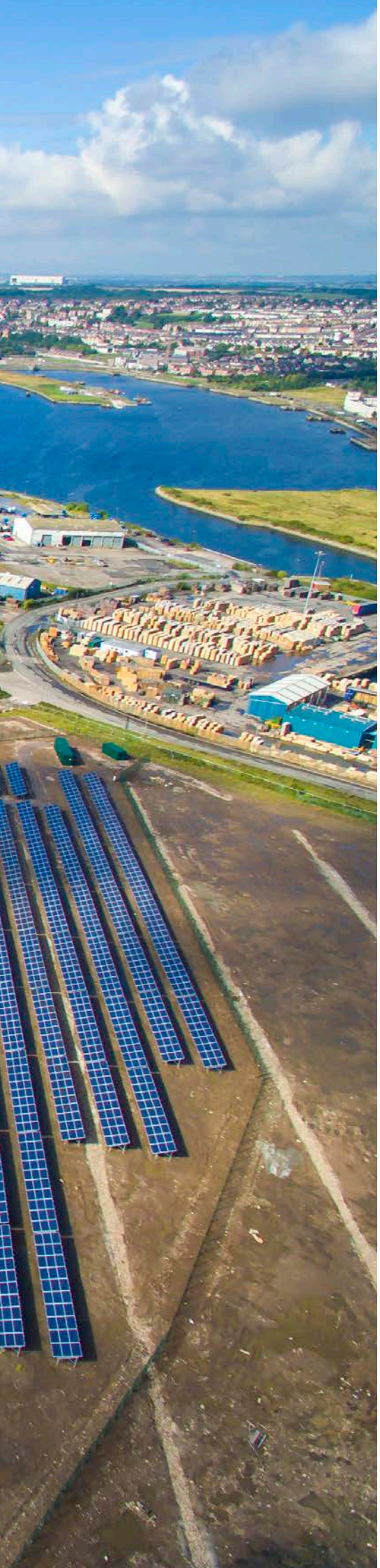

Humber ports at the epicentre of the UK clean energy transition

Words: Ralph Windeatt, Head of Business Development at Associated British Ports

Achieving net zero is critical to supporting jobs and delivering economic growth and the Humber offers the biggest decarbonisation opportunity in the UK. As a region, the Humber has delivered before, with extensive recent history and experience in supporting large scale clean energy projects. Together, ABP's four ports in the region provide an unparalleled gateway for the trade and prime locations for green energy generation projects, connecting businesses across the UK, Europe, and beyond.

Associated British Ports (ABP) is the UK's leading ports group, with a network of 21 ports across Britain, including four ports on the Humber; Grimsby, Hull, Immingham and Goole, forming the UK's largest industrial cluster. These locations already play a vital role in supporting the UK's energy transition, as they enable a wide range of renewable energy projects such as offshore wind energy at Green Port Hull, the development of large-scale green hydrogen production in Immingham and shipping of CO_2 for sequestration.

Across the UK, ABP is also making significant investments to support the renewable energy transformation of Port Talbot, to help deliver the UK's ambition for floating offshore wind in the Celtic Sea.

Ralph Windeatt

Hydrogen in the UK

Hydrogen production is an important element of the UK's clean energy transition, which means that accelerating the development of the hydrogen economy is a vital component of achieving net zero. The UK Government's hydrogen strategy seeks to achieve 10 GW of low carbon hydrogen production capacity by 2030. The primary challenge is that currently there is no significant domestic production of such hydrogen in the UK. Whilst the global green hydrogen market is expected to grow significantly in the coming decades, it is still at an early stage in the UK.

As hubs for transport and logistics, often adjacent to major industries and sources of renewable energy, ports are ideally located to serve as generation, storage, and distribution sites for green hydrogen. Major projects already under way across the Humber ports illustrate the range of potential applications, from energy to transport fuel.

ABP is undertaking feasibility studies for the conversion of port equipment to operate on hydrogen in addition to electrification to reduce emissions from port activities as part of Project Mayflower; a collaboration with Uniper, Siemens and Toyota Tsusho.

Immingham Green Energy Terminal

In August this year, ABP and Air Products announced their partnership project to bring the first large-scale green hydrogen production facility to the UK, the Immingham Green Energy Terminal. The facility will be located at the Port of Immingham and will contribute at least 150 MW of hydrogen production capacity.

