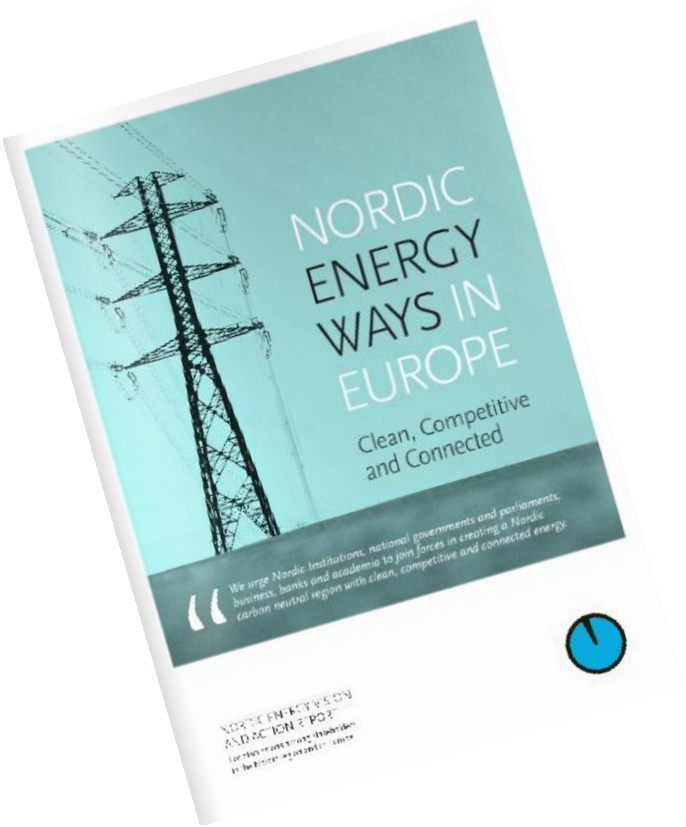
# Nordic Energy ways in Europe – Clean, Competitive and Connected




Anders Olsson

Berlin
2 June 2014

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# Why is E.ON participating?

- Sustainability is a key driver for E.ON Nordics business development
- Experience from market based solutions can improve competitiveness of sustainable solutions
- Nordic can support the development of renewables in continental Europe by increasing trade
- Part of dialogue between different stakeholders

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# Background and assumptions

- The Nordic countries are comparably far in transition to sustainable energy
- Nordic governments aim at Zero emission targets for 2050 (IEA interpretation)
- Will necessitate very large investments in renewables, transmission, energy efficiency and transport systems
- A proactive, bottom-up approach from Nordic Business can lead to competitive strength for the Nordic region

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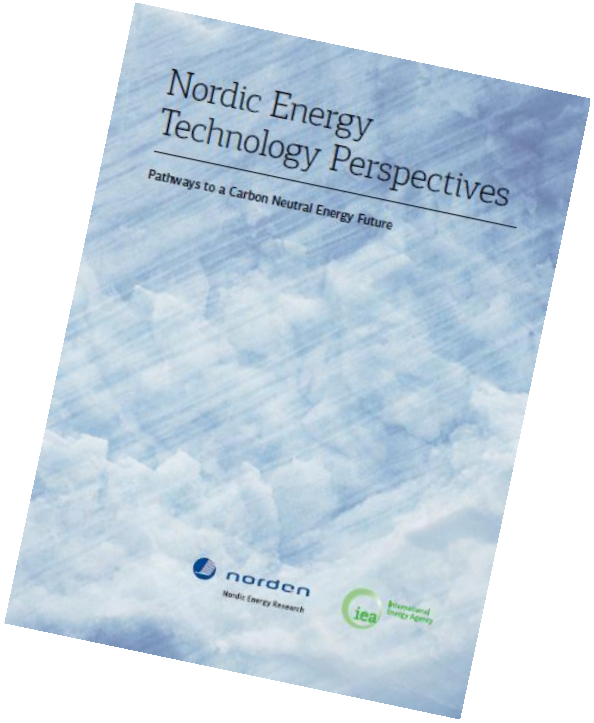
# IEA first regional Energy Technology Perspectives report – together with Nordic Energy Reserach




Yes, we can:

"A near complete decarbonisation of the Nordic energy system is possible – but very challenging."

