to showcase hydrogen boilers, cookers, fires and more to the public. Significant safety assessment advances have also been made, technical questions resolved and the groundwork laid for training gas fitters.

The technological advances supported by UK Government funding and private investment mean the UK is currently well placed to be in the vanguard of a global hydrogen transition. The challenges over the next few years include a need to drive down supply costs and tackle distribution challenges, and to support paired growth in supply and demand, so we can step up hydrogen use and explore its potential. As hydrogen could help tackle some tough energy system challenges like long-duration storage, heating older cramped houses, and fuelling hard-to-abate industries, this is an area to watch.

The presenter Dr Mark Taylor is a BEIS Deputy Director managing elements of the £1bn Net Zero Innovation Portfolio, which aims to accelerate the commercialisation of innovative clean energy technologies and processes through the 2020s and 2030s.