# National and EU energy policies seascape across the North Sea Region in the short- (up to 2020), medium- (2030) and long-term (2050).

Kafas, A., Ripken, M., Wright, K., Billet, M., Sangiuliano, S., Ooms, E., Scheffler, U. et al. (2017) Status quo report on offshore energy planning provisions in the North Sea Region. NorthSEE project.

Germany · UK · Norway · Denmark · Sweden · Netherlands · Belgium · European Union · Scotland

**Present** *(2017)* | **2020** | 2022 | 2023 | 2025 | 2026 | 2027 | **2030** | 2040 | **2050**

## Renewable Energy share

- 13% of the final energy consumption
- 35% of electricity consumption
  18% in TFC
  30% of energy production
- 14% of energy production
- 50% of the gross final energy consumption
  10 % in the transport sector
  25 TWh of electricity generation from renewable energy
- 30% of the final energy consumption
  10% in transport sector
  35% of energy production
  Top 3 country in renewable energy generation
- 100% of the gross annual consumption
  11% of heat consumption
- 20% energy mix from renewables
- 16% of energy production
- 50% of electricity consumption
  30% in TFC
- 27% energy mix from renewables
- 65% of electricity consumption
  45% in TFC
- 80% of electricity consumption
  60% in TFC
- 100% renewable electricity production

## GHG emissions reduction

- -20% in non-ETS sectors *(compared to 2005)*
- -40% of GHG *(compared to 1990)*
- -20% of GHG *(compared to 1990)*
- -34% of GHG *(compared to 1990)*
- -40% of GHG
- Carbon neutral
- -50% of GHG *(compared to 1990)*
- -40% of GHG *(compared to 1990)*
- -70% of GHG *(compared to 1990)*
- -80% of GHG *(compared to 1990)*
- -80% of GHG
  CO2-free electricity supply
- Zero net GHG emission
- -80% of GHG *(compared to 1990)*
- -80% of GHG *(compared to 1990)*
- -80% of GHG *(compared to 1990)*

## Wind/ Offshore wind

- 50% of electricity produced by wind energy
- 43 GW offshore wind capacity
  2 GW wave & tidal capacity
- Install 9.8 GW of offshore wind capacity
  Install 398 MW of tidal stream energy capacity
- 15.000 MW offshore wind capacity
  Expansion of power grids
- New auction system
- Committed to develop a third pillar of electricity supply (wind)
- 1.6 to 3.7 GW electricity generation potential

## Energy consumption & demand

- -12% in gross energy consumption *(compared to 2006)*
- -20% in primary energy consumption
  -10% in electricity consumption
  -10% in final energy consumption *(compared to 2009)*
- Energy demand ceiling - *43.7 Mtoe*
- 15% interconnection target
- -50% in primary energy consumption
  -25% in electricity consumption
  -40% in final energy consumption *(compared to 2009)*

## Energy Efficiency

- Most energy efficient EU country
- World leader
- 20 % more efficient use of energy *(compared to 2008)*
- 20% more energy efficient

## Fossil fuels share

- -33% in the energy sector *(compared to 2009)*
- Committed supporters of Carbon Capture and Storage
- Fossil-independent vehicle fleet
  Phase out fossil fuels in hearing
- Fossil fuel independence

## Nuclear power

- Major investments by 2020, but no government subsidies
- Further investments, part of the low-carbon technology pathways
- Phase out nuclear energy
- Phase out nuclear energy

Scale not representative of time duration