

**Welcome speech to**

**Final Seminar on Nordic Energy Research's Programme on Sustainable Energy Systems 2050**

**First of all,**

**Welcome to the speakers and other participants in this seminar. The seminar marks the conclusion of NER's SES 2050 research programme.**

**And a warm thanks to the Secretary General of the Nordic Council of Ministers. For his presence and for his inspiring opening speech full of interesting perspectives.**

**The SG has in a most excellent way described the main purpose and achievements of the SES 2050 Research Programme. And in the course of today and tomorrow we will listen to and discuss the most important outcomes of the work done.**

**I can therefore focus my introductory remarks around other issues; the broader development of the activities of Nordic Energy Research; the important interaction between the energy and climate policy targets of the individual Nordic Countries and the research and analysis activities of Nordic Energy Research.**

**First point.**

**My first point follows up on the remarks of the SG on the history of Nordic cooperation on Energy.**

**The Nordic Council of Ministers was built on the ruins of the very ambitious Nordek plan. A plan developed at the end of the 1960s. An ambitious plan for establishing a Nordic economic union. It included a close cooperation on energy, including on nuclear energy. Although governments and parliaments had approved the plans, they could not be realized: The Soviet Union would not allow Finland to enter into such a cooperation. As a substitute for the Nordek, The Nordic Council of Ministers was established in 1971 with the purpose of fulfilling at least some of the ambitious targets of Nordek. The point of departure of NCM was therefore ambitious.**

**Second point.**

**My second point is, that against this backdrop it was, basically, disappointing that Energy only became a part of the cooperation some 10 years later in 1980. By a decision of the Nordic prime ministers on Danish initiative, by Energy Minister Poul Nielsson and Prime Minister Anker Jørgensen. And it is actually even more disappointing, that the Nordic cooperation on energy in the 35 years since 1980 only have produced significant, visible results in 2 areas. First, some extraordinary and spectacular results in the electricity markets. Secondly, some less spectacular, but useful results in energy research cooperation. In my view, there is a huge unexploited potential for much more Nordic cooperation on energy. And that potential is not decreasing because of increased European, OECD and World Wide energy cooperation. On the contrary. Nordic cooperation increases the possibilities for the individual Nordic countries to be heard and have influence. Influence that is also justified by the collective size of our economies as SG referred to. I therefore believe we should warmly welcome if the Nordic ministers of energy in their meeting in November will approve the**

idea of making a strategic assessment of the possible potential for expanded cooperation on energy among the Nordic countries.

Third point.

My third point is that I am very happy to agree with the SG on the point that the Nordic cooperation in the electricity market is unique and longstanding. The results of this century long cooperation are extremely impressive and they are admired all over the world. As demonstrated in NER's NETP, the Nordic countries are 25 years ahead of the rest of the world when it comes to low CO<sub>2</sub> emissions from electricity production. The Global IEA-ETP shows that the world's electricity production in 2040 should emit only 100 g CO<sub>2</sub> pr. kWh. The Nordic countries are already at that low level in 2015, 25 years before 2040. No other region in the world in particular not the major economies are close to being there yet. The Nordic countries are 25 years ahead of the rest of the world. This result is so extremely impressive, that I immediately got the support to present this and other Nordic energy results in the Bible of The Energy World, IEA's "The World Energy Outlook". The author of WEO, IEA's Director General, Fatih Birol, was so impressed when I told him about it, that he promised me 1 full page in WEO 2015 and 10 pages in WEO2016. Almost like Moses who got 1 page in the Old Testament for leading his people back to Israel on the sea-bottom of the Red Sea.

The extremely impressive results of the Nordic political, commercial and technical collaboration in the electricity markets will be one of the focal points for the profiling of the Nordic cooperation at the important COP21 conference on climate change in Paris in December this year.

Fourth point.

The only other obvious success story – but less spectacular – in the Nordic energy cooperation is the co-operation on energy research and research-related analysis and scenario building. This is the co-operation that is managed by NER.

In the family of co-operation projects and institutions organised under NCM, this co-operation is unique. It is unique in that way, that it is almost fully financed by the individual Nordic countries. There is only a limited contribution to the administrative costs funded by the Nordic Council of Ministers. Another fact related to the financing of NER's activities is that the volume of funding to this Nordic cooperation in absolute terms of kroner has remained at the same level in the last 15 years. However, compared to the strongly increased budgets to national energy research activities in the individual countries, the picture is changing. Relatively to national energy research, the volume of joint Nordic energy research is during the last 5 years simply decreasing, unfortunately steeply decreasing. This is not nice to look at for an organization, who has the task to work for joint Nordic collaboration,

I do believe that this is an issue that deserves consideration by the Nordic Countries and by the Nordic Council of Ministers.

In particular because the example of the Nordic Electricity Market demonstrates, that if the Nordic countries seriously and dedicated work together in the energy field, then they become the world champions.

#### **Fifth point.**

**It is a fact - like it or don't like it - that even after 35 years of history of Nordic energy co-operation, there are only 2 major success stories: the electricity market and the research cooperation. I am only underlining this fact in order to highlight a couple of points:**

**International collaboration takes time. Sometimes, a long time.**

**Even Nordic collaboration on energy does not develop by itself. Even though we have an excellent enabling framework in the NCM, the civil servants committees and its experts groups.**

**Expanded Nordic collaboration on energy requires well-considered, individual initiatives taken at high level. And it requires a close, targeted and dedicated follow up. This was – by the way- also the recipe for the success of expanded Nordic collaboration on the electricity market and on research.**

#### **Sixth point.**

**The research projects under SES2050 and the IEA-NER analysis of Nordic energy technology perspectives have analyzed the individual, national Nordic energy and climate targets for 2050. According to these analyses, the Nordic energy system faces four key challenges – well suited for expanded Nordic cooperation on energy:**

- 1. Power and heat supply-infrastructure.**
- 2. Energy for transportation.**
- 3. Energy and climate technologies for energy- intensive Nordic industry.**
- 4. Enhanced energy efficiency in building**

**There are therefore good reasons for the focus of NER on these issues.**

#### **Seventh and final point.**

**As you will learn from the presentations of today and tomorrow, the SES 2050 projects have given solutions to a number of crucial questions and problems f.i.**

- how to produce hydrogen from waste water and salt-water**
- why combination of solar, water and CO<sub>2</sub> is the most effective way to produce biofuels**
- how the electricity sector in the Nordic countries can reduce their CO<sub>2</sub> emissions to zero**
- how to optimize the economic profitability of new wind-turbines**
- how far north can solar energy be profitable**
- how can the biomass-production from Nordic forestry be doubled, so that the Nordic countries do not need to be net importers.**

**These and other issues are further dealt with in:**

- NER's new Research Programme for 2015-18, The Flagship Programme, launched this year**
- NETP II, which will be completed in 2016**

- the joint NI, NF and NER project Green Growth that will be launched in beginning of 2016

Therefore, the presentations today and tomorrow of the SES 2050 results represent valuable results in themselves. However, they also represent an input to ongoing and new analysis about how the Nordic countries by collaboration can achieve their ambitious climate and energy targets - without loss of growth, welfare and values.

Some of the most interesting research and analysis results will be presented at the Nordic energy ministerial meeting and later on at an IEA-NER event and other side events at the COP 21 conference on climate change in December 2015.

I wish you all a fruitful seminar.

Thank you for your attention.