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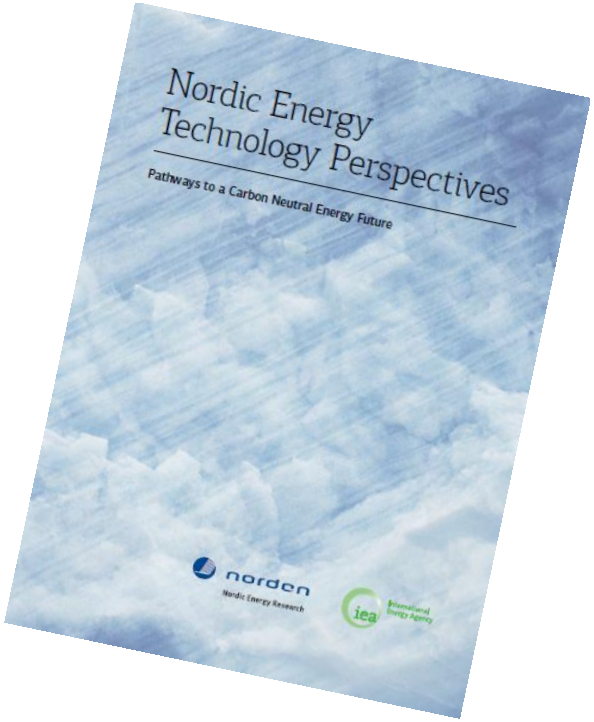


It´s easier together:

"Strong co-operation among Nordic countries can reduce the cost of reaching the scenarios.

*Co-ordination of policies, RD&D and infrastructure development could accelerate technology development and penetration towards a low-carbon energy system."*

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# Main message from NAG

- Governments and industry have a story to tell in the EU
  – especially the cross-border electricity market
- We can do more - and it is more efficient if cooperating closer
- The transition will need a gradually higher price on $CO_2$, but competitiveness should be considered
- Nordic Green Industrial Clusters can develop further and grow

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# 1. High Efficiency Economy

- Transport sector
- Housing sector
- Industry and Service Sector

*Recommendations*

- Take lead in early market for electric cars.
- Pioneering region in electrification of roads.
- Nordic building standards, gradually strengthened towards zero.
- Use the EU compulsory energy declaration as a basis for targets based on Nordic best practice.
- Nordic voluntary scheme for energy improvements for industries, including tax incentives and sharing of know-how.

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# 2 Nordic Battery and Renewable Energy Hub

Potential of substantial net export of renewable energy (electricity, maybe biofuels) as well as a balancing region on the European electricity markets

*Recommendations*

- Increase integration across Nordic renewable support schemes
- Utilize co-operation mechanism within the EU RES directive
- Technology specific support only for non mature technologies
- New transmission investments within Nordic counties and to continental Europe

- Will Reduce cost for European climate policy
- Increase potential for wind and solar in northern Europe.

