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Denmark has been an early leader in decarbonisation and is inspiring many countries around the world. The technological transformation of Denmark"s energy system is fast and visible, notably in electricity with offshore wind, biomethane, district heating, and carbon capture and storage (CCS) development.

Denmark has the highest share of wind electricity (54%) in the IEA, which together with bioenergy and solar photovoltaic (PV) make up 81% of the power mix. The district heating sector has practically phased out coal, helping lower the reliance on fossil fuels in Denmark"s total energy supply (TES) from 75% in 2011 to 53% in 2022, well below the IEA average of 79%.

The Danish society is fully engaged in the energy transition through broad political agreements on energy and climate, which guide policy making and public-private partnerships. Denmark has a robust energy and climate governance under the Ministry of Climate, Energy and Utilities and "the year wheel" of the Climate Act of 2020 to ensure annual policy actions and funding are geared towards emissions reductions. Under the Act, Denmark also publishes every year a global climate impact report, analysing the climate and carbon footprint of its consumption.

Since the IEA"s last review in 2017, Denmark has considerably stepped up its energy and climate targets. Under the 2020 Climate Act, the government is legally bound to reduce greenhouse gas (GHG) emissions by 50-54% in 2025 and by 70% towards 2030 from 1990 levels.

In 2022, the new coalition government proposed to bring forward the climate neutrality target to 2045 and target a 110% emissions reduction by 2050. The goals have not yet been adopted in the Climate Act, but the Act is expected to be revised.

Thanks to the integration with Nordic and European continental power systems, Denmark is well placed to advance the decarbonisation of its economy and become a major exporter. Denmark"s deployment targets are impressive: by 2030, onshore wind and solar power generation are to quadruple. Offshore wind capacity is targeted to increase potentially sevenfold to 18 gigawatts (GW) by 2030 and 35GW by 2050, from today"s 2.3GW. Under the Power-to-X (PtX) Strategy of 2021, Denmark is targeting 4-6GW of electrolysis capacity by 2030.

Moreover, at a regional level, Denmark supports the deployment of 20GW in the Baltic Sea for 2030 and together with eight European countries in the North Sea has signed up to the joint pledge of 120GW of offshore wind capacity by 2030 and at least 300 GW by 2050.

Denmark is a regional hub for shipping and aviation and together with the industrial clusters in the North Sea region, a centre of demand for low-emission hydrogen, e-fuels as well as carbon capture, utilisation and

storage (CCUS). Within a record time of three years, Denmark has created framework conditions and rules for CCS, completed a first CCS tender and allocated a first CO2 storage licence. The PtX Taskforce is supporting the roll-out of the hydrogen and low-emission fuels strategy with more than 30PtX projects and actions underway.

For industry to go ahead with the business and export opportunities at a fast pace, the government needs to support the framework conditions and lower investment risks for industry for infrastructure roll-out for grids, CO2 and hydrogen by evaluating supply chain risks, supporting bilateral agreements and the development of European Union (EU) rules. These rules include the Carbon Border Adjustment Mechanism, the certification of hydrogen and a framework for CO2 transportation and storage, and EU rules for negative emissions.

The export orientation of Denmark"s clean energy technology development should be incorporated in the coming years into the country"s global climate diplomacy to form industrial net zero partnerships with partners across the globe.

The government"s policy imperatives are to ensure the targets are implemented in the most cost-effective and socially balanced manner while avoiding carbon leakage, as enshrined in the Climate Act"s principles. This will require improved tracking, readability and visibility of the targets, which are set out across a wide range of agreements, and an implementation partnership with municipalities and businesses.

To reduce the impact of the associated structural change in its regions, the government aims to locate energy projects in affected regions. As part of Denmark"s decision to phase out oil and gas production in the North Sea, the government adopted an aid package to ensure local jobs for the existing skillset of oil and gas workers through CCUS and electrification projects.