

REGULATION OF NORWEGIAN RENEWABLE ENERGY FOR ELECTRIFICATION IN THE ENERGY CONVERSION

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Abstract

The energy conversion is dependent on a substantial and updated national legal regulation. The regulation of renewable energy development in Norway is reviewed to see whether this regulation is adequate for the further electrification in accordance with Norwegian commitments and measures. The regulation for further development of hydro power resources is considered to be adequate. For onshore wind power the proposals for regulation amendments can legally be described as suitable for further development. It remains to be seen, however, whether the proposed amendments are sufficient due to the subsistent wind power resistance in society. For offshore wind power the present and proposed regulation in Norway so far can be considered as a sufficient starting-point for developments in the next years to come. The final evaluation has to await the decisions for the national regulation of offshore wind.

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1 Introduction

Based on Martha's connection to Norway by family and by speaking Norwegian fluently, her contact for years with the Scandinavian Institute of Maritime Law and with Norwegian energy lawyers, I will assert that Martha's connection to Norway is quite unique.

I met Martha over 30 years ago at a Leiden seminar, and afterwards I took part in most of the European Energy Law seminars convincingly organized each year by Martha in cooperation with the Scandinavian Institute of Maritime Law.

On Martha's request as main editor of the three editions of "Energy Law in Europe", and under her distinct and strict guidance, I each time prepared the chapters about the Norwegian regulation of the renewable energy sector. Martha was leading the Stakeholders Advisory Group concerning a research project for the development of offshore infrastructure for transmission of electricity from North Sea wind power installations established 10 years ago. I joined the Group as the Norwegian representative, and took part in the meetings in Brussels and Amsterdam.

Groningen, Amsterdam, Leiden and Oslo have been centers for our frequent contact professionally and socially for years.

As a background for reviewing the regulation of renewable energy development in Norway, it helps to understand that 90 percent of the Norwegian electricity production in 2021 was based on hydro, and 10 per cent on onshore wind. 75 per cent of the hydro power capacity is linked to reservoirs. Renewable energy accounts for more than half of Norwegian energy consumption.

Further electrification is necessary to meet Norwegian international commitments and national measures for reduction of CO₂ emissions and for carbon neutrality within 2050. Electrification has to come from development of hydro and wind onshore and offshore. Further development of renewables is dependent on sufficient transmission installations to meet the demands.

As part of the energy conversion and the change to an increase of green industry in Norway, several projects are under planning, comprising production of green hydrogen, batteries and Carbon Capture Storage (CCS). Green hydrogen can be stored, is free from emissions and can replace petroleum as fuel in transport. Realization of such projects will increase consumption of electricity and the need for further electricity production and transmission installations.

Interconnectors from Norway to the neighbouring countries utilize the flexibility from hydro and wind power. In 2021 total capacity from interconnectors between Norway and other countries is 8600 MW compared to 5300 MW in 2010. Exchange of power contributes to optimizing the European Energy market with reference to the three first energy packages so far entered into under the EEA Agreement.

2 Regulatory challenges for further development of renewables

Development of Norway's hydro-, onshore and -offshore wind resources and new transmission installations and interconnectors are disputed. Due to environment, landscape and biodiversity an increase of hydro production mainly has to be restricted to refurbishing and upgrading of existing hydro power plants along with development of smaller run of river installations.

Development of onshore wind power and transmissions installations meet increased resistance mainly for environmental and landscape reasons from affected municipalities and the people and other industry in the areas in addition to organizations representing different interests. The Sami reindeer breeding activities can be incompatible with onshore wind power projects. Sami livelihood has additional protection due to international law.

Offshore wind is disputed mainly for the reasons of subsea environment and bird passages along with resistance from fisheries and coastal transportation. An additional complication is the very high costs attached to installation of floating wind and the installations for transport of electricity from the production facilities to the consumers.

The ongoing energy conversion is dependent on a substantial and updated legal regulation. The regulation must be reviewed to see whether adjustments have to be carried out to meet the demands and challenges of further electrification.

3 Regulation of hydro power

The acquisition of rights of waterfalls for development of hydropower require a concession pursuant to the Act of Waterfall Rights². In addition, the owner of a waterfall has to apply for a concession pursuant to the Watercourse Regulation Act³ regulating the watercourses, the location of dams for storage of water and the electricity generating units.

In addition, a concession is often necessary in accordance with the Water Resources Act⁴ applying to all sorts of exploitation of watercourses. A concession is needed if the output of the waterfalls is below the concession limit for acquisition of waterfalls, and the development is based on a run of river hydropower plant without watercourse regulation of any sort and consequently falling outside the scope of the two other above mentioned acts.

2 The Act for Waterfall Rights of 14 December 1917 Nr. 16 paragraph 5

3 The Watercourse Regulation Act of 14 December 1917 Nr. 17 paragraph 5

4 The Water Resources Act of 24 November 2000 Nr. 82 paragraph 8

The development of hydro power plants as well as the necessary electrical installations are subject to an environmental impact assessment in accordance with the Planning and Building Act⁵ and regulations for such assessments.

A concession for hydro power developments can only be granted if the benefits to the society totally are deemed to outweigh the harm or inconvenience to the public and private interests. This has been the legal evaluation theme for over 60 years. The environmental consequences for landscape and biodiversity are essential in the evaluation made by the authorities. All concessions have a set of obligatory conditions for the benefit of nature and the environment. Such conditions are for instance settled due to the landscape, flora, fauna and river fishing. Regulatory measures are also settled for maintaining a specific water level in the reservoirs during the year. Specific conditions for environmental reasons can be subject to a revision after 30 years. Along with other measures such as amendments of the concessions, the revisions comply with the provisions in the EU Water Framework Directive entered into the EEA Agreement.

Regulatory provisions are also set in the concessions to benefit the municipalities where the hydro installations are situated. Such provisions secure compensation both for the area damages and a share of the economic outcome based on concessions fees as well as a right to buy a specific part of the production for production costs.

The Act for Waterfall Rights, the Watercourse Regulation Act and the Water Resources Act had to be revised and amended in 2017 to meet demands from affected municipalities, industry and environmental and local organizations when it comes to future hydro-power developments.

A simplification and updating of these two acts from 1917 took place along with a simplification of legal language and structure in the acts. These alterations made the acts more approachable for the local and regional administrations, organizations, landowners and others in the affected area using the acts. At the same time a coordination and simplification took place for all the three acts mentioned above.

The case procedure provisions were simplified and updated. The provisions for concession conditions, standard criteria and mitigation measures were clarified and updated. The legal basis for administrative practice concerning nature management provisions and orders were improved.

The provisions concerning control and sanctions were improved. Orders for coercion fines, corrections and withdrawal of concessions are now based directly in the acts, and not in each concession. The provision for punishment was far more specified.

To conclude, the revisions and amendments of the water resources acts were based on the challenges connected to further hydro power development. The present regulation

5 The Planning and Building Act of 27 June 2008 Nr. 71 Chapter 14

has to be considered as forward looking and sufficient to meet the demands for future development of the hydropower mainly restricted to upgrading and refurbishing of existing hydro power installations. Licensing of new installations in watercourses without existing hydro power installations are strictly limited due to the comprehensive Norwegian Hydropower Protection Plan.

4 Regulation of onshore wind power

Onshore wind power development is regulated by the Energy Act⁶. Installations for the production of electricity may not be built, owned or operated without a license.

Onshore wind installations are subject to an environmental impact assessment in accordance with the act and regulations for such assessments.

An onshore wind power development license is based on the benefits exceeding the drawbacks in total for the public and private interests. The environmental consequences for landscape, biodiversity and cultural heritage are essential in the evaluation made by the authorities along with the consequences for local interests and nearby industry interest.

According to the Energy Act a license is issued for a limited period of up to 30 years, but can be subject to renewals. Regulations and specific conditions can be issued relating to the start-up, construction, design, commissioning, maintenance, operation and shut-down of the electrical installation and to avoid damage to the natural environment and cultural heritage.

Due to changed attitudes and prerequisites and the following disputes over the last years concerning onshore wind power, the Government submitted a white paper to the Norwegian Parliament in June 2020. The consequences for landscape, environment, society and local interests have to be given stronger weight in the licensing procedure. Local and regional intervention are to be strengthened. The government will change the licensing procedure to secure these considerations.

The Government shall provide for a unified and regional processing of new onshore wind power projects. The energy authorities have to consult affected municipalities and counties at an early stage of the planning, and municipalities and counties shall take part in the planning to come.

A tightening of time requirements shall take place. The admittance to give extended deadlines for development must be reduced to prevent unnecessary use of time for the fulfillment of the wind project. Time limits to accomplish environmental impact assess-

6 The Energy Act of 29 June 1990 Nr. 50 Section 3/1

ments and for forwarding of a detailed plan for the development after the given license will be introduced.

The possibilities for the licensee to make changes in the project will be reduced due to more distinct license conditions for natural values, maximum heights for turbines and demands for minimum distance to buildings and other installations along with sharpening of the time requirements for the total licensing procedure.

The coordination of wind power production and increase of power line installations shall be improved. The potential developer has to put forward a plan for power line connections and suggestions for specific demands for investigations. Updating and sharpening of demands to investigate the effects of wind power for the environment, a larger circle of neighbours and other activities in the actual area shall be included in the plan to be prepared.

The Government shall strengthen the decision basis for the licensing procedure in evaluating the socioeconomic profitability for the different wind power projects. Advantages and disadvantages of wind power developments have to be made visible and evaluated as open and distinct as possible.

Exploitation of areas in larger parts of Northern Norway affects Sami reindeer herding. These interests shall take part in the planning and investigation of wind power projects at an early stage. All the effects for reindeer herding have to be evaluated and emphasized in the licensing procedure. The Sami Parliament, the reindeer herding interests and other Sami interests are to be consulted in accordance with the national consulting regime settled in a consulting protocol replaced by a Consultation act from 1 January 2022.

To conclude, the white paper proposals for amendments in the present regulation of onshore wind can legally be described as suitable for further developments as part of the Norwegian measures for electrification. It remains to be seen whether the proposed regulation amendments both concerning procedure and materially are sufficient due to the subsistent resistance against onshore wind in society.

5 Regulation of offshore wind power

The Act for Ocean Energy⁷ regulates offshore wind power development. Installations for the production of electricity based on renewable resources cannot be built, owned or operated without a license.

⁷ The Act for Ocean Energy of 4 June 2010 Nr. 21 Section 3/1

Such production outside the Norwegian baseline cannot take place before the state has opened areas for license applications. Before an opening, the first environmental impact assessment has to be carried out in accordance with the act and the regulations for such assessments.

In June 2020 the King's Council decided to open two areas for offshore wind license applications – Utsira Nord and Sørlige Nordsjø II. At the same time the Council passed the regulations to the Act for Ocean Energy. Regulations were necessary for guidance and to clarify the frames for the sequence and the demands for documentation.

There has been considerable interest from a great number of companies in the energy field to take part in the development of the two opened areas. Other areas can also be opened in the time to come if it is a major interest for development of floating ocean wind.

In June 2021 the Ministry of Petroleum and Energy forwarded for an open hearing a proposal for a guidance for area allocation and procedures for ocean wind power license applications following the opening of the two areas. The different phases are area sectioning, site callouts, area allocation and selection of the originator to carry out an environmental impact assessment and prepare an application for license. The area called out has to be allocated by the Ministry in an area competition. Such a competition is mainly carried through in auