CEN briefing note: offshore wind

- **Offshore wind is currently underutilised as a cheap, abundant, zero-carbon natural resource that will allow the UK to reduce carbon emissions and hit climate targets.** The UK has a target to deploy up to 50GW of offshore wind by 2030, which will require us to more than triple the amount we currently have in the next seven years. Switching from fossil fuel energy generation to offshore wind reduces its carbon footprint by 99%; last year, offshore wind saved the UK 18 million tonnes of emissions. It will play a large part in reaching the UK's targets to decarbonise its power system by 2035 and produce net zero greenhouse gas emissions by 2050.
- **More offshore wind will boost the UK's energy security by reducing our reliance on volatile international fossil fuel markets.** Oil and gas reserves are running low in the North Sea, so we need to tap into our domestic renewable resources to ensure our long-term energy security. Britain's high wind speeds, shallow coastal waters, and long coastline are perfect to host offshore wind. The UK also has the chance to export wind power to Europe through interconnectors when we produce more than we can use.
- **It will cut energy bills by reducing the amount of expensive gas used by homes and businesses.** Without renewables, Britons would have paid an extra £5.9 billion for energy last winter. Despite recent supply chain inflation, the prices secured in Allocation Round 4 last year were nine times cheaper than gas; Contracts for Difference (CfD) have brought down the price of offshore wind by 73% since 2014.
- **The UK is in a prime position to lead globally in floating offshore wind (FLOW).** Despite having the world's five largest offshore wind farms, the UK's global share of installed offshore wind capacity has halved since 2012 as competing nations attract investment. The UK is the second biggest generator of offshore wind, accounting for 22% of the global offshore wind capacity in 2022, with China accounting for 49%.
- **The UK's leadership in offshore wind has unlocked significant investment across the country.** In Blyth where there has been £130 million investment in an offshore cable factory and the £186 million investment by Siemens for a wind turbine blade factory in Hull. The sector is expected to drive £155 billion worth of investment into the UK by 2030. The offshore wind operations and maintenance economy - where Britain has secured a first-mover advantage - is expected to be worth £1.3 billion a year. The sector is also expected to support around 100,000 British jobs, many of which will be highly-skilled and well-paid.
- **FLOW places turbines on an anchored floating platform and connects them to cables that run along the seabed.** As 80% of offshore wind resource

potential is in waters deeper than 60m, FLOW can unlock a massive amount of unharnessed energy in the North and Celtic Seas. FLOW has an advantage over fixed-bottom offshore wind installations as it has fewer requirements for water depth and seabed condition.

- **The UK currently has 78MW of installed FLOW capacity at the Hywind and Kincardine sites in Scotland.** The UK is predicted to have 11GW of capacity installed by 2030, and has a total of 33GW across 51 projects in the pipeline.
- **It is expected that FLOW operating costs will reach near-parity with fixed-bottom wind farms by 2030.** It is currently more expensive than fixed-bottom offshore wind because the installations are smaller and the technology is newer, but FLOW can take advantage of existing offshore wind expertise and structures as it rolls out.
- **FLOW offers an opportunity to capture the global supply chain and local jobs.** Celtic Sea FLOW could support up to 3,200 jobs in the South West and Wales, with a £682 million spend in the local supply chain by 2030. Given the significant offshore wind capacity, technology and expertise that could be developed in the UK, this could be a key contribution to decarbonisation efforts on a global scale.
- **The Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS) is investing up to £160 million in supporting offshore wind and associated port infrastructure.** Upgrades to UK ports are required to ensure the largest (150m+) offshore wind turbines can be manufactured and assembled in the UK. The investment through FLOWMIS aims to increase the capacity for floating offshore wind deployment and increase the capability of the domestic supply chain, both of which are barriers to growing the industry in the UK.
- **The British Energy Security Strategy increased the Government's target for FLOW from 1GW to 5GW by 2030.** This followed a campaign backed by CEN MPs to raise ambition for investment in the emerging industry.
- **CfDs have supported the growth of the UK FLOW industry.** Offshore wind is already cheaper than natural gas, and FLOW is expected to become 'subsidy-free' - i.e., the strike price will be similar to the wholesale price set by gas - before 2030. FLOW was included for the first time in CfDs from Allocation Round 4.
- **The price of new floating offshore wind has fallen faster than expected, however, no projects were able to bid at Allocation Round 5 last year.** In CfD Allocation Round 4, a 30MW project won a contract at £87/MWh (based on prices in 2012, equivalent to £104MWh today). This is lower than the price required to meet the 'subsidy free by 2030' trajectory for FLOW. It is also cheaper than the wholesale power price of £90–100/MWh that is forecast until

at least the end of this decade. For context, the wholesale gas price reached £114 per MWh in early 2023.

- **Securing offshore wind contracts in Allocation Round 6 is vital for the UK to achieve its offshore wind targets.** Energy UK has stated that at least 10GW of offshore wind contracts need to be awarded in both AR6 and AR7 for the UK to reach its 2030 target of 50GW. This is a significant increase on previous years. If future allocation rounds continue awarding at the levels seen previously, the UK will fall short of its targets by around 7GW.
- **The Government has listened to industry following AR5 and increased the budget and the Administrative Strike Prices for AR6.** The uplift in the Administrative Strike price, which was welcomed by industry in November will alleviate the challenges with cost experienced in AR5. The Administrative Strike Price is the maximum price developers can bid at. The nature of the competition, being sealed bids, means that there is an incentive to drive down the price. These auctions prove a better price discovery mechanism as it is led by industry. Meanwhile the overall budget for AR6 will be the largest ever, at over £1 billion.