

# Nordic Energy Co-operation: Strong today – stronger tomorrow

BY JORMA OLLILA



Nordic Council  
of Ministers

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**Nordic co-operation**

Nordic co-operation is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, and the Faroe Islands, Greenland, and Åland.

Nordic co-operation has firm traditions in politics, the economy, and culture. It plays an important role in European and international collaboration, and aims at creating a strong Nordic community in a strong Europe.

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# Background

On 27 October 2015, the Nordic Council of Ministers for Business, Energy and Regional Policy (MR-NER – which will be renamed the Nordic Council of Ministers for Sustainable Growth as of 2018) decided to carry out a strategic review of Nordic co-operation on energy and how it could be developed over the next 5–10 years. The strategic review of energy co-operation is part of the Nordic Council of Ministers' reform project initiated by its Secretary General, Dagfinn Høybråten. Strategic reviews have previously been conducted on foreign and security policy, health and labour-market co-operation. The remit was to present 10–15 concrete proposals that would further enhance co-operation in areas in which significant positive outcomes have been achieved over the past two decades. In January 2016, I agreed to undertake this task.

I have since held extensive consultations with ministers, MPs, civil servants, academic researchers, other research institutions, energy companies, regulatory authorities, think-tanks and environmental and energy business organisations, as well as electricity-market participants throughout the Nordic countries. Meetings with the EU Commission, the International Energy Agency, the Nordic institutions and within the Baltic States also proved useful. In total, the project involved almost 100 interviews.

The Paris Climate Change Conference of December 2015 and the EU's goal of working towards a European Energy Union make this review particularly timely. It is also based on the Nordic countries' own reviews of their national climate and energy policies. The geopolitical landscape is currently in a state of flux – global trade and climate policies are under pressure, and nationalist tendencies are emerging in many countries. This presents many challenges to Nordic energy co-operation, which has achieved ground-breaking results based on cross-border co-operation. Various studies have

also shown that the Nordic Region has made similarly dramatic gains in terms of welfare. The time has come to assess how the Nordic countries can build on this success, despite adverse international trends. This review seeks to identify these challenges, present proposals for how the Nordic countries can move forward, and inspire further discussion and debate.

I am convinced that this co-operation will enhance welfare in the Region, as working even more closely together will help secure the most efficient solutions. It is the duty of decision-makers to find ways of working together that ensure that such gains can be distributed across the whole population. This means, among other things, that joint measures on energy co-operation across borders must also take into account the impact on employment. In this review, I have given considerable thought to this aspect. We need to fully exploit Nordic innovation potential with regard to energy in order to create new jobs in this area. The energy transition is already underway – if the Nordic countries do not participate to the fullest, the jobs will be created elsewhere.

This review has benefitted enormously from the extraordinary openness and frankness of the public-sector partners and private-sector stakeholders interviewed. I am truly grateful to all who contributed to the discussions – their insight, experiences and points of view have been invaluable. Special thanks must go to the Secretariat of the Nordic Council of Ministers, and in particular to Senior Adviser Jens Skov-Spilling, who was instrumental in helping me to conduct this review.

The final edit of this report was concluded on 10 May 2017.

**Jorma Ollila**





PHOTOS: UNSPLASH.COM



# Nordic Energy Co-operation

## – a new vision

The Nordic countries have a unique and long-standing co-operation on energy. 2015 marked the 100th anniversary of the laying of the first under-sea power cable, between Denmark and Sweden. The co-operation really took off with the first meeting of the Nordic energy ministers in 1980, but the subject has been on the agenda since the Council of Ministers was established in 1972.

Right now, Nordic energy co-operation is strong.

In terms of carbon intensity, the Nordic electricity mix is 25 years ahead of the rest of the world. Nordic CO<sub>2</sub> emissions per unit of electricity produced were one fifth of the global average in 2016. If the rest of the world follows the International Energy Agency's two-degree scenario, this level will be achieved globally in around 2040. Furthermore, the Nordic Region decoupled GDP from energy-related CO<sub>2</sub> emissions circa 1997. Over the following two decades, gradual emissions reductions have been sustained, while GDP has grown.

In the years to come, the context for Nordic energy co-operation will be shaped by the 2015 Paris Agreement, ambitious national climate and energy goals, and the European Union's goal of developing an Energy Union.

Nordic energy co-operation is primarily driven by the political will to establish a clear strategic direction. This is best illustrated by the common Nordic electricity market, which has made significant progress on green transition. The coming decade will be particularly challenging. To take just one example, further progress in the transport sector

depends on strong political leadership and a clear direction for both energy co-operation and Nordic co-operation as a whole.

Nordic energy co-operation takes as its starting point the ambitious national plans for ongoing green transition. As will be outlined in this review, further optimisation will make Nordic co-operation an even more effective tool for reaching these national goals.

The first step is for the Nordic countries to define a new political vision for energy co-operation, consisting of clear strategic goals and targets for the next decade. The vision should form part of the new programme for energy co-operation 2018–2021, which will be drawn up by the energy ministers later in 2017.

The vision should focus on continuing to establish new positions of Nordic strength and approaches in order to address common challenges in the green transition. It should also address how best to profile the Region's unique contribution to the global green transition in the wake of the Paris Agreement. This should be done in a way that maintains – or increases – the share of Nordic exports of green solutions. The co-operation should also focus on establishing a systematic, strategic and political approach to co-operation, in order to strengthen the Nordic voice, raise the Region's profile and secure Nordic influence in international forums – in particular, the EU.

Naturally, the vision should also reflect the fact that Nordic co-operation is a consensus-based

form of enhanced national decision-making. It must therefore acknowledge that co-operation will ultimately be based on the individual countries' national policies and priorities. However, as the countries become more and more interdependent, the vision should identify areas where Nordic implementation would be more effective than national policy implementation.

### PROPOSAL 1: DRAW UP A VISION FOR NORDIC ENERGY CO-OPERATION

The time has come to assess how the Nordic countries can raise their ambition to a new level in energy co-operation.

The target needs to be to create the smartest energy system in the world and to find the most cost-efficient solution in moving towards the low-carbon green economy.

The Nordic countries can act as a visionary trend-setter by building a smart energy system into our Region. This will enhance welfare, as working more closely together will ensure the best and most efficient solutions. Nordic energy-co-operation should look at ways of working together that will spread the benefits of this co-operation across the whole population, e.g. by introducing cross-border measures that fully exploit innovation potential and create jobs. The energy transition is already underway – if the Nordic countries do not participate to the fullest, the jobs will be created elsewhere.

### PROPOSAL 2: CONDUCT NORDIC PEER REVIEWS BEFORE DECIDING ON AND IMPLEMENTING NATIONAL POLICIES

As the countries become more interdependent, with policies in one country having a direct impact on neighbouring countries, it is increasingly important to conduct Nordic analyses of national policies.

A first step could be to draw up and use Nordic definitions and methodologies for the formulation of national policies. These would be based on similarities between the countries' national policies and priorities. An ambitious next step could be Nordic peer review of the national policies' impact on the neighbouring countries, which would help to optimise national green transition in an integrated Region. This approach would provide the basis for a discussion revolving around shared principles to decide upon the appropriate level of action – national, regional and/or international.

## EXAMPLE OF WORKING MORE CLOSELY TOGETHER

National policies and Nordic co-operation could be more closely linked via the European Commission's proposed legislation on the Energy Union, part of which concerns integrated national energy and climate plans. The Commission states that fixed national energy and climate plans up to 2030 would provide regulatory stability for investment and ensure transparency with regard to national efforts. The Nordic approach could consist of establishing the common methodology, framework and targets for national energy and climate plans. This would require that the Nordic countries identify similarities in terms of national policies and priorities, and thereafter determine the most appropriate level of action – national, regional or international – for reaching these national targets.



PHOTO: SCANPIX.DK



# Getting the most out of Nordic Energy Co-operation

European Union proposals are to a large extent the main driver for Nordic national energy policies. The latest example is the Energy Union, in relation to which the Commission has identified regional co-operation within a common European Union framework as a key component.

A quick look at the different regional set-ups in Europe in which it is relevant for the Nordic countries to work reveals quite a complicated map. For example, the regional co-operation on energy in the Baltic Sea region is conducted within the framework of the Baltic Energy Market Interconnection Plan (BEMIP). The Pentalateral Energy Forum is the framework for regional co-operation in Central Western Europe (BENELUX/DE/FR/AT/CH), with a view towards improved electricity market integration and security of supply. Here, the Nordic countries (SWE/DK/NOR) participate at working group level on flexibility in the electricity market. The countries in the North Sea region (BENELUX/DE/FR/DK/IRL/NOR/SWE) have agreed on a declaration to work more closely together. The aim is to create good conditions for the development of offshore wind energy, in order to ensure sustainable, secure and affordable energy supply in this region. In addition, international co-operation within the EU, the International Energy Agency, the Clean Energy Ministerial forum, etc., are all relevant to the Nordic countries.

These examples of regional and international co-operation are not listed here in order to imply inefficiency or irrelevance – rather, the intention is to illustrate the considerable scope for Nordic influence. The Nordic countries should therefore use

their own regional energy co-operation to secure a strategic and structured approach towards these other set-ups – one side-effect of which is expected to be a more efficient use of national resources.

There is enormous potential here. The Nordic Region is one of the 12 largest economies in the world. This is more than just a number – it is living proof that green transition is not incompatible with economic growth, even in a large-scale, integrated economy. Even more importantly, it illustrates that the Region has a strong collective voice, which raises the prospect of exerting Nordic influence on new EU legislation and promoting the global spread of Nordic visions and solutions.

## PROPOSAL 3: STRENGTHEN AND ACTIVATE THE NORDIC VOICE BY DEPLOYING IT STRATEGICALLY

This proposal is more than an abstract intention, as the Nordic Council of Ministers provides a practical, institutional context for facilitating political dialogue. It is proposed that Nordic co-operation is operationalised in the following manner:

## PROPOSAL ON HOW TO OPERATIONALISE NORDIC ENERGY CO-OPERATION

**The aim is that the ministers provide more structured guidance regarding the activities within and between the working groups. The ministers' mandate to the government officials is vital for ensuring Nordic results abroad and helping the countries to implement their national energy policies in the best possible way.**

### 1

At the annual meeting of the Nordic energy ministers, the country that will hold the Presidency of the Council of Ministers in the coming year should facilitate a political discussion based on its priorities. The ministers should agree on the main Nordic positions for the year, which regional forums and/or international organisations should address the issues concerned, and which country should take the lead in promoting the Nordic positions on the different topics/institutions.

### 2

Based on this political agreement, the senior officials will operationalise these decisions at a subsequent committee meeting. This implies establishing both a work plan for the coming year and a mandate that will be given to the Nordic working groups within energy co-operation. These currently consist of the Electricity Market Group, the working Group for Renewable Energy and the Working Group for Energy Efficiency, but other ad hoc groups may also be established in response to political decisions.

### 3

At the mid-point between annual meetings of the Nordic energy ministers, there should be a meeting of high-level government officials (linked to the committee of senior officials), which follows up on decisions taken at the previous ministerial meeting and identifies actions that need to be taken prior to the next one.

## EXAMPLE OF STRATEGIC DEPLOYMENT OF THE STRONG NORDIC VOICE

The Nordic countries are, in various ways, promoting the national green transition via support schemes for renewable energy. The stakeholder consultations that informed this review revealed a strong consensus that a well-functioning EU Emissions Trading System (ETS) could eventually replace or reduce the need for national support schemes for renewable energy.

The idea behind the ETS is that emissions trading brings flexibility, and thereby ensures that emissions are cut where it is least expensive to do so. This is done by creating a market for CO<sub>2</sub> emissions, in which an overall limit is set on the amount of CO<sub>2</sub> emissions allowed in the EU. In other words, a cost (a carbon price) is associated with CO<sub>2</sub> emissions. If the carbon price is right, the ETS will promote investment in clean, low-carbon technologies in order to keep costs down for the emitter, and as such also supports the 'polluter pays' principle. A well-functioning ETS would therefore create fair competition between different (renewable) energy technologies while securing a cost-effective green transition, and thus making the green transition market-based.

However, at present, the ETS does not function in a way that guarantees prices for emissions that act as an effective incentive. The ETS system is therefore being reformed – a process supported by the Nordic countries. It remains to be seen whether the agreed reform will lead to a sufficiently well-functioning ETS.

### How should the Nordic energy ministers approach further reform of the ETS?

The focus should be on securing the most efficient green transition. If the ETS does not provide this, it may be relevant and timely to discuss a joint Nordic approach to the support schemes for renewable energy. Another approach could be to discuss the introduction of a Nordic carbon price, based on the United Kingdom's carbon price floor (above the ETS CO<sub>2</sub> price), in order to secure stronger incentives for the green transition. Other European countries are considering similar proposals.

It would therefore be relevant for the Nordic energy ministers to discuss issues like a joint position on the ETS, on support for renewable energy and the viability of a Nordic carbon price floor. The latter would be an example of a strengthened Nordic voice in the EU, and a strong indication of the Nordic approach to the possible need for further reforms of the ETS. It is in each country's interest to clearly establish the context for these discussions at Nordic level. Strong Nordic positioning will therefore secure Nordic energy co-operation and help the countries to achieve their national priorities.



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# The Nordic energy sector must act as one and avoid sub-optimal national solutions

The preceding sections have focused on an alignment of national policies and activities, based on an overall vision for Nordic energy co-operation.

