Nordic Energy ways in Europe – Clean, Competitive and Connected

Anders Olsson

Berlin
2 June 2014
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
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
IEA first regional Energy Technology Perspectives report – together with Nordic Energy Research

Yes, we can:

“A near complete decarbonisation of the Nordic energy system is possible – but very challenging.”
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.”
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
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.
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.
Nordic Electricity Market
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.
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...!
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)
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
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.
THANK YOU!

Anders Olsson
Deputy CEO E.ON Nordic
Nordic Action Group on Climate and Energy

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

Ulrik Federspiel  
Executive Vice President Haldor Topsoe A/S, Denmark

Anders Olsson  
Deputy CEO E.ON Norden, Sweden