The Nordic Region – leading in green growth

Report by the Nordic prime ministers' Working Group for Green Growth
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Nordic co-operation seeks to safeguard Nordic and regional interests and principles in the global community. Common Nordic values help the region solidify its position as one of the world’s most innovative and competitive.

The Nordic Council of Ministers
Ved Stranden 18
DK-1061 Copenhagen K
Phone (+45) 3396 0200

The Nordic Council
Ved Stranden 18
DK-1061 Copenhagen K
Phone (+45) 3396 0400

www.norden.org
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Nordic Working Group for Green Growth

The Nordic prime ministers issued the Nordic Working Group on Green Growth with its mandate after discussions at the Globalisation Forum on 20 May 2010 and at their summer meeting on 21 May 2010.

The Group’s remit is to identify:

- areas and sectors within green growth in which a joint approach would be capable of generating Nordic synergies, and which would have the potential to constitute priorities for Nordic co-operation on globalisation
- 2–3 tangible green-growth initiatives capable of generating short-term results (low-hanging fruits), including via closer co-ordination and pooling national endeavours
- 2–3 joint strategic priorities with long-term perspectives
- opportunities for linking Nordic green-growth activities with existing national, European and global measures, as well as with funding sources.

The Working Group held five meetings during the period November 2010 to May 2011. The participants are listed in Appendix 1.

Basis for the work

The work was underpinned by a report from the consultancy company McKinsey & Co. The working group also consulted reports commissioned by the Council of Ministers for the Environment, the Council of Ministers for Education and Research, the Council of Ministers for Trade, Energy and Regional Policies, the Committee of Senior Officials for the Environment, and the Programme Board of the Nordic Top-level Research Initiative. The Group also took note of relevant work on green growth by the OECD and UNEP.

Definitions of green growth vary considerably. The Working Group has applied the OECD definition: “Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it must catalyse investment and innovation that will underpin sustained growth and give rise to new economic opportunities.”

Potential and challenges in the Nordic Region

Green growth has become a key objective for many countries and regions. The idea is to cope with the major environmental, climate and energy challenges the world faces while maintaining positive economic growth. The global market for green solutions is set to take off, and the Nordic Region has the potential to improve its market position.

The challenges and opportunities inherent in this process of change are wide-ranging, and best illustrated by examples. According to one International Energy Agency (IEA) scenario, in order to comply with the 2-degree target for limiting global warming, total global GDP would have to increase by 83% and carbon dioxide emissions would have to fall by 67% between 2010 and 2030. Annual investments in renewable energy for electricity generation are expected to amount to $200 billion in the period 2010–2020. Studies have shown that meeting the target of 20% renewable energy by 2020 will require the creation of more than 200,000 jobs in the USA and 1.4 million in Europe.

The Nordic countries have small, open and flexible economies and a total of 25 million inhabitants. As a whole, the Region is the 11th-largest economy in the world, with high productivity, a high standard of education and training, and high levels of income. Historically, the Nordic countries have played a pioneering role in several environmental spheres, due to a high level of environmental awareness among the general public, political commitment to the environment, the solving of several environmental problems at an early stage, and technological advances in the sector that have gone on to make an international impact.

Nordic co-operation has already made an impression in Europe by developing a joint electricity grid and market, and by turning the Region into a world leader in eco-labelling and clean-tech solutions. The Region has succeeded in uniting high environmental ambitions with positive growth. Since the mid-1980s, the Nordic countries have significantly reduced emissions into the atmosphere and the water, while maintaining economic growth at levels comparable with or better than the OECD average. During this period, most of the Nordic countries have also severed the link between economic growth and energy consumption.
Cost-effective control is a prerequisite for green growth and conversion

Comprehensive global conversion to green thinking and technology will be necessary in order to maintain economic growth while limiting climate change, protecting critical natural resources, maintaining economic competitiveness and dealing with the issue of how best to guarantee energy supplies.

The conversion process entails opportunities for investment, jobs and new export markets. Realising this potential depends upon clear political signals and decisive action. However, as with all structural changes, the transition to greener growth will also present challenges as well as opportunities, e.g. in the form of job losses. The key issue is the overall effect on growth, the environment and the economy.

Socio-economic effectiveness is an extremely important factor in attempting to reconcile ambitious environmental and climate policies with positive growth. Every penny spent on the environment and climate needs to be invested where it will do the most good. The most common approach to cost-effectiveness is to adopt economic policies that are broad, homogenous, technology-neutral and preferably co-ordinated at international level. These policies can be combined with initiatives designed to raise awareness and change social norms. It may also be necessary to earmark funding specifically for innovation designed to promote green growth. When assessing cost-effectiveness, it is important to calculate the real economic value of resources and natural diversity because they form the very basis for green growth.

Action at Nordic level

Nordic partnerships make sense for a number of reasons, and will provide advantages that are only partially exploited at the moment.

A larger market – a joint Nordic market with uniform requirements for green technology will markedly increase both demand and market impact. The joint Nordic electricity market (NordPool) and work on green certification are examples of how to increase market size by working together across national borders.

A political lead in the EU/EEA – the political platform provided by Nordic partnership will help the Region lead the way and set the agenda in the EU/EEA in several spheres.

Joint infrastructure – energy and transport markets depend on joint infrastructure, obvious examples of which include railways, electricity grids and gas networks. Other examples exist in new technology.

Critical mass – economies of scale are crucial to the development of specialised green niches, as is enhancing the profile of the Nordic Region as an attractive destination for tourism, trade, investment, etc.

Vision

If green growth is to be a key priority for Nordic co-operation in the next few years, then it is essential to have a joint vision for the work – a vision underpinned by tangible activities, one that enjoys strong political support and sends important signals about political goals and intentions.

“The Nordics – leading in green growth”

“The Nordic Region – leading in green growth” is a vision based on the joint utilisation of Nordic strengths in energy efficiency, the development of sustainable energy, environmental awareness, investment in innovation and research, and ambitious international targets for the environment and climate. Working together, the Region will carry more weight, earn a bigger market share and make more of a political impact at international level.

1. developing Nordic test centres for green solutions
2. working together on education, training and research for green growth
3. promoting flexible consumption of electricity
4. working together on green-technology norms and standards
5. working together on green procurement in the public sector
6. developing techniques and methods for waste treatment
7. promoting the integration of environmental and climate considerations into development aid
8. co-ordinating and improving funding for green investment and companies.
Recommendations for priorities

The Nordic countries are already involved in green-growth activities. In pursuing its mandate, the Working Group has attempted to identify Nordic strengths on which to build, and areas in which to co-ordinate more closely and/or take the lead in relation to expected developments in the EU. The Working Group recommends eight priorities.

1. Developing Nordic co-operation on test centres for green solutions

Developing new energy technologies and using existing ones in smarter ways are two of the biggest challenges inherent in the urgently needed conversion to a green economy.

To transform research and development initiatives into products, processes or services and bring them to market often requires demonstrating them in a realistic environment, e.g. in test beds, at pilot facilities or by demonstrators. Test and demonstration facilities are costly and require a certain critical mass to make them viable, so capacity utilisation is often a critical factor in ongoing investment and development. This is particularly important for small companies and nations, which often have limited opportunities to evaluate new solutions. One example of this is the European Spallation Source (ESS) research facility in Lund, run collectively by 16 countries, four of them Nordic. Co-ordination and pooling of national test facilities will have considerable potential in certain cases, e.g. second-generation biofuels, wind power, solar energy, geothermal energy, smart grids, shipping, energy storage, energy efficiency, electric vehicles and energy efficiency in the construction industry.

In-depth analysis is needed of the actual need and of which technologies will produce the greatest synergies. This work must take into account the experiences of collaboration gained via the Top-level Research Initiative (TFI), which includes research programmes dealing with both the climate and energy. To realise their full potential, facilities must be developed in close collaboration with business and industry. It is also important to look at what the EU is doing with regard to the development of testing facilities.

2. Working together on education, training and research for green growth

If the Nordic countries are to lead the way in innovation and green growth, long-term investment in the development of research and knowledge must be prioritised.

Individually, the Nordic countries are too small to play a leading role in many fields of research, which means that, in certain cases, significant benefits of scale can be achieved by partnerships that transcend borders. Considerable progress has been made in that direction, but efforts need to be redoubled.

In autumn 2008, the countries of the Region joined forces for the biggest Nordic research and innovation project ever, the Nordic Top-level Research Initiative (TFI), a five-year programme with a budget of DKK 400 million, involving Nordic stakeholders as well as a whole host of national institutions. TFI is based on commitment from the national institutions and research and innovation sectors, especially funding bodies. Partnership with business and industry is heavily weighted in order to ensure that the research findings have practical applications. Boosting Nordic R&D into green growth will involve building on TFI and the experiences gained during it – in particular, taking into account the universities in the Region, which constitute a major resource in this area.
It is proposed that the Nordic prime ministers commission the education and research ministers, in collaboration with the ministers for energy and trade – to map the opportunities and quantify the added value of working together on national education, training and research initiatives of significance to green growth.

Potential stakeholders: National research and innovation bodies, TFI, NordForsk, Nordic Energy Research (NEF), the Nordic Innovation Centre (NICE), the Nordic University Co-operation (NUS), the technical universities in the Nordic Region (NORDTEK), Nordic Forest Research Co-operation Committee (SNS) and Nordic Joint Committee for Agricultural Research (NKJ).

3. Promoting flexible consumption in the Nordic electricity market

The Nordic electricity market is a prime example of an integrated regional market. Work goes on all the time to develop the market, including making strategically important investments in the grid. One of the main challenges is grid stability, since consumption and production must be kept in balance at all times.

The traditional solution to power shortages has been to draw on backup capacity (e.g. coal-, gas- and oil-fired energy). The expansion of wind power not only helps to meet climate and energy objectives and guarantee supplies, but also makes balancing consumption and production increasingly demanding. Compared with other parts of the world, the Nordic Region has a major advantage, as it has ready access to hydroelectricity that can be regulated swiftly. Indeed, the joint Nordic electricity market already makes good use of this resource. Further harmonisation of the Nordic market, e.g. focusing closely on more flexible consumption, will be needed in order to guarantee and improve the balance between supply and demand in the future. This should reduce the need for environmentally damaging reserve capacity and create opportunities to increase the share of renewable energy in the Nordic grid. Clear incentives for more flexible consumption would also benefit the market, making it attractive to reduce usage during periods of high prices. If demand for electricity is to be redistributed, consumers need to know about their consumption patterns and about prices on an hour-by-hour basis. The development of so-called smart electric meters/smart nights is key to providing consumers with this knowledge. The individual Nordic countries have put a great deal of effort into this over the years.

Another potential initiative would be to start working with leading stakeholders in industry and other customer groups to increase awareness of flexible consumption and energy efficiency. This could be achieved in several ways. In Great Britain, for example, 5-10 of the biggest companies in an energy-intensive industry were invited to produce an idea catalogue in which they share their most positive initiatives.

It is proposed that the Nordic prime ministers commission the energy ministers, in collaboration with the ministers of trade:

a) to reinforce the focus on the demand side in the co-operation on questions concerning the electricity market in the Nordic Region, e.g. promoting flexible consumption of electricity and a Nordic exchange of experiences, and co-ordinating the development and implementation of smart nights, including electricity meters.

b) to promote partnerships with leading stakeholders in industry and the service sector in order to share experiences and best practice in relation to consumer flexibility and energy efficiency.

Potential stakeholders: Business, Nordic system operators (TSOs), national energy authorities and the Nordic Working Group for Sustainable Consumption and Production (HKP).

4. Working together on green technology norms and standards

Many of the branches of business and industry of relevance to green growth are closely regulated, e.g. by technical standards for construction, targets for energy consumption in buildings, and rules for connecting renewable energy
sources to the electricity grid. At present, these rules and norms are mainly determined at national level. Despite the fact that the Nordic countries have more similar starting points and objectives than the EU countries, they have yet to start work on harmonising norms and standards. Several areas are subject to extensive regulation by the EU. The Nordic countries ought to co-ordinate and intensify their efforts to influence norms and standards that are capable of promoting energy efficiency in the EU/EEA. In other spheres, the Region can make demands that are more ambitious than current EU regulation, thereby maintaining and benefiting from the Region’s positions of strength. The potential exists for the Nordic countries (e.g. due to unique climatic conditions) to co-ordinate building standards and rules so that requirements on components, for example, can be drawn up in the same way. Under certain circumstances, it may also be possible to set minimum Nordic requirements that are stricter than EU rules, as long as they do not restrict competition. It would be best to start in areas where the impact would be greatest (e.g. boilers, windows and doors).

There is much to be gained by the Nordic countries working more closely together to co-ordinate regulations. It would allow green entrepreneurs, green energy suppliers and companies with energy-saving products to approach the Region as a single entity, rather than several distinct, smaller markets. The Nordic Region should lead the way in Europe on green norms and requirements.

