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Denmark, a European leader in the energy transition: ambitions and debates



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On 1st July 2025, Denmark will take over the rotating presidency of the Council of the European Union (EU) following up on negotiations with regard to key climate action and industrial development projects, including that of the Industrial Decarbonisation Accelerator Act expected in the last quarter of 2025.

Championing the deployment of renewables, Denmark benefits from its reputation of being a leader in the energy transition. Ambitious climate targets, political and societal backing, large-scale projects and investments: while Denmark has all the makings of the first-in-class when it comes to the energy transition, oil and gas still play an important role in its economy.

Denmark's climate action policy: between ambitions and debates

Denmark benefits from a near consensus with regard to climate policy, enabling it to set itself a climate target of reducing greenhouse gas (GHG) emissions by 70% by 2030 compared to 1990 levels, an even more ambitious target than the European reduction target of 55%. Nonetheless, there remains differences of opinion on how to implement these ambitions.

The Social Democrats breakthrough in the June 2019 general election has reconfigured the Danish political landscape, shifting power dynamics towards left-wing parties, the 'red bloc'. It overthrew the previous right-wing coalition led by Liberal Prime Minister Lars Løkke Rasmussen. This power shift was confirmed in the early parliamentary elections of 2022, which led to the formation of a centrist majority government led by Mette Frederiksen.

Criticised for its lack of climate action, the Danish government is now suffering from plummeting popularity. Although the government has proposed to develop green energies and biogas as part of its new energy package entitled 'Denmark can do more II', some parties have been critical, accusing it of failing to meet its commitments, whilst others question Denmark's ability to implement its targets.

Towards an independence from fossil fuels

For almost 50 years, Denmark has been pursuing an energy transition policy aimed at achieving independence from fossil fuels by 2050. With more than half of its energy production coming from renewable sources in 2023, Denmark is incorporating a growing share of renewables into its energy system although it continues to rely on fossil fuels.

With more than 6,000 wind turbines and an installed capacity of more than 10 GW, Denmark has developed a competitive wind energy sector. This development has nonetheless faced many challenges as a result of the complexification of supply chains and the rise of raw material costs making projects less profitable. The failure, announced in December 2024, of the largest tenders ever launched for the construction of three offshore wind farms, each with a capacity of 1 GW, has prompted the Danish government to review its auction framework and strengthen the dialogue with industry stakeholders.

Concerning nuclear energy, Denmark has decided to not resort to nuclear power in its energy production. Although it does not have any nuclear power plants, the Danish grid depends on imports of energy produced from nuclear power, particularly from Sweden.

Large-scale investments in transition technologies

Denmark has a long tradition of research and support towards clean technologies, positioning itself as a leader in clean technologies. In 2022, the Danish government announced the creation of a green fund with a budget of 53.5 billion Danish kroner (€7.1 billion) for investments in these strategic technologies.



The Danish heat pump market has benefited from various funding programmes to support the deployment of heat pumps. In particular, the Danish government has allocated 250 million Danish kroner (€33.5m) to promote 'green' heating and has renewed the popular oil and natural-gas boiler scrapping scheme.

The electric mobility market has been quite successful, with battery-powered electric vehicles (BEVs) accounting for more than 50% of new registrations in 2024. This high penetration of electric vehicles has also led to an acceleration of the Danish battery market, which has grown by around 43% in 10 years.

With regard to carbon management, Denmark has developed a proactive policy following the publication of its CCS strategy (2021) and its action plan *Climate action - In line with capture and storage of CO₂* (2023). In order to capture around 2.3 million tonnes of CO₂eq per year from 2030, Denmark has set up an unprecedented financial support framework of 8 billion Danish kroner (€1bn) through the CCUS Fund (2023). The Ørsted Group has been awarded a 20-year contract as part of the Ørsted Kalundborg Hub project to capture CO₂ at the Asnæs power plant fuelled by wood chips, and at the Avedøre power plant fuelled by biomass.

Greenland: an attractive potential

Greenland is a coveted territory due to its subsoil, rich in critical metals which are essential to the development of clean technologies. While China holds a quasi-monopoly on the production and processing of these metals, Greenland could prove to be a game changer, as it appears to have large untapped fields of critical metals.

Autonomous yet constitutive of the Kingdom of Denmark, Greenland is not an integral part of the European Union, withdrawing from the Union in 1985. However, Greenland keeps its status as an overseas territory affiliated to the European Union and remains associated with certain EU policies, particularly in terms of funding and trade relations.

The island is attracting interest and investments from all over the world, to such an extent that the US President Donald Trump repeated his offer to buy Greenland the day following his inauguration. Greenland is rich in iron, nickel, gold and above all, rare metals. It is in these rare metals that Western powers are interested as a way to reduce their dependence on China and Russia, also present in the area.

Over the last twenty years, the number of mining licences on the island has exploded, rising from 19 in 2001 to around a hundred by 2022. Numerous companies, such as KoBold Metals (United States) and Shenghe Resources (China), the main shareholder in Greenland Minerals, have launched a battle to explore and exploit Greenland's subsoil.

The European Union is also proactive, viewing Greenland as an opportunity to diversify its supply of critical metals. In July 2023, President Von der Leyen celebrated the inauguration in Estonia of Europe's first permanent magnet factory, supplied with minerals and metals from a mine located in western Greenland. ●