Each Nordic country has its own ambitious national climate and energy targets. Most of them have just published the findings of national energy commissions. A logical consequence of this is that they have often also drawn up national growth and export policies based on national climate and energy strengths to boost their own competitiveness. This is an understandable and in some ways logical response to the challenges and opportunities facing each of them. All countries set priorities that are designed to maximise and maintain their own welfare and wellbeing.

This review finds that competition from the larger global players in the area of green solutions is increasing rapidly. We must therefore ask ourselves whether we as a region can afford to maintain this primarily national approach.

## SECURING THE FUTURE FOR NORDIC POSITIONS OF STRENGTH

The Paris Agreement and the subsequent green transition can be seen as indicators of a growing market for Nordic energy solutions. However, this is just one part of the story. It is equally important to note that the Nordic countries are still a long way from completing the green transition, that competition among major players to provide much needed solutions is increasing and that changes are happening at an unexpected pace.

The Nordic countries have established a range of solid energy businesses and Nordic positions of strength within energy systems, based on their energy resources and national characteristics. Each country is focused on meeting its ambitious national climate and energy targets. This should be acknowledged within the Nordic co-operation, but it must also reflect on what can be done more effectively by working together. The alternative might be losing out in the global competition. The concern is that national activities in the Region lack critical mass, and are less than optimal for achieving the goals of reinforcing positions of strength and pursuing export opportunities.

The challenges associated with the transport sector (*see Example of the transport sector – the national challenge on page 19*) illustrate the need for a Nordic approach to the next level of green transition.

The first proposal was to define, at the political level, the vision for Nordic energy co-operation (as per Proposal 1). In this subsection, the focus is on concrete proposals for Nordic alignment within research and business development, with a view to reinforcing regional and national positions of strength. To some extent, the below order of proposals can be viewed as roadmap for securing future Nordic positions of strength and competitiveness.

This work should take as its starting point Nordic Energy Research (NEF) – the platform for co-operative energy research under the Council of Ministers. All five countries are represented on the NEF board.

The first step is for board members to secure support in relevant national institutions and then to discuss the rationale for – and value of – Nordic co-operation on energy research and how it should support national initiatives and thereby create the optimal research-based foundations for national policy implementation.

#### PROPOSAL 4: MULTIPLY THE EFFECT OF CURRENT NORDIC RESEARCH ACTIVITIES THROUGH MAPPING AND STREAMLINING

Current research activities, at both Nordic and national level, should be mapped, discussed and aligned within the planned new strategy for Nordic Energy Research. According to the IEA, the Nordic countries spent approximately EUR 1 billion on energy research in 2014 (private sources also invested more than double this amount, according to a rough estimate from Nordic Energy Research. The estimate is based on data from national statistics agencies and the OECD). Even within individual countries, research topics may be replicated at numerous centres, with no coordination between them. On the one hand, this may be indicative of healthy competition among researchers – but on the other, it suggests that opportunities to establish synergies, clusters and Nordic positions of strength are being missed. The role of research and development in the green transition cannot be underestimated. A certain volume of funding resources and critical mass is needed to get the intended results, which therefore requires the streamlining of Nordic and national activities.

For this reason, it is proposed that a mapping exercise of current activities is conducted, followed by a discussion of the potential to ensure a coordinated focus on specific areas. It is not possible in advance to pick the winners in

the process, but 'luck' tends to favour the well-prepared. If the activities at the different Nordic/national institutions, universities and research clusters were streamlined, this would have a huge impact on the Region as a hub for new technologies, and provide a strong platform for optimising research through synergies, from the perspective of both the government and the companies involved. As it is today national research funding pools are often limited to national activities, which hinders the development of new Nordic and national strengths.

The mapping and alignment of activities should also be linked to the EU level, as research, innovation and competitiveness together form one of the five dimensions of the Commission's Energy Union strategy.

#### PROPOSAL 5: CREATE A VISION FOR NORDIC ENERGY RESEARCH CO-OPERATION

The above mapping should lead to the Nordic energy ministers drawing up a vision for Nordic energy research co-operation that will secure Nordic positions of strength, and therefore Nordic welfare.

The political vision should, as mentioned above, include a Nordic position towards the EU within the field of energy research, in order to strengthen the Nordic voice (as per Proposal 3). At European level, the European Strategic Energy Technology Plan (SET-Plan) aims to accelerate the development and deployment of low-carbon technologies. It seeks to improve new technologies and reduce costs by coordinating national research efforts and helping to finance projects. The SET-Plan thus seeks alignment at European level to facilitate green transition. The European Energy Research

## **EXAMPLE OF THE TRANSPORT SECTOR – THE NATIONAL CHALLENGE**

It seems that the greatest challenges in green transition still lie ahead. This is not just a matter of greening the energy sector – there are numerous cross-sectoral challenges, particularly in the agricultural and transport sectors. The transport sector probably has the greatest relevance for Nordic energy co-operation, as it involves interlinked solutions, e.g. in relation to electrification. In order for the green transition to be successful, it is essential to reduce emissions from transport. Major global players like China, Japan and Germany are investing heavily in low-carbon transport. Each Nordic country is addressing the challenge of transport at national level – and in more or less different ways. This is less than optimal, and means the Nordic Region is potentially missing out on new positions of strength. We need to ask ourselves, again, whether this is truly affordable if we want to maintain our living standards and welfare model.

## **EXAMPLE OF THE TRANSPORT SECTOR – THE WAY FORWARD TOGETHER**

The proposed alignment in research, combined with the alignment of national green transition strategies, could form the basis for a Nordic approach to the challenges of greening the transport sector. This might involve the countries working together on electrification of relevant parts of the transport sector, supported by research and development in energy storage, including batteries and recycling them (establishing a Nordic position of strength in the recycling of lithium batteries in the process). In addition, relevant research could be used to create a position of Nordic strength in areas where electrification is not feasible in the foreseeable future. The countries therefore ought to engage in a joint effort aimed at making a commercial breakthrough in the greening of heavy transport, shipping and aviation. In other words, this could be a joint plan for electrification of the transport sector, further development of energy storage and for using biofuels (and biogas) in areas where electrification is not yet an option.

Alliance (EERA) aims to accelerate new energy-technology development by coordinating efforts on pan-European programmes. It plays an important role in promoting coordination among energy researchers, as per the objectives of the SET-Plan, and in facilitating technology transfer to industries.

It is in the Nordic countries' interest to be as well-equipped as possible to participate in the global race to establish positions of strength in energy solutions, including a common approach towards the EU in the field of energy research.

## **NORDIC POSITIONS OF STRENGTH FOR THE ENTIRE REGION**

A part of defining the political vision for Nordic co-operation on energy research is to ensure that the vision covers and engages the whole Nordic Region. One of the reasons why the electricity market is synonymous with Nordic energy co-operation in many people's minds is, of course, that it is a great success, but it also has to do with the fact that it is clearly defined and easy to work on.

The proposals outlined above are not necessarily easy to implement, and may even seem far-fetched or unrealistic. It is hard enough to align efforts on greening the transport sector within one country – but exponentially more difficult at regional level. However, the scale of the challenge does not diminish its necessity. A joint Nordic approach is essential if the countries are to fulfil their national ambitions efficiently, including creating positions of strength and securing jobs, in a way that benefits Nordic people and businesses (*see Example of the transport sector – the way forward together on page 19*).

During the stakeholder meetings, representatives

from Iceland, the Faroe Islands, and Greenland made clear that Nordic energy co-operation should provide concrete, solutions-oriented co-operation tailored to local challenges, e.g. linked to areas not connected to the common grid.

In these areas, green transition presents both a challenge and an opportunity. The challenge is clear – energy needs to be produced and delivered locally. The opportunity stems from the fact that this is an issue encountered in many places around the world, and a Nordic solution therefore represents another position of strength.

Åland is part of the Nordic electricity market, but due to its size it has – like Iceland, the Faroe Islands and Greenland – expressed a strategic wish to act as a testbed for climate and energy solutions.

This common strategic approach would allow in-depth exploration of the challenges and opportunities associated with off-grid supply, as well as the possibility of testing solutions at small-scale but real-world settings. If incorporated properly, this approach will enable the Nordic Region to become a hub for new technologies and to maintain its current positions of strength.

Nordic energy co-operation must deliver on this in order to be truly relevant.

## **HOW TO ALIGN THE WHOLE NORDIC REGION AND RETAIN A LEADING POSITION IN GREEN TRANSITION**

Proposals 6–8 provide a road map for how to achieve the aims of Proposal 5 (Create a vision for Nordic energy research co-operation). The proposals set out an ambitious but necessary Nordic approach to maintaining the lead in the green transition.



## EXAMPLES OF HOW TO USE THE WHOLE NORDIC AREA AS A TESTBED

All geographical areas of the Nordic energy co-operation can, based on their respective characteristics and different positions of strength, be testbeds. The examples below are not exclusive or excluding but should be thought of as illustrative of opportunities. The locations, too, have been chosen purely for illustrative purposes. It should be noted that public/private partnerships are the best way to develop testbeds.

Use Nuuk as a testbed for full deployment of electric vehicles. The area's dimensions, conditions and challenging environment make it ideal for this purpose.

Use the harbour in Reykjavik as a testbed for infrastructure and systems that can support the electrification of visiting cruise ships, fishing boats and inter-harbour transport, and thus contribute to greening of the transport sector.

Expand knowledge of the green transition in the Faroe Islands, including the development of battery technology and other energy storage – also in relation to sparsely populated areas.

Use Åland as a testbed for smart energy.

All of the above examples can be combined and expanded throughout the Region. Why not establish a (virtual) cluster that encompasses both the harbour in Reykjavik and the electrification of Copenhagen harbour's (water)buses?

This may sound overly ambitious – but imagine the effect and potential synergies. Proposals 6-8 outline how this could be achieved in a way that ensures the creation of localised intellectual property that enables the local development of new positions of business strength with growth opportunities.



PHOTO: SCANPIX.DK



PHOTO: NORDEN.ORG/YADID LEVY

As can be seen, there is natural linkage from these proposals to the overall vision for Nordic energy co-operation (Proposal 1), as well as to later proposals on the global positioning of Nordic energy solutions. The following proposals 6-8 should, of course, allow for Iceland to participate even though the country is not a part of Mission Innovation.

#### PROPOSAL 6: USE MISSION INNOVATION TO CREATE AND REINFORCE NORDIC POSITIONS OF STRENGTH

Mission Innovation was launched at COP21 in Paris. It is a global initiative, involving 22 countries and the European Union, aimed at enhancing global innovation on clean energy. All of the Nordic countries apart from Iceland are participants. As part of the initiative, the countries involved have committed to doubling their governments' investment in clean-energy research and development over five years (up to 2020), while encouraging greater levels of private-sector investment in transformative clean-energy technologies.

Smaller nations need to work together to obtain the critical mass needed to meet the challenges. The possible welfare gains in doing things a bit differently are encouraging.

Based on the mapping and streamlining in Proposal 4 and the vision on research in Proposal 5, the national approaches to the implementation of Mission Innovation should be aligned. This discussion should identify the actions best suited to implementation at national level and those that would be of greater benefit at Nordic level. It would be relevant to include Proposal 2 (on conducting Nordic peer reviews of national policies) in the discussion. It is also important to focus on securing

the link from Nordic research and development activities to reaching markets.

#### PROPOSAL 7: PROMOTE NORDIC POSITIONS OF STRENGTH BY CREATING A EUR 67 MILLION NORDIC RESEARCH AND DEMONSTRATION PROGRAMME

In connection with the Nordic alignment of Mission Innovation, a research and demonstration programme should be established, including a public-private partnership in which the participating companies add funding to the programme.

Research and innovation in relation to energy solutions ought not to be limited by national borders, as clusters sometimes involve multiple cross-border stakeholders. Size matters, and therefore it will be necessary to combine Nordic and national funds. The somewhat limited Nordic resources can be used to align the national activities and funds. This can be done in different ways, and in fact can also be linked to European sources of funding.

The national contribution could be anchored in the national research and demonstration programmes in order to ensure the link from Nordic to national level. It is important that the programme is cross-sectoral and linked to the vision for Nordic energy research co-operation (Proposal 5). The Nordic institutions Nordic Energy Research, NordForsk and Nordic Innovation will thus be the 'instruments' carrying out the politically determined vision.

The work on setting up the proposed programme can be based on the experience acquired in the previous joint Nordic Top-level Research Initiative and the current programme 'Nordic Green Growth Research and Innovation' between Nordic Energy Research, NordForsk and Nordic Innovation. History

has shown that the administration and funding of these types of projects can be challenging. A well-developed type of administrative setup must be used.

The programme should pursue an open and transparent testbed strategy that will enable the creation of multiple positions of strength, and therefore strengthen and address the entire Nordic Region. In the creation of testbeds, it is important to ensure the generation of localised intellectual property that enables the host to develop new positions of business strength with growth opportunities.

It has been stressed during the stakeholder consultations that concrete, solutions-oriented co-operation tailored to local challenges will be important for Iceland, Åland, the Faroe Islands and Greenland if they are to succeed in their testbed ambitions.

The Nordic research and demonstration programme should therefore be supplemented by a university- and research-cluster component that establishes co-operation between institutions and universities across the Region. This will facilitate the potential development of local solutions that may attract business and export opportunities to all parts of the Region.

#### **PROPOSAL 8: SET UP A NORDIC PHD PROGRAMME IN ENERGY AND TRANSFORM TESTBEDS INTO NEW POSITIONS OF STRENGTH**

To make concrete the co-operation between institutions and universities across the Nordic Region, a PhD programme (or similar) in innovation and energy should be introduced. It should be based on co-operation between the Nordic Council

of Ministers for Education and Research (MR-U) and the Nordic Council of Ministers for Business, Energy and Regional Policy (MR-NER). An industrial PhD programme should also be considered in order to strengthen links between research and product development. The same considerations regarding the setup of the programme mentioned above also apply here.

Adopting this approach to research and development within Nordic co-operation will provide a solid basis for ongoing work on energy solutions that will benefit the whole Region.

#### **PROMOTION OF NORDIC POSITIONS OF STRENGTH**

As mentioned above, the 2015 Paris Agreement marks the beginning of a new era of global efforts to ameliorate climate change.

The central aim of the Paris Agreement is to strengthen the global response to the threat of climate change. Of most relevance to this review is the fact that the agreement largely focuses on nationally determined contributions, e.g. all countries are required to report regularly on their implementation efforts. The Nordic Region has proven results in this field, and therefore naturally serves as a source of inspiration for global players. This suggests that there is great market potential for Nordic energy solutions, in the form of both system solutions and specific energy sources. With the implementation of a renewed vision on research and development, the Nordic countries will be well-suited to continue to be in a strong position in the growing but ever more competitive market. It is now relevant to ask how the Nordic countries should approach the global positioning of its energy solutions.



Internationally, the Nordic countries are often considered as part of a single, larger unit, rather than as specific, individual countries. It makes little difference to a potential global investor if the solution is Danish or Norwegian. Why should a relevant Finnish business not participate in a promotion in China headed by a Swedish minister or trade organisation? There is therefore a need for alignment in the promotion of Nordic energy solutions.

Recently, there have been several examples of joint Nordic promotions. First, Nordic companies and solutions were presented at the Nordic Efficiency pavilion at the World Efficiency conference in the run-up to COP21 in Paris. This was followed by the joint Nordic pavilion at COP21, which established a platform for New Nordic Climate Solutions. A similar platform for New Nordic Climate Solutions, including a Nordic business pavilion, was provided at COP22 in Marrakech.

It might be argued that the following proposal exceeds the scope of the narrow Nordic energy co-operation. However, in order to get the most out of official co-operation, it must be linked to other parts of the energy sector, including the private sector.

The following proposal is therefore mainly linked to Nordic energy businesses and trade organisations, but also has clear links to energy co-operation and subsequent proposals for securing future positions of strength.

## PROPOSAL 9: POSITION NORDIC ENERGY SOLUTIONS GLOBALLY, LEADING TO A NORDIC EXPORT STRATEGY

This should be driven by the trade and business organisations and the export/trade councils. A first step could be to map current national export activities and identify activities relevant to closer co-operation. This might include defining Nordic clusters that promote climate and energy solutions. Clusters can also consist of the kind of integrated system (turnkey) solutions that are often in high demand in large markets like China. This is often attempted at an embassy/national level, but it appears to be difficult to carry out in practice. Therefore, a further important step for making this co-operation a reality should be for the trade and business organisations and the export/trade councils to formulate a Nordic energy export strategy. This proposed strategy should be discussed and agreed in the Nordic Council of Ministers for Business, Energy and Regional Policy (MR-NER) and in some way be coordinated with the Foreign ministries.

# Taking the co-operation one step further

It should by now be apparent that all of the above proposals, in one way or another, stem from the initial proposal of a vision for Nordic energy co-operation. These proposals explore the nature of co-operation in some depth – and some may argue that they have drifted far from co-operation as it is currently conceptualised.

This is both true and intentional!

However, it is also a clear consequence of the initial remarks on the nature of a current strong energy co-operation. If the Nordic countries wish to continue to play a leading role in green transition in a way that benefits their export opportunities, their welfare and their peoples, then it is clear that this will require both political guidance and an alignment of national activities.

How far should we go in aligning regional policies and activities to strengthen national priorities? The alignment could go even further than has been proposed so far in this review. However, this would require substantial political backing and would most likely be dependent upon the results of political discussions regarding the above-mentioned proposals.

In order to maximise benefit of this alignment in the Nordic Region, it would be natural to consider and investigate the following two proposals.

Firstly, if the Nordic Region wants to maintain a leading role in the global green transition and become a hub for new technologies, then investment needs to be made in areas that are optimal

in terms of resources and human and financial capital, etc.

## PROPOSAL 10: OPTIMISE THE NORDIC INVESTMENT ENVIRONMENT

In order to optimise the Nordic green transition, the national governments should consider, as part of Proposal 2 (on conducting Nordic peer reviews of national policies), taking into account the impact of differences in the investment environment in the Region. One part of this could be an assessment of the influence of differences in taxes and tariffs. It could also include an assessment of access to and demand for investment capital for green transition and a Nordic definition of green bonds.

## PROPOSAL 11: CREATE A LINK FROM NATIONAL DEVELOPMENT ASSISTANCE TO NORDIC ENERGY CO-OPERATION

As a consequence of the global move towards green transition, it has become natural for the Nordic countries to explore opportunities for working on energy issues with other countries abroad. This can be seen in some development-aid programmes, where a Nordic country is working with a developing country's energy administration on green transition. At the same time, export activities are being linked to these efforts (export opportunities associated with the green transition were addressed above). A more radical step would be to forge connections between Nordic energy activities abroad.

In 2017, a new Nordic prime ministers' initiative was initiated – 'Nordic Solutions to Global Challenges'. This programme focuses on, among other things, building sustainable cities, creating integrated energy markets, promoting renewable energy, and pushing for further action on fossil-fuel subsidy reform. The initiative assists the green transition set out by the Paris Agreement by demonstrating possible solutions and promoting the export of Nordic strengths.

The programme is a new departure for Nordic co-operation, a step onto the global stage, as requested by the prime ministers. It would be relevant for the various sectors involved in the initiative, when evaluating its results, to consider if this global perspective should be more formalised within official Nordic co-operation.

The Nordic countries have a solid position of strength when it comes to development aid and green-energy solutions. The prime ministers' initiative will most likely establish links between Nordic activities in this sector and Nordic embassies, as the latter are often involved in activities related to green transition.

At a sector level, e.g. energy and business, it would be relevant to consider a more formalised alignment of external activities at an embassy level, via closer co-operation between Nordic institutions – especially those based in Oslo (research and innovation) and Helsinki (investment and development funds). This closer co-operation could benefit the national activities abroad through strong technical and possibly financial backing.



PHOTO: UNSPLASH.COM

# The electricity market

For many people, the common Nordic electricity market symbolises Nordic energy co-operation as a whole, which is understandable given the great progress in this area. While this is something of an oversimplification, it is also clear from the stakeholder consultations that there should be a specific focus in this review on the way forward for the Nordic electricity market.

The first steps toward a formalised Nordic electricity market were taken when Norway liberalised its national electricity market in 1991. Five years later, Nord Pool was established as a joint Norwegian-Swedish power exchange. Finland joined in 1998, followed by Denmark in 2000. Since then, Nord Pool Spot has expanded to the Baltic region, and now operates energy markets in many European countries.

This is a remarkable achievement in regional integration, and one that is inspiring other regions around the world. There are many reasons for its success. One is the Nordic countries' supplementary mix of natural energy resources. For example, the availability of hydropower from Sweden and Norway has reduced the need for expensive peak power production in Denmark during periods of high demand. The Nordic energy mix therefore plays an important role in balancing electricity supply and demand. For example, water reservoirs allow hydropower to serve as a Nordic battery to compensate for periods without wind.

The energy mix is not the only reason that Nordic electricity market co-operation is a frontrunner in regional integration. Trust among stakeholders is

also a key factor. This trust is rooted in the Nordic energy ministers' determination to expand and integrate the regional electricity market co-operation. The signing of the Louisiana Declaration in 1995 was the first step towards a free and open Nordic electricity market. Important decisions have been taken over the years to follow up on the Louisiana declaration, for example the Akureyri Declaration (2004) on enhanced collaboration among Nordic Transmission System Operators (TSO) and the Copenhagen Declaration (2010) on grid investment planning. It is also worth mentioning that developments in European regulation and collaboration serve as the umbrella under which the Nordic electricity market is structured.

Picture the electricity market integration as a ladder, with a national approach at the bottom and full regional integration at the top. Due to its high level of co-operation, the Nordic electricity market functions well and is highly liquid, and is therefore high up on the ladder. Most of the electricity is traded via power exchanges and the national electricity systems operate as one Nordic system with strong interconnectors, cross-border transmission capacities, a common balancing market, etc.

It has been 20 years since the Louisiana Declaration began the process of integrating and liberalising the Nordic power markets. According to the stakeholder consultations, recent fundamental changes to the Nordic and European markets, such as the increased share of renewable energy, highlight the need for renewed political guidance on the direction of the Nordic electricity market.



In addition to market changes, this time they are supplemented by technology changes. The time has therefore come for the Nordic energy ministers to once again steer the Region's electricity market in the right direction.

### PROPOSAL 12: RENEW THE POLITICAL VISION FOR THE ELECTRICITY MARKET CO-OPERATION

The historic achievements of Nordic co-operation constitute a strong foundation for the electricity market's ongoing adaptation to a future based on a greater share of fluctuating renewable energy. During the stakeholder consultations, trust among the countries was frequently cited as the main reason for the electricity market's success. This underlines the need for continued development of the electricity market co-operation, based on trust and reinforced by strong political guidance. It is crucial that the energy ministers set the political ambition for continued regional electricity market co-operation and agree on a roadmap for realising it.

The increasing share of renewables presents challenges related to security of electricity supply, balancing of markets, capacity adequacy, etc. The electricity market is currently experiencing an excess of generation capacity, leading to historically low electricity prices. In addition, generally lower global energy prices are influencing the European energy mix and are another reason for the low power prices. Lower power prices lead to lower returns on investment in traditional baseload capacity like thermal and nuclear production. This means that there is a need for a discussion on the best way to ensure adequate power generation and the longer-term security of electricity supply.

Market design is an essential consideration in addressing the challenges of green transition, and an important part of the EU's proposed Energy Union. Regional co-operation is therefore a key component in the implementation of the Energy Union. As a prime example of regional integration, the Nordic electricity market has been a source of inspiration for the Commission's proposals for an internal energy market.

The above-mentioned challenges have stimulated debate on how best to secure the future capacity of electricity generation, the functioning of the market and the security of supply as a whole. Part of this debate concerns how producers of electricity should be paid in order to ensure sufficient generating capacity at any given point in time. Should the producers be paid just for the electricity they supply (a model known as an 'energy-only market') or should they also be paid for making capacity available ('capacity payments')? Capacity mechanisms can take many forms and be more or less permanent. Payment can be made in return for maintaining existing capacity or for investing in new capacity in order to guarantee security of supply. Capacity can also be provided from the demand side, e.g. if a large consumer such as a factory postpones their usual demand for electricity.

Today, the Nordic electricity market is largely an energy-only market. Thermal power plants and other suppliers of flexibility are paid primarily on the basis of the energy they supply to the market (e.g. day-ahead and balance market). The market itself finds a balance between the different options, e.g. share of thermal production, energy storage etc. Obviously, political targets also play a role in the development of the market, especially the development of renewable energy. However, the closure of thermal power plants entails a reduction in the market's flexibility and balancing, which makes it vitally important to secure capacity. This situation

is expected to continue, with the more competitive prices for renewable energy capacity.

Developments such as an increased share of fluctuating renewable energy and diminishing profitability on conventional energy sources naturally lead to a discussion of market design. This strategic review finds very little justification for abandoning the energy-only market and introducing or further developing capacity mechanisms. This also implies that the need for the current national capacity mechanisms – e.g. the strategic reserves in Finland and Sweden – should also be reconsidered.

Bluntly, it has been argued that a capacity payment should be introduced in the Nordic electricity market, because all forms of electricity production require subsidies. However, this will, of course, be an inefficient and complicated solution. As will be pointed out below, there are numerous challenges that need to be addressed before any conclusions regarding a potential capacity market may be reached. As such, any future need for market-based capacity/strategic reserves depends on the extent to which the politicians and market players are able to adapt the market to the new realities.

This review does not foresee a need for a capacity market if the right adaptations are made in the light of current market trends, including – as argued below – closer focus on demand response. However, if needed at some point in time, it should be emphasised that mechanisms designed to ensure adequate capacity must be as regional, as market-based and as limited as possible, e.g. as a regional strategic reserve.

### **PROPOSAL 13: DEVELOP THE ENERGY-ONLY ELECTRICITY MARKET**

A well-functioning, regional, energy-only market should be the point of departure for political

discussion on the further development of electricity market integration.

It is beyond the scope of this review to pinpoint the specific actions needed to address the many issues that affect the electricity market. Rather, these should be developed and debated among market participants and politicians. Nevertheless, the section below outlines some of the issues that must be addressed when determining the future direction of the Nordic electricity market.

### **THE DEVELOPMENT OF THE ELECTRICITY SYSTEM**

During the transition from stable, baseload production to a system mainly driven by renewable and fluctuating production, it is important to guarantee that the overall system works. In other words, it is essential to ensure that the system functions and that the market is in balance at any given point. If a greater share of energy supply comes from fluctuating sources, then security of supply becomes more dependent on imports from neighbouring markets. This highlights the importance of transmission lines, interconnectors and capacity availability between countries.

Today, the power grids in Denmark, Norway, Sweden and Finland are closely intertwined. Major interconnectors also link the Region with its European neighbours: the Baltic States, Germany, Poland, the Netherlands and, soon, the UK.

These connections, along with the Nord Pool Spot market, enable the countries to trade power on a daily basis in order to ensure balanced and cost-efficient production. This system has also played an important role in successfully expanding fluctuating renewable energy sources (i.e. wind and solar) and integrating them into the Nordic grid.

## **EXAMPLE OF CO-OPERATION ON SYSTEM OPERATION AS POLITICAL GUIDANCE/VISION FOR THE DEVELOPMENT OF THE ELECTRICITY MARKET**

The Nordic Transmission System Operators are responsible at national level for the functioning of the high-voltage grid, which is the backbone of all electricity transmission. They transmit power continuously from electricity-generating companies to distribution networks and industrial companies. The TSOs handle cross-border connections and optimise the way the electricity market works.

The four Nordic TSOs have been instrumental in developing both the grid infrastructure and the joint Nordic wholesale market. The TSOs collaborate on common grid-development plans and, together with their Baltic counterparts, own the Nord Pool Spot market. Moreover, the TSOs are key actors in balancing supply and demand in the Region, as they buy up- and down-regulation of the power production in close interaction with the market's many commercial actors.

Recently, the TSOs took the integration one step further by opening a joint office in Copenhagen (the Nordic Regional Security Coordination Initiative). It is expected that the office will be responsible for coordinating capacity calculation, outage planning and security analysis, as well as the development of common grid models and short- and medium-term adequacy forecasts across the four countries. The joint office is a good example of Nordic synergy, and also constitutes a joint response to the European regulation requiring the establishment of this so-called Regional Security Co-operation Initiative.

The Commission's proposal on the implementation of an Energy Union requires that co-operation is established via 'Regional Operational Centres' (ROCs). Given that the TSOs are responsible for transmission and system operations, they therefore play a key role in the functioning of market operations, and the establishment of a joint office serves to further secure this.

The key point here is that the system should be optimised based solely on the market's regional functions, instead of national considerations. The TSO joint office is a step towards closer integration. However, it would be relevant for the Nordic energy ministers to consider the future role of the TSOs when defining the direction and the ambitions for the development of the electricity market. How can it be ensured that new investment decisions are made at the right time, based on purely regional considerations and with the right balance of cost/benefit sharing? The TSO co-operation itself goes a long way towards answering these questions.

A suggested starting point could be to give political guidance to the TSOs on their future role and mandate for even closer co-operation between them. The focus should be on maximising benefit for the entire Region. It would be relevant for the politicians debating this to discuss the need for a vision of an independent Nordic system operator.

Political discussion of this kind would ensure that the market functions and system operations are as interlinked as possible. Similarly, it would also be advisable to discuss the co-operation between the Nordic energy regulators (NordREG), with a view to ensuring that the national (retail) market regulation is fully synchronised and that the markets are as integrated as possible.

EU legislation is affecting the Nordic room for manoeuvre, and therefore policy discussions regarding the electricity market should also set out joint positions towards the EU on, e.g. new legislation, access to interconnectors, etc. The political agenda should also encompass, where relevant, a Nordic implementation of legislation, including with regard to the role of national regulators and co-operation between them, within the context of the EU proposals on the EU Agency for the Cooperation of Energy Regulators (ACER). This joint response to EU proposals is part of the stronger Nordic voice (see Proposal 3).

As mentioned in Proposal 12, political leadership and a roadmap are needed, as the structure and functioning of the electricity market are fundamentally changing. In addition to the topics touched upon above, the following issues should also be addressed.

## **ELECTRICITY SUPPLY AND DEMAND STRUCTURE**

The increased share of renewable energy is fundamentally changing the electricity supply structure. In addition, technological developments are introducing smart energy options.

It is a possibility that the rise of the consumer-as-producer (the prosumer) will disrupt the basis of the Nordic electricity market – many households will not just consume electricity but also become electricity producers, via solar panels, microgeneration, etc. These technologies, combined with electricity-storage options, mean that in future households may not need to be connected to the grid. What will this mean for the Nordic electricity market and for solidarity payments? This aspect should be studied in depth and included in discussions on the future of the market.

Energy storage is an area in itself with great potential for securing the future functioning of the market, and possibly a new Nordic position of strength. Other technological developments, e.g. the 'internet of things' – household electronic devices connected to the internet – will increase the role of consumer response (known as 'demand response') in securing market balance. Historically, securing market balance has mainly occurred on the supply side, but the demand side will need to take a more active role. This will also lead to the emergence of new market players. One example is the introduction of aggregators, which manage

the demand response for many households and other consumers who have no interest in actively following the market.

Naturally, the demand response will mostly continue to be driven by the energy-intensive industries. If the price signals for actively taking part in the market from the demand side work well, it will provide a strong incentive for the further development of flexible demand response. This will, of course, also emphasise the need for a competitive retail market – a development that the Nordic countries have actively assisted for the larger industries and are now also assisting for smaller businesses and households with the planned expansion of flexible meters.

In order to motivate the demand side to actively participate in balancing the market, it is essential to remove obstacles to the full activation of end-user demand response and consumer participation. The main features of the end-user markets in the Nordic countries have been harmonised, but some differences still persist. The main aim is to create low barriers to entry across the countries in order to maximise Nordic synergy. This requires political guidance, in the form of a roadmap for both demand-side responses and the further harmonisation of the retail market – a development that the Nordic countries have actively assisted since the 2009 decision on a common end-user market.

## **THE IMPORTANCE OF PRICE**

In securing the future functioning of the electricity market, the electricity price is a key factor. If the price is more responsive to scarcity in the market, it will be a far better source of guidance for market actors. This also implies that the market should be allowed to play out and find its balance, even



if this results in very high prices during certain periods. Stronger price signals will therefore be the relevant driver for new investments, which implies a level playing field for all market participants. If the price signals are right, the offering of flexible consumption or production will be of value for the market players, thus motivating them to participate in the market.

The solution also entails a need for real-time price information, in order to steer generation and consumption and highlight the value of flexibility. In addition, the market design should encourage some production at market terms and at certain times, to move from the spot market to the balance market.

In order to ensure that the market works properly in the future, it is essential to determine how renewable energy will be paid for and to evaluate the effectiveness of the reform of the European emissions-trading scheme. A Nordic approach to this is addressed above, in Proposal 3 on the strong Nordic voice. It should also be stressed that defining a common Nordic approach to supporting renewable energy (as long as this is needed) would benefit the Nordic electricity market – the markets are interlinked, which means that one country's policy actions directly affect its neighbours.

Ideally, this alignment would happen within a well-functioning ETS, but this appears to be unrealistic – at least for the foreseeable future. Nordic peer reviews would therefore have to be conducted as part of a political discussion on a common approach on future support for renewable energy. This approach is also relevant for activities linked to sectors not covered by the ETS.

The debates surrounding support for renewable energy often include discussion on striking a balance between supporting specific renewable

energy sources and neutral schemes that are open to all technologies. This discussion and future support should focus on evaluating trends in technological development. This would provide a realistic idea of when the technology will be able to compete on market terms, and therefore of the projected end-date for the support.

### **THE WAY FORWARD, INCLUDING INVOLVEMENT OF STAKEHOLDERS AND THE BALTIC STATES**

The political ambition and roadmap should both have a clear focus on the involvement of the Baltic countries, which are a transit area for Nordic electricity. Strong interconnection will improve energy security across the whole Region. Day-ahead and intraday markets are already fully integrated. This Nordic political focus would and should be in line with activities undertaken at BEMIP level. Close Nordic-Baltic electricity market integration will also strengthen the Nordic voice within the EU.

In short, market-based green energy systems with strong price signals need real-time trading, a more developed retail market, consumer participation, a common approach to ETS and subsidy schemes (as long as they are needed), transparency and market integration via strong interconnectors. This is in line with the trust-based Nordic co-operation, which seeks to address these new developments in a pragmatic, inclusive manner.

The increased share of renewable, fluctuating energy sources has introduced a tangible problem that needs to be addressed politically. This review's finding is that the best way to address this – at least in the short term – is to enable the demand side, rather than supply-side capacity mechanisms, to take a stronger role in balancing the markets.

The electricity market should therefore continue to operate on an energy-only basis.

Just as political guidance is important for the market, including with regard to the Nordic response to the EU proposal, the same is true of the market players' input at the political level.

Currently, there is close co-operation at the Nordic level between government administrations, Transmission System Operators, regulators and companies. Several players have identified a need for a discussion forum for electricity market stakeholders. This proposal emerged from the EU Florence Forum, the Roundtable of Nordic Power Stakeholders held in December 2015 and the breakfast meeting between market actors and the Nordic energy ministers in November 2016.

#### PROPOSAL 14: ESTABLISH A NORDIC ELECTRICITY MARKET FORUM TO ENSURE THAT THE RIGHT DECISIONS ARE TAKEN AT THE RIGHT TIME

The Nordic Electricity Market Forum should be chaired by a high-level government official. It is important to clearly specify the intended aims of the forum, and to ensure involvement from all relevant stakeholders, i.e. government officials, transmission system operators (TSOs), distribution system operators (DSOs), regulators, producers, consumers, etc. The aim of the forum is to reach consensus (or agree to disagree) when political decisions need to be made on issues relating to the Nordic electricity market. The forum should also

seek to reach consensus on issues that require a Nordic voice, e.g. when dealing with the EU and other relevant forums.

The forum should be held in sufficient time to inform the annual meeting of the Nordic energy ministers. The forum's outcomes should consist of clear advice to the ministers regarding obstacles to a more integrated Nordic electricity market. In addition, the forum should provide input to the Nordic ministers on issues relating to the EU and/or neighbouring countries.

It is proposed that the forum should convene every year while the negotiation and implementation of the Energy Union is ongoing. Afterwards, the forum might be held every 2–3 years, in order to inform political discussion on the direction of the Nordic electricity market and its priorities.

The forum is not intended as a conference, but as a tool for responding to common challenges and providing the necessary input to the official Nordic energy co-operation. The forum should use Nordic facilities and be funded from the Nordic budget on an ad hoc basis.

The idea of forums as sources of input to/from the ministerial level would also be worth considering for other parts of Nordic energy co-operation, e.g. energy efficiency, including in buildings, district heating, research or other relevant issues.



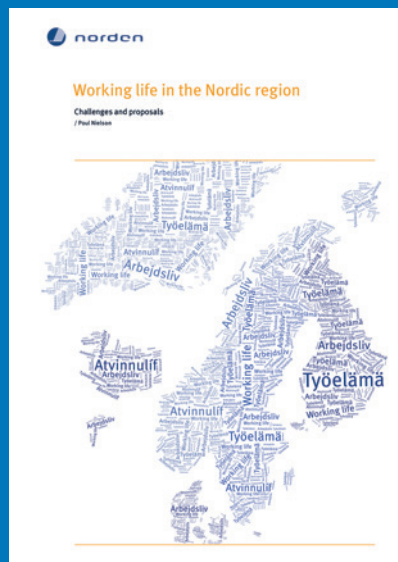
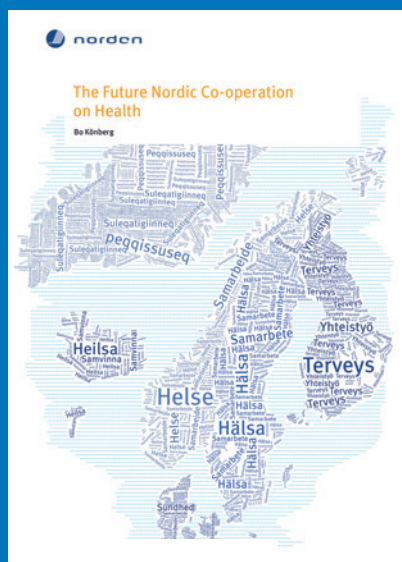
PHOTO: PIXABAY.COM

In 2008, the Nordic foreign ministers commissioned Thorvald Stoltenberg, the former Norwegian minister of both defence and foreign affairs, to submit proposals for closer co-operation on foreign and security policy – later known as The Stoltenberg Report.

As part of the New Nordic Region reforms, the Council of Ministers recommended that this model be used for regular, strategic reviews of areas in which potential has been identified for the countries to work more closely together over a 5–10-year time frame. All of the ministerial councils have now been asked to spend time over the next year discussing what political content the countries would like to see in their sectors as well as tools for identifying potential new areas of co-operation.

The idea is for a leading outsider to draw up recommendations and present them to the ministers.

This strategic review of the energy sector follows in the wake of similar reviews of health and labour-market co-operation by providing external and non-binding input into the energy ministers' discussions about the future of Nordic energy co-operation.









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On 27 October 2015, the Nordic Council of Ministers for Business, Energy and Regional Policy (MR-NER) decided to carry out a strategic review of Nordic co-operation on energy and how it could be developed over the next 5–10 years. The strategic review is part of the Nordic Council of Ministers' reform project initiated by its Secretary General, Dagfinn Høybråten. Strategic reviews have previously been conducted on foreign and security policy, health and labour-market co-operation. The remit was to present 10–15 concrete proposals that would further enhance co-operation in areas in which significant positive outcomes have been achieved over the past two decades.

The Paris Climate Change Conference of December 2015 and the EU's goal of working towards a European Energy Union make this review particularly timely. It is also based on the Nordic countries' own reviews of their national climate and energy policies. The geopolitical landscape is currently in a state of flux – global trade and climate policies are under pressure, and nationalist tendencies are emerging in many countries. This presents many challenges to Nordic energy co-operation, which has achieved ground-breaking results based on cross-border co-operation. Various studies have also shown that the Nordic Region has made similarly dramatic gains in terms of welfare. The time has come to assess how the Nordic countries can build on this success, despite adverse international trends. This review seeks to identify these challenges, present proposals for how the Nordic countries can move forward, and inspire further discussion and debate.