

# Norway: Oil tycoon and green growth champion?

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## Green transitions in the Nordic region

- The Nordic region regarded as a front runner in the low carbon energy transition
- «A paradigmatic example» (Sovacool, 2017)
  - Electricity and heating to a large extent carbon free
  - Consensus-oriented and ambitious policy agendas
  - Good examples of successful policies in all Nordic countries
- Context and timing matters – need to look at Nordic success in light of available natural resources, industrial structures and policy regimes

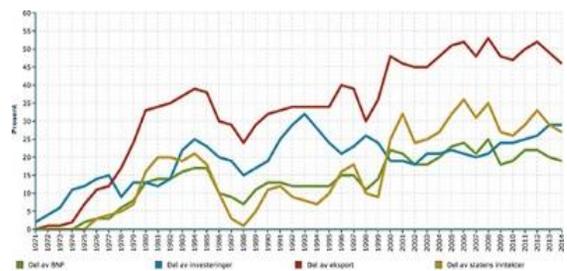
## Norway – a country of energy paradoxes

- Produces and exports hydrocarbons (oil and natural gas)
- But uses mainly renewable energy sources (hydropower)
- As the power sector is almost carbon neutral, Norway is now developing ambitious national policies for decarbonization and green growth in industry and transport
- Recognizes its special problem in the green transition by having a significant petroleum sector
- Mitigates guilty climate consciousness by solving problems abroad



## A deep transition

- The Norwegian green transition is not only about supporting development and diffusion of renewables and changing patterns of transport, production and consumption
- It is also about destabilizing the most important part of the Norwegian economy
- Increasing dependence on petroleum, spurred on by the state from the 1970s onwards



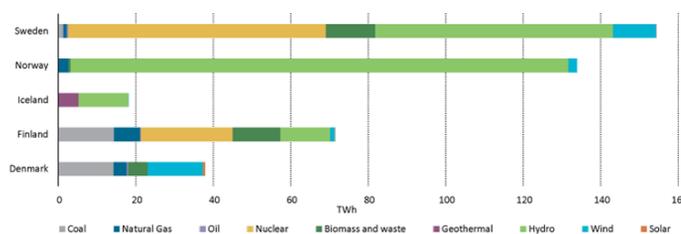
## Green growth with petroleum?

- Norwegian policy still sees a future with petroleum production
- Current policy is to produce “the greenest hydrocarbons on the planet”
- In the zero emission perspectives, carbon capture and storage is the only viable option – but risky and expensive
- Risk of «peak demand» not “peak oil”?
- Current policy based on expansion, then phasing out (still highly controversial)
- Controversial issues on the petroleum production in the northern and arctic regions



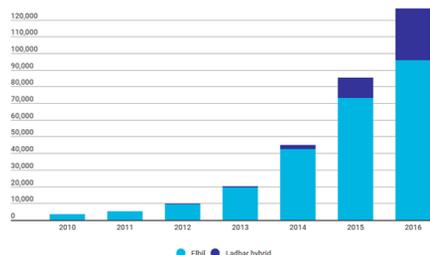
## An electrified society

- Almost all electricity and heating stems from renewables (hydropower)
- Limited incentives for development of new RETs (wind, solar, biomass)
- Positive for development of technologies and solutions for efficient use of electricity for consumption, industry and transport



## Laboratory for development of electrical solutions for decarbonisation pathways

- Front-runner in use of renewable energy in decarbonisation of other sectors (transport and industry)
- Highest share of electric vehicles per capita in the world
- Experiments with electrification of transport, industry and even in petroleum production
- Strong policy support for new transport solutions



## National strategy for green growth (2016)

- Recent national initiative for developing a national strategy for green growth (« Green competitiveness») in October 2016
- Overall policy goals to reduce emissions and to transform the Norwegian economy
- Envisions a strong role of the state in leading the green transition
  - Regulation and tax policy
  - Investment in R&D and education (across sectors and disciplines)
  - Support to innovation
  - Public procurement of innovation
  - Public-private partnerships
  - Fostering conscious consumers



## National bioeconomy strategy (2016)

- To support sustainability and green growth, Norway is currently developing a “bioeconomy” policy (2016)
  - Cross-sectoral collaboration for innovation in mature resource sectors (forestry, food production, fisheries etc)
  - Support for R&D and innovation activities
  - Development of funding and risk-reduction mechanisms for small businesses
  - Improved market information on bioproducts
  - Efficient production of bioproducts and better use of waste (circular economy)
  - National coordination of policy tools

