

**Energiens Folkemøde 2023
Esbjerg 22-23/9**

**Hvordan skaffer vi Jorden 100 pct. vedvarende energi
og gør den bæredygtig før 2050!**

- For the Climate, SDG17 and Green Change!
Because our globe is fantastic, we can do it better ☺
all people in the world - much better !!!

by
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Explaining the 2021 IPCC Report

Can We Limit Global Warming to 1.5°C By 2100?



If we take aggressive action today*...

we can limit temperature rise to 1.6°C by mid-century and reduce to 1.4°C by 2100



If we take a high-carbon pathway**...

temperatures could climb to 2.4°C by mid-century and reach 4.4°C by 2100.

What Actions Are Necessary to Limit Warming to 1.5°C?



Decline global GHG emissions from the 2020s onwards



Reach net-zero GHG emissions by mid-century

Notes: *SSP1-1.9 **SSP5-8.5

Source: IPCC.

2022/05



WORLD RESOURCES INSTITUTE



THE ESBJERG DECLARATION

on The North Sea as a Green Power Plant of Europe

Energy security and the fight against climate change are crucial to the future of the European Union. Recalling the Versailles conclusions on energy, the European Commission's communication on Joint European Action for more affordable, secure and sustainable energy, and the most recent IPCC report and taking note of the European Commission's REPowerEU announcement of 18 May, we aim to take urgent and immediate action. The recent geopolitical events will accelerate our efforts to reduce fossil fuel consumption and promote the deployment of renewable energy for more energy resilience in Europe.

Therefore, we will increasingly replace fossil fuels, including Russian oil, coal and gas, with **European renewable energy from the North Sea**, including offshore wind and green hydrogen, contributing to both EU climate neutrality and energy security.

To achieve this and to pave the way for the further expansion of offshore wind, we have **decided to jointly develop The North Sea as a Green Power Plant of Europe, an offshore renewable energy system** connecting Belgium, Denmark, Germany and the Netherlands and possibly other North Sea partners, including the members of the North Seas Energy Cooperation (NSEC). As Members of NSEC, we will build on the work already accomplished and will implement strategies to achieve our goals in close cooperation with the other regional countries and the European Commission. In doing so, we will strive for a balanced coexistence of economic and ecological needs.

The North Sea as a Green Power Plant of Europe will consist of **multiple connected offshore energy projects and hubs**, offshore wind production at massive scale as well as electricity and green hydrogen interconnectors. We aim for a cost-efficient buildout of offshore wind that will harvest the potential of the North Sea in the most beneficial way for both the connected countries and the European Union overall.

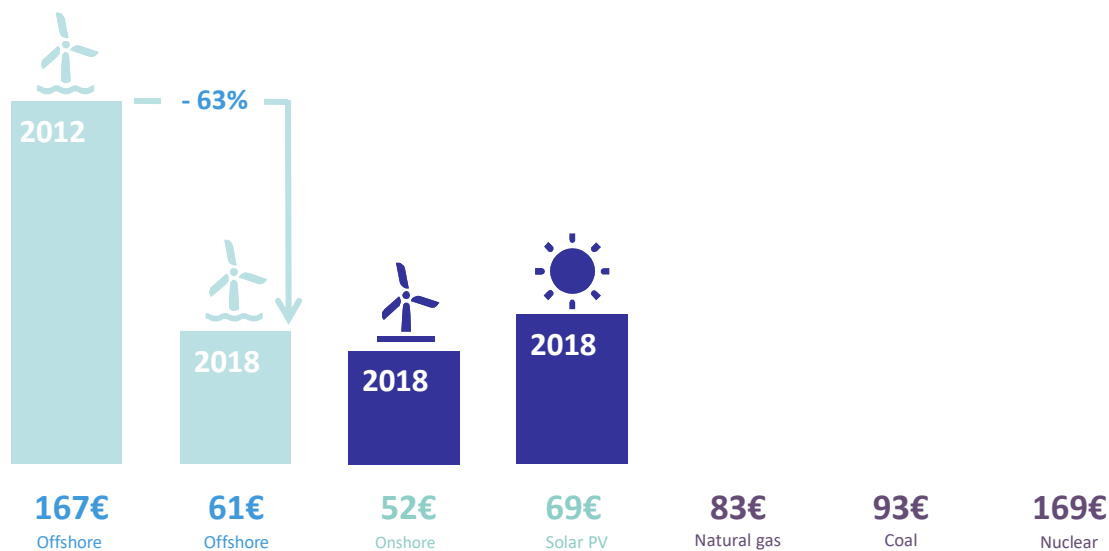
Together, we have set ambitious combined **targets for offshore wind of at least 65 GW by 2030**. Based on the North Sea as a Green Power Plant of Europe, together we aim to **more than double** our total capacity of offshore wind to **at least 150 GW by 2050, delivering more than half of the capacity needed to reach EU climate neutrality** according to the European Commission's Strategy on Offshore Renewable Energy.

This will contribute to large-scale onshore and offshore production of **green hydrogen**. We have set **combined targets of about 20 GW production capacity already by 2030** and look to expand our production even further for 2050.