As part of the project, green ammonia will be imported from production locations operated by Air Products and its partners around the world. The location will provide the required maritime infrastructure and offer good proximity to markets and the required utilities. The Port of Immingham also provides a critical link in business supply chains throughout Britain, supporting 10,500 jobs nationally and contributing over £700 million to the economy every year.

ABP will invest in new infrastructure, with a new jetty to service the import and export handling of liquid bulk products. In addition to handling green ammonia, the jetty is being designed so that it can accommodate other cargoes connected to the energy transition, including the import of liquified CO_2 from carbon, capture and storage projects for sequestration in the North Sea, thereby playing a significant role in the UK's energy transition.

Immingham sits within the UK's largest industrial cluster and in close proximity to proposed offshore transport and storage networks for CO_2. The scheme follows on from an existing Air Products' plan to develop the UK's largest blue hydrogen facility in Immingham, making the Humber a major location for low-carbon energy production, businesses, and jobs.

The project will bring a wide range of benefits to Immingham and the UK, including eliminating up to 580,000 tonnes of greenhouse gas emissions each year, the equivalent of taking 20,000 diesel HGVs off UK roads, as well as reducing nitrous oxide and particulate emissions. In addition, the project will bring up to $4.6 billion in growth and financial benefits to the region and provide 1,400 direct jobs and approximately 1,600 indirect jobs for supply chains and local businesses.

This first-mover project stimulates demand and will support the development of a local and national green hydrogen market. It will be an important contributor to the Government's plans to make the UK a 'global leader in low-carbon hydrogen.'

ABP is making significant investments to support a range of renewable energy generation projects. The development of the offshore wind sector is already a UK success story, and ABP has long been at the forefront of investment and delivery to support this. Opened in 2017, the offshore wind manufacturing facility at Green Port Hull has created skilled long-term jobs in the region and established a hub for future growth.

Across the Humber Estuary in Grimsby, the port has evolved to become the world's largest base for offshore wind operations and maintenance activity. This project was part of a £310 million joint venture between ABP and Siemens creating a renewable energy hub.

Enabling the UK clean energy transition

With a clear need for renewable energy generation, there is an opportunity for the UK to adopt the role as a global leader in addressing climate change and achieving greater sustainability to ensure that we can preserve the world for future generations.

As part of its commitment to combating climate change, the UK Government has committed to reaching net zero greenhouse gas (GHG) emissions by 2050. To achieve this, support from traditional industry sectors is critical, to be able to save the planet whilst creating new jobs through innovation and green technologies.

On the Humber, there are multiple nationally critical energy and decarbonisation projects, which need to be delivered for the UK to achieve its ambitious target. These cover a wide range from carbon capture and storage to green hydrogen. As a leader in the maritime industry, ABP recognises the vital role ports must play as enablers in the UK clean energy transition.

In addition, in 2019, the UK Government published its 'Clean Maritime Plan', which provides a route map for achieving zero emissions from shipping. The plan reflects the need to respond to the challenges of climate change and air pollution to meet the International Maritime Organization (IMO)'s target of halving total annual GHG emissions from international shipping by 2050.

To deliver these plans, major investments in infrastructure and incentives are needed, to help transform the maritime industry. When it comes to finding the best locations for onshore wind and solar projects, ports are increasingly important with 17 of ABP's 21 ports now hosting onsite renewable energy projects helping to reduce emissions and generate clean energy for port users and the grid.

The Humber is also among the leading centres for developing carbon capture, utilisation, and storage (CCUS) technology that will be critical for reducing industrial emissions. An example of this is Zero Carbon Humber, a consortium of energy and industrial companies and academic institutions seeking to turn the Humber into the UK's first net zero carbon region by 2040. Ports have a crucial role in CCUS by providing a solution for shipping CO_2, which is critical for regions of the UK that do not have direct access to geological storage.

It also provides an opportunity for the UK to exploit the storage potential on the continental shelf for CO_2 captured within the EU, where the plans for capture exceed the capacity of available storage. In October, ABP announced that the company will be working with Harbour Energy to develop a CO2 import terminal at the Port of Immingham, the UK's largest port by tonnage. This will link to Harbour Energy's Viking CCS (formerly V Net Zero), the CO_2 transport and storage network.

The energy transition provides both a generational opportunity to deliver clean and secure energy and at the same time the chance to level up the UK economy in the process. Getting to net zero will require close collaboration between Government, businesses, and the Humber region, as the UK's leading industry cluster. ABP's ports benefit from the experience and strategic locations to enable this energy transition.

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