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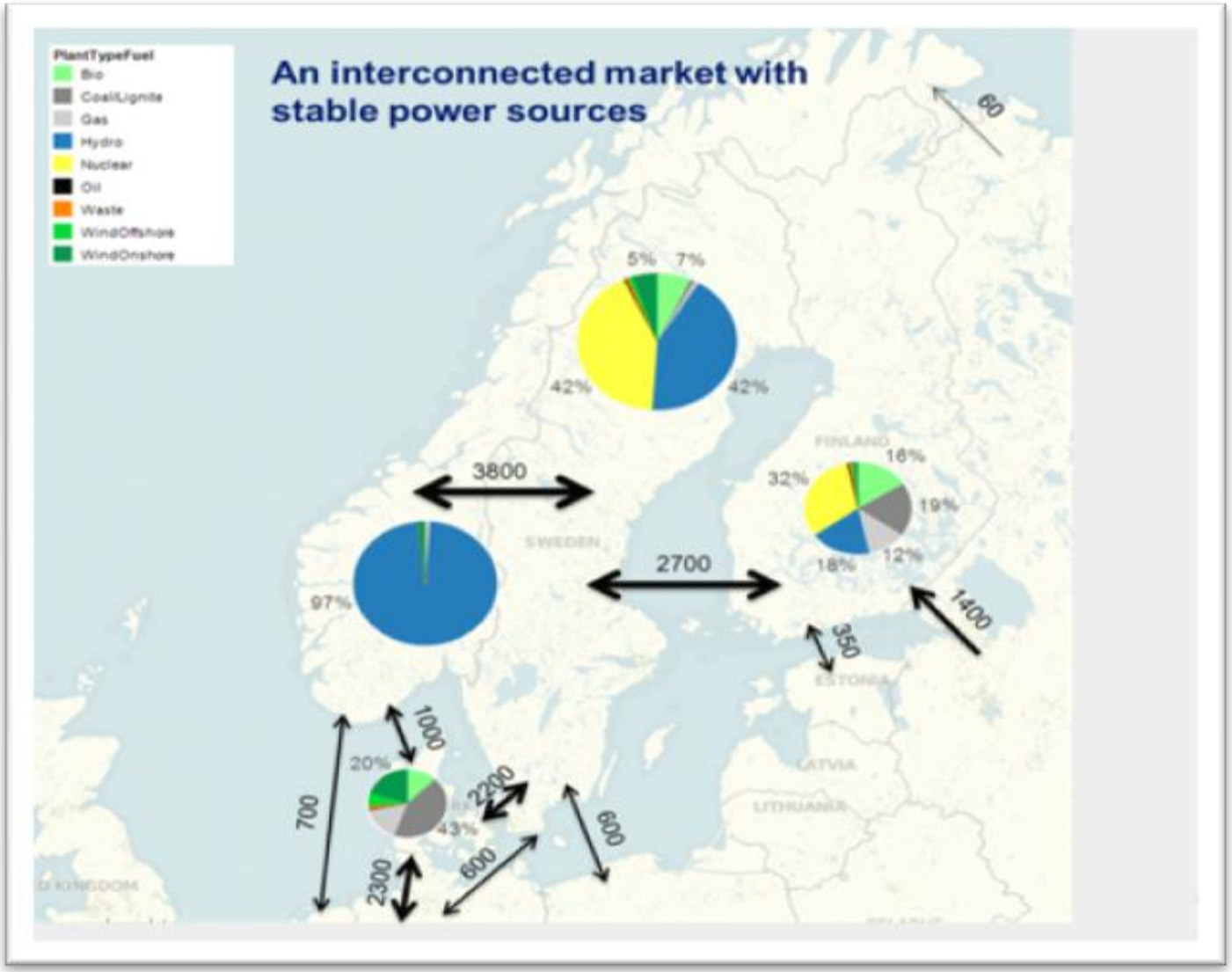
# Nordic Electricity Market

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# Nordic Energy Green Clusters with potential

- Wind power - focus on cold climate, off shore and forested areas.
- Climate efficient biofuels from indigenous sources.
- Electrification of transport including vehicles, charging infrastructure and electrification of roads.
- Combined operation of heat and electric power systems, including efficient use of heat pumps.
- Smart electrical grids combining IT with power.

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# Is there a Nordic Way?

- System approach
- Market based solutions and instruments
- Cost efficient measures
- Open dialog between politics and industry with long history of Nordic cooperation

- Diversity...!

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# Renewable support systems

## German Feed In Tariffs

- Control of unit price
- Uncertainty about volume (will be reduced)
- Differentiated by technology, 4500 different tariffs
- Driver for new technologies
- Participation of small market actors -> public acceptance
- Effective in development of technologies and industries

## Sw-No Certificates

- Control of volume
- Uncertainty about unit price
- General for renewables, one certificate price
- Only mature technologies competitive
- Cost efficient to reach target
- Only European cooperation mechanism (Se-No)

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# Comparison Sweden-Germany

- Similar volume of new renewable electricity production per capita
- Similar present pace in increased production per capita
- Different leading technologies
- *Direct, short term costs* per kWh for Swedish electricity consumers about 1/10 of German consumers

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# Summary

- The Nordic region can demonstrate efficient sustainable solutions within electricity, heat and transportation
- A stronger cooperation and interconnection with the Nordic region can make renewables integration more efficient

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Anders Olsson

Deputy CEO E.ON Nordic

# THANK YOU!

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# Nordic Action Group on Climate and Energy

| | |
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| **Hördur Arnarson** | CEO, Landsvirkjun, Iceland |
| **Carl Bennet** | Chairman, Getinge, Sweden |
| **Ingrid Bonde** | CFO, deputy CEO Vattenfall , Sweden |
| **Anders Eldrup** | Former CEO DONG Energy, Chairman Copenhagen Cleantech, Denmark |
| **Henrik Ehrnrooth** | Chairman, Caverio, Pöyry och YIT, Finland |
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