Levelised cost of electricity for different technologies

The rapid cost reductions in the industry, have made offshore wind power competitive relative to conventional power generation based on fossil fuels

EUR/MWh, 2018 prices, Northwest Europe



Source: Bloomberg New Energy Finance – 2H 2018 LCOE Update, current LCOE.

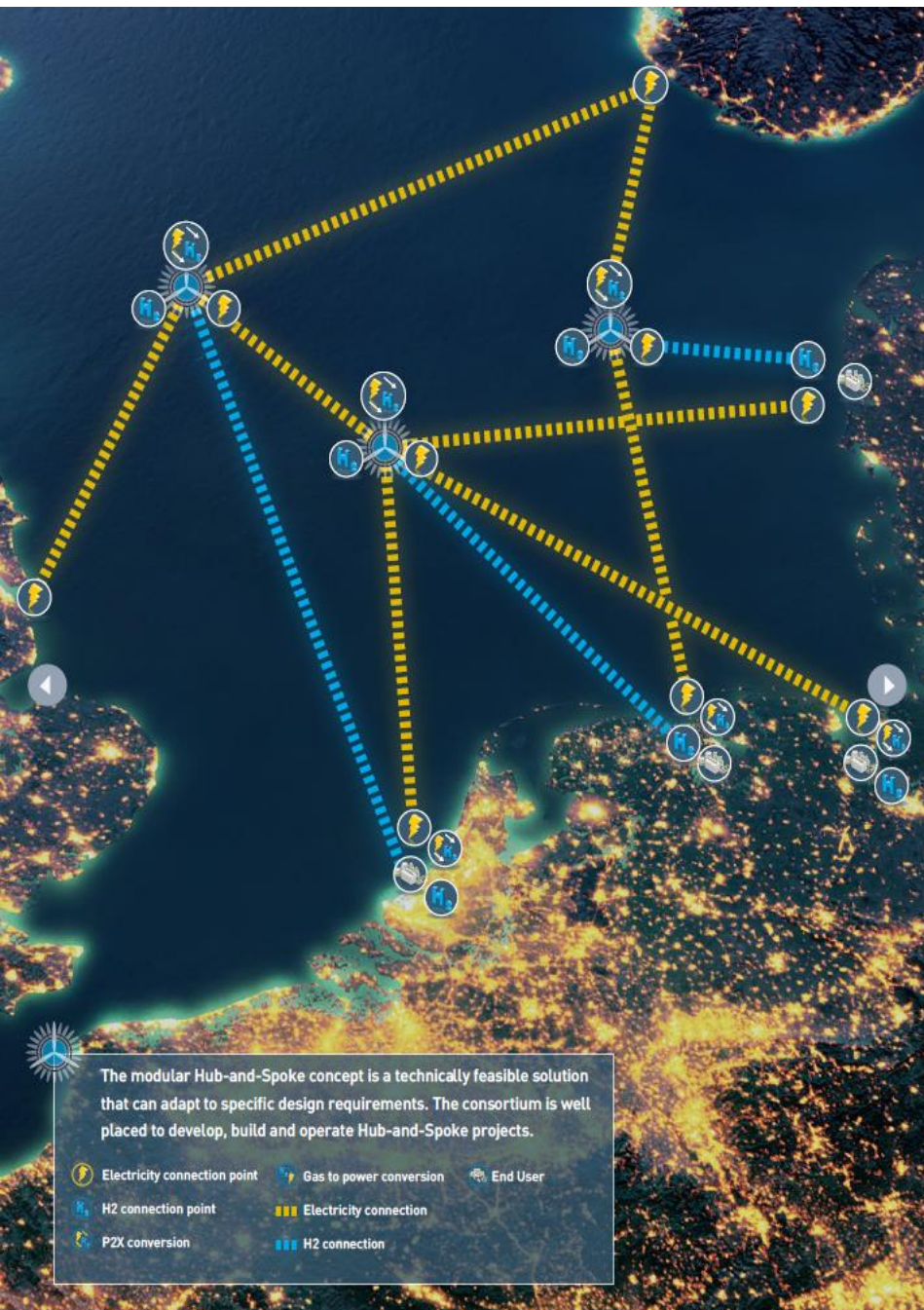
Onshore wind: average of DE, DK, NL and UK mid-scenarios. Solar PV, Gas: average of DE, UK mid-scenarios. Coal: DE mid-scenario. Nuclear: UK mid-scenario.

Offshore wind: 2012 generic offshore wind, Northwest Europe, FID 2012. In 2012 our goal was to reduce offshore wind costs to EUR 100 per MWh in 2020. 2018: average of relevant projects in NL, UK and DE with COD 2022-2024. NL: Hollandse Kust (zuid) I&II, UK: CfD Round 2, DE: OWP West, BRW I, BRW II. For DE and NL, additional EUR 15 per MWh assumed as transmission cost.

Exchange rate EUR:USD: 0.88, YoY inflation 2017-2018: 1%.

Ørsted Offshore, October 2019







UN-17 Sustainable Development goals. Agreed during the UN general assembly Oct. 2017