It is proposed that:

a) the Nordic prime ministers commission the trade ministers, in collaboration with the energy and housing ministers, to identify the 4–5 most important areas in construction in which technical norms and standards would be suited to co-ordination at Nordic level, and to develop proposals for how the barriers to this work could be removed.

b) the energy ministers, in collaboration with the trade and environment ministers, endeavour to raise the level of ambition in EU work on eco-design and energy-labeling requirements for various types of products. The idea is, in the first instance, to make sure that current action plans are implemented. To this end, the Nordic ministers ought to work to ensure that upcoming plans for energy-related and -consuming products cover product requirements that are of interest from a Nordic perspective.

Potential stakeholders: Business, Nordic standardisation bodies, national technology research institutes, national certification authorities, Nordic project on climate-friendly construction.

5. Working together on green procurement in the public sector

One result of the Nordic welfare system is a large and well-organised public sector, which is also an important market player as far as investments and procurement are concerned. Public procurement accounts for 16% of GDP in the Nordic countries, and for certain products the public sector is the single biggest buyer. In total, public procurement in the Nordic countries is worth €66,156 million p.a. There is no doubt that public procurement can play a major role in influencing the private sector to develop greener products, services and technology in the Nordic countries. At the same time, cost considerations, for consumers as well as public-sector budgets, mean that public procurement must be as inexpensive and effective as possible. Environmental considerations can often help, e.g. by buying products that use less energy.

The Nordic eco-label now covers 63 product- and service groups, and has had an influence on the growth of environmental labels throughout Europe. Environment and energy labels can also exert considerable influence on public procurement. There is huge potential in approaching public procurement from a perspective of “green business models” that look at the whole business chain. To make this work as resource-effective as possible, Nordic efforts should complement and be co-ordinated with the EU’s work on green procurement criteria, eco-labelling and the rest of its labelling schemes, e.g. as expressed in the EU energy-labelling directive.

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It is proposed that the Nordic prime ministers commission the trade ministers, in collaboration with the ministers for the environment and energy, to initiate work that is designed, in the first instance – to identify areas and product groups in which green procurement standards are most efficient in comparison with other instruments; and, as a second step, to study the opportunities for co-ordinating green procurement standards at Nordic level. In so far as green business models constitute a useful supplement to labelling schemes, they may be included in this work.

Potential stakeholders: The Nordic eco-label, national competition authorities and the Nordic Working Group for Sustainable Consumption and Production (HKP), authorities responsible for public and technical procurement.

6. Developing techniques and methods for processing waste

The question of waste management and recycling has attracted increasing attention in recent years, especially in the EU. The EU has set a target of recycling 50% of household waste and 70% of construction and demolition material by 2020. As far as waste management and recycling are concerned, some of the Nordic countries are well positioned in comparison with both the EU and the OECD, but the Region is still far from being a life-cycle society.

The Nordic countries have the opportunity to use their prominent position, work together and take a lead in the development of a life-cycle society – a policy that would open up global export markets for Nordic methods and technology. The trend towards higher prices for raw materials underpins the need for a Nordic policy of this type.

It is proposed that the Nordic prime ministers commission the environment ministers, in collaboration with the energy and trade ministers – to develop joint Nordic methods and technology for selected types of waste in which there is known potential, e.g. building and construction waste, food waste and scrap metal, in order to create a resource-effective life cycle in the waste-treatment sector.

Potential stakeholders: Nordic Waste Group (NAG), the Nordic Working Group for Sustainable Consumption and Production (HKP), Nordic Working Group on Environment and Economy (MEG), Nordic Energy Research (NER).

7. Promoting the integration of the environmental and climate considerations into development aid

By international comparisons, the Nordic countries are major donors of development aid. Sweden, Norway and Denmark spend approx. 1% of their Gross National Income on development aid. In 2009, the total Nordic (excluding Iceland) net costs for state international aid were $13.98 billion.

Sweden, Denmark, Norway and Finland have incorporated environmental and/or climate targets and priorities into their development aid programmes, but more could be done to integrate environmental aspects into aid otherwise provided with no strings attached. Closer integration of a green profile into development aid has great potential in terms of combating poverty, improving the environment and reinforcing social and economic development in the world’s least developed countries. A joint approach by the effective Nordic development aid bodies, preferably co-ordinated with other stakeholders, especially in the private sector, has the potential to promote greater emphasis on green criteria in international development aid and make an impact on the global environment.

The Nordic countries already collaborate on climate- and environment-focused aid via the Nordic Development Fund (NDF). The Nordic Environment Finance Corporation (NEFCO) and NDF have launched the Nordic Climate Facility (NCF), which facilitates exchanges of technology, knowledge and innovative ideas between the Nordic countries and low-income countries on the subject of climate change.
It is proposed that the Nordic prime ministers commission the finance ministers, in collaboration with the trade and energy ministers – to present proposals for how to co-ordinate and reinforce efforts in financial institutions in which the Nordic countries are key players, in order to support funding for growth in green companies and investment.

Potential stakeholders: Business, NIB, NEFCO, NDF, EIB, EIF and national providers of venture capital.

8. Co-ordinating and improving funding for green investment and companies

Funding for investments and projects will be crucial if the Nordic Region is to promote growth in green companies and play a leading role in growth. As well as private investment, the Nordic countries can facilitate funding via their national budgets and via funding bodies in which the Nordic Council of Ministers (NCM) plays a main role, and which are financed by the Nordic budget or owned by the Nordic countries.

Relevant sources include the Nordic Investment Bank (NIB), which provides loans for projects and companies that improve the environment/climate and/or competitiveness. Other sources include the Nordic Environment Finance Corporation (NEFCO), which provides loans for or invests in environmental projects, particularly in Russia, Ukraine and Belarus; and the Nordic Development Fund (NDF), which funds development projects on climate and environmental themes. Nordic Energy Research (NER), NordForsk and the Nordic Innovation Centre (NIce) also have significant roles to play in realising the vision of “The Nordic Region – leading in green growth”.

Other relevant institutions include the European Investment Bank (EIB) and the European Investment Fund (EIF), which have drawn up a joint proposal for a Nordic Innovation Fund in collaboration with NIce. The need for a fund of this nature in the Region has also been addressed as a possible flagship project for the EU Baltic Sea Strategy.

Potential stakeholders: National aid bodies, NDF and NEFCO.

Timetable for reporting back

The ministers responsible for the respective priority areas are requested to make progress reports to the prime ministers’ summer meeting in 2012.
Appendix 1
Members of the Working Group for Green Growth

**Denmark:** (chair)
Martin Lindgreen, Head of Department, Ministry of Climate and Energy
(From the meeting on 4 May 2011)
Peter Lundquist, Head of Department, Ministry of Climate and Energy
(Until the meeting of 4 May 2011)

**Finland:**
Hanna Hämäläinen, Ministerial Adviser, Ministry of Employment and the Economy

**Norway:**
Øyvind Lone, Senior Advisor, Ministry of the Environment

**Åland:**
Robert Mansén, Head of Unit at Åland Technology Center

**The Faroe Islands:**
Oyvindur av Skarði, Advisor on Innovation at the Ministry of Trade and Industry

**Sweden:**
Lars Lundberg, Assistant Under-Secretary, Ministry of Finance

**Greenland:**
Peter Hansen, Senior Advisor

**Iceland:**
Benedikt Hóskuldsson, Minister-Counsellor and special representative on energy issues, Ministry of Foreign Affairs

**The Nordic Council of Ministers:**
Kristian Birk, Head of Department, Growth and Climate

**Secretariat:**
Astrid Rathe, Head of Section, Ministry of Climate and Energy, Denmark

Ola Yndeheim, Senior Advisor, Nordic Council of Ministers

Footnotes


1 Vista Analyse (2011), “Greening the economy: Nordic experiences and challenges

1 Kunskap för grön tillväxt (2011), Sweco Eurofutures AB.

1 Green paper “Green business models in the Nordic Region. A key to promote sustainable growth” (October 2010) – http://www.foranet.dk/media/27577/greenpaper_fora_211010.pdf
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As a follow up on the 2010 Nordic Globalisation Forum held on May 20 in Snekkersten, Denmark, on the theme “Green growth – perspectives for close Nordic co-operation”, the prime ministers decided to appoint a task force/working group with a focus on green growth. The Working Group’s mandate is to map specific Nordic strengths and tangible areas in which Nordic co-operation creates or has the potential to create synergy. The Working Group’s report will be presented and discussed at the 2011 Nordic Globalisation Forum.