

Grid Investments from a Nordic Perspective

NordREG recommendations¹

Background and task

As one of the challenges for the further development of the Nordic electricity market has in the last few years emerged the ability to decide, license and finance network infrastructure investments that have a larger scope than purely national. The Nordic TSOs have been forerunners when it comes to the joint regional planning of the network. As a result of the joint planning exercise a common network development plan has been agreed upon among the Nordic TSOs. However, a shortcoming in this system may be that in some cases, from the Nordic grid perspective, the enforcement of the grid is best done in one country whereas the benefits of the investment are felt in a different country. Resulting from this, the costs and benefits of grid investments do not always match. To ensure the efficient functioning of the wholesale market, the relevant legal and regulatory frameworks would need to underpin the development of the network infrastructure.

At their meeting in Umeå in 2008, the Nordic ministers of energy adopted an action plan in order to speed up the development of the Nordic electricity market. One of the tasks in the action plan was to compare the national processes for grid investments and to identify possible needs for changes in legislation, rules, criteria for assessment and the mandates of authorities. The purpose was to give the Nordic governments, regulatory authorities and the system responsible authorities a Nordic perspective and mandate, and thereby to increase the efficiency and intensity in the process of developing the Nordic electricity system. The possibilities to create a fairer division of costs for investments that are made in one country but which create benefit in a different country was to be examined.

As a result, the Nordic Council of Ministers' Electricity Market Group (EMG) invited NordREG to map the procedures and evaluation criteria applied by the national authorities when licensing grid investments – limited to the issues that are of special relevance for grid investments with common benefit in several Nordic countries – and respectively the procedures and evaluation criteria applied by the transmission system operators (TSOs) as well as laws, rules and mandates which are relevant for their possibility to participate in projects regarding grid investments in other Nordic countries. Additionally, NordREG was asked to map the possibilities for the TSOs to enter into agreements regarding different forms of co-financing or Nordic financing of grid investments in the Nordic countries.

The review was to cover also the rules for the ownership of grids indicating whether it is possible to have shared ownership of the grid with other Nordic grid companies. Also relevant

¹ NordREG is the cooperation of Nordic energy regulators. However, concerning Nordic grid investments the appropriate Danish authority is the Danish Energy Agency, and not the Danish regulator DERA, the Danish member of NordREG. Moreover, as Island is not involved in cross border investments, their regulator has not taken part in the study. As a consequence of these circumstances the recommendations in this note are jointly made by the regulators from Finland, Norway and Sweden only.

for the study was how the current EU legislation affects Nordic grid investments across the borders, especially with relevance for investments with common benefit in several Nordic countries and how the new EU legislation of the third package will influence the network planning, cross-border investments and joint Nordic investments and their financing.

Finally, the analysis was to address the possibilities for Nordic financing, for example the increased possibilities to use national network tariffs for investments with Nordic benefit, congestion rents and specific market fees collected from the market actors operating in the Nordic power exchange.

Method

NordREG undertook the mapping task in its Wholesale and Transmission Working Group. A task force was set up with representatives from the Norwegian (chair), Finnish and Swedish regulators and a representative from the Danish Energy Agency, which is the agency responsible for electricity network licensing in Denmark. Additionally, outside expertise from Econ Pöyry was hired to review the specific issue of financing.

In late 2009, a workshop was organised with participation of regulators, TSOs and representatives from the EMG.

The draft report from the working group was delivered to EMG by 15 March 2010.

Comparison of the legal framework of transmission infrastructure

A short summary of the mapping of the current national legislation regarding ownership of the network, licensing criteria, economic regulation and possibilities of TSOs to participate in the financing of network infrastructure projects outside their country are presented below.

Ownership of transmission infrastructure

In Sweden there is a rule defining that the national grid should be owned and operated by Svenska Kraftnät and that Svenska Kraftnät should have a decisive influence (51% ownership) in cross-border lines.

Denmark, Finland and Norway have no legal rules on ownership of the transmission infrastructure that would explicitly define who may own transmission network or parts of it. Even though the ownership of transmission network is not formulated legally in the other Nordic countries and thus not explicitly limited to the TSO, the general idea is that the TSO should own and operate a major part of the transmission network in all the Nordic countries.

In Norway, a license from the regulator is required to build, own and operate transmission infrastructure. In Denmark and Finland a license is required to build and operate transmission infrastructure. In Sweden a high-voltage line above 220 kV can not be build or used without a license from the Government.

Licensing of new network infrastructure

The approval processes for constructing electricity network infrastructure are relatively similar in all Nordic countries but there are differences in details. With few exceptions, the rules and procedures are national in scope. The licensing procedures in Norway and Denmark imply that a national socio-economic benefit is required to grant a license. In Finland, in addition to the precondition that the cross-border line is needed to secure transmission of electricity, it has to be justified for the development and reciprocity of the electricity market. Accordingly, the Finnish legislation does contain a criterion that would make it possible to

justify the construction of the cross-border line due to the fact that it is needed for the development of the market. Depending on the application and interpretation this could refer to the Nordic wholesale electricity market. In Sweden, there has prevailed a tradition to have a Nordic perspective in the licensing process but it does not have a clear legal support in the legislation.

Participation in an investment abroad

The legislation in none of the Nordic countries currently addresses explicitly the possibility of a TSO to participate in a network infrastructure project located in another country. So the legislation neither prohibits nor supports such activity. The same applies to the legal rules on the economic regulation of transmission network operation. Apparently, this may create a disincentive as it attaches uncertainty to the fact whether an investment abroad would be treated favourably in the economic regulatory framework and accepted in the regulatory asset base. However, the experience from Norway shows that the costs of an investment into another country but assessed beneficial for the Norwegian network customers has been allowed to be recovered through the Norwegian TSO tariff.

Financing of common network infrastructure projects

Alternative ways for the financing of common network infrastructure projects were studied and evaluated with regard to incentives to invest, market consequences and their legitimacy. The alternatives that were regarded as viable were tariffs complemented with congestion rents (in accordance with the provisions in the third package). Since the benefits of investments may be unequally distributed, investment contributions between TSOs could be a feasible way to distribute costs in a better way among the TSOs. Alternatives that were not considered feasible were a Nordic trading fee meaning a fee per kWh traded in some predefined manner, e.g. based on trading in the financial or physical market, or be applied to all balance-responsible entities in the Nordic market.

Two models combining financing and organisation alternatives were identified. The first model was the multilateral voluntary cooperation within the new EU framework. In this model cooperation structure would be based on the new EU framework with a common planning process but with national decisions and ownership. Financing of the network infrastructure investments would be done by using national tariffs and congestion income, combined with voluntary investment contributions between TSOs to achieve a better match of costs and benefits at the national level.

The second model relied on joint Nordic decision committee, which implies formalized cooperation through joint committee responsible for a common planning process but in addition making binding investment decisions. In this model, too, financing would be realised through the use of national tariffs and congestion income, combined with investment contributions between TSOs to achieve a better match of costs and benefits at the national level. The decision committee would need the authority to make decisions on financing, including the obligation to use investment contributions to balance costs and benefits.

NordREG recommendations

The assignment of the Nordic Council of Ministers' Electricity Market Group focuses on the Nordic electricity market, its current legal framework and the eventual obstacles for the development of the electricity transmission network infrastructure to better respond to the needs of the Nordic market actors. Parallel to this exercise, the 3rd Legislative Package has been adopted within the EU to be implemented by March 2011 across the Nordic countries as

members of the EU and the EEA. The 3rd Legislative Package sets obligations for both European wide and regional cooperation and coordination when it comes to network planning and the creation of rules affecting transmission system operators. Whereas prior to it, there were no legal obligations for Nordic TSOs to cooperate in a wider regional context with regard to network planning, the new European framework contains an obligation to cooperate in a wider setup than just Nordic one. This is an issue to be taken into consideration when assessing the Nordic framework and electricity market development.

To follow up on the mapping and analysis given in the report the NordREG Board will make the following recommendations:

1. The legal framework for licensing new network infrastructure needs to be harmonised across the Nordic countries and amended to take explicitly into account the Nordic and regional network development aspect.

In all Nordic countries the rules and procedures for grid investments are national and are not adapted for common network infrastructure investments. In order to create a true Nordic electricity market, it is necessary to create a more common legal and regulatory foundation for common investments with the purpose of improving the functioning of the Nordic electricity market by reducing congestion within the Nordic market.

2. Any obstacles to participation by a TSO into a jointly agreed network infrastructure project with other Nordic national TSOs should be removed.

Legislation and rules may pose some restrictions on the freedom to organize ownership of joint Nordic investments. This may inhibit a TSO to participate, as a co-owner, into network investment projects in other Nordic countries.

3. The national legal frameworks for economic regulation of transmission network need to be adjusted to allow the inclusion of investments into the network infrastructure that have been made abroad if the investment brings benefits to the domestic customers (i.e. enabling sharing of costs and benefits)

Further analysis is needed on the assessment of costs and benefits and their division between various TSOs. If a project is perceived to have an acceptable distribution of costs and benefits between the involved TSOs, which is often the case when only two countries are involved in the project, the solution may be relatively simple, and there is no need for new structures. When more complex investments are considered, new models may be required. For instance, a new interconnector may not provide real benefits unless the countries that it connects undertake reinforcements in their domestic networks. Therefore it is very important that these secondary investments are taken into consideration in the discussions relating to the distribution of costs.

4. The model for co-financing and participating into the investment projects outside the country of the TSO needs to be clearly designed and described to increase common understanding and awareness of this solution.

The model of co-financing or participating into the investment costs has been discussed mainly on the general level. To be able to fully analyse its specificities and consequences for economic regulation - and to be able to amend the necessary parts of the economic regulatory framework - a proper understanding of the financial arrangements is needed. TSOs are invited to provide this description and clarification.

5. The Nordic TSOs are requested to continue the elaboration of the criteria that are applied in the selection of the network infrastructure projects and to improve the transparency of their application in the selection process.

The Nordic welfare criteria that have been applied by the Nordic TSOs in connection with the grid planning methodology seem to provide a good basis for the selection of investments. Still, the methodology and the criteria used could be further elaborated. As the aim is to have the participation of foreign TSOs and accordingly, other than domestic grid customers in the financing of the network infrastructure projects it would be very important that the criteria for selecting the projects that are necessary from the wider regional perspective are well understood and transparent.

6. NordREG will provide an opinion on the investment plan

The 3rd Legislative Package establishes the bi-annually prepared Community-wide ten year network development plan on which the Agency for the Co-operation of Energy Regulators will provide its opinion. In line with the European procedure, NordREG intends to provide an opinion on the planned investments from the Nordic and regional point of view.

With regard to financing and organisation of the jointly selected network infrastructure projects, the model of multilateral voluntary cooperation within the new EU framework is supported. The cooperation structure of the model is based on the new EU framework with a common planning process but with national decisions and ownership. Financing of the network infrastructure investments would be done by using national tariffs and congestion income, combined with voluntary investment contributions between TSOs to achieve a better match of costs and benefits at the national level.