

# Environmental technology challenges for the Nordic Countries

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# Nordic project on eco-efficient or environmental technology

- Introduction
- Project financed by the Nordic Ministers Council
- Tendencies
  - No global climate change agreement
  - Shortage of resources
  - Economic crisis
  - Green growth or green economy
  - Explosion of information, reports etc.

# Why the importance?

- Central to development in environment and economy
- Central to the basis of Green growth
- An number of important reports
  - Economics, cheaper than expected
  - Markets, large potential
- Cases or stories
  - Finland, UPM delivers paper without flourinated compounds
  - Sweden to Denmark, household waste, biogas/burn
  - Iceland, Verne Global zero carbon datacenter

# Recommendations 1

- 1) Improve demand side activities
  - Binding green public procurement
  - Role of the ministries of environment
- 2) Sufficient manpowerresources
  - Administration, analysis etc.
- 3) Sufficient amounts of funding available
  - Demonstration activities
  - More information, analysis, examples

# Recommendations 2

- 4) Use evaluations
  - No serious evaluations
- 5) Clear use of concepts
  - Ecoefficient or environmental technology
  - Resource efficiency and eco-innovation
- 6) Strong leadership and efficient coordination
  - Political leadership
  - State actors

# Recommendations 3

- 7) Improve international cooperation
  - Nordic level, EU-level
- 8) Concrete strategies for Green Growth
  - To improve eco-efficient technology
- 9) Improve statistics and knowledge
  - Companies
  - Exports
  - Patents
  - Funding

# Obstacles 1

- Politicians
  - Little or no experience and knowledge
  - Focusing on short term perspective
- Civil servants
  - Protecting the existing
  - Difficult to be innovative
- Different ministerial interests
  - Strong economic ministries
  - Sector ministries in favor of sectors
  - Ministries of funding versus ministries of regulation

# Obstacles 2

- Science versus demonstration
  - Too much focus on science
- Conflicting interests
  - Good position on energiefficiency versus cheap energy available



# Recommendations to Countries 1

- Denmark (windpower position (??))
  - Improving energy position
  - Needs to do more on environment: MUDP, GUDP, Fornyelsesfonden, more strategy
- Finland (a number of interesting reports)
  - New actionplan from government needed
  - Focus on implementation

# Recommendations to Countries 2

- Iceland (large potential to become a zero carbon country)
  - Implement the strategy on green economy
  - Develop the potential from geothermal energy
- Norway (good quality reports and serious approach)
  - Implementation of the new strategy
  - Better coherence between policy statements and instruments or efforts

# Recommendations to countries 3

- Sweden (in front on a number of areas)
  - Implementation of the new strategy
  - Find a way to carry on the good work of Swentec

# Work for a common cause 1

- Set up
- Denmark
  - Report on the new climate strategy: zero fossil energy in 2050
  - Report on eco-efficient technology in the agricultural sector
- Finland
  - Report on promoting demand side aspects
  - Report on user-driven innovation

# Work for a common cause 2

- Iceland
  - Report on the road to green economy
  - Report on the future use of geothermal energy
- Norway
  - Report on the aspects of CCS (carbon capture and storage)
  - Report on high efficiency of energy use in industry

# Work for a common cause 3

- Sweden
  - Report on sustainable cities
  - Report on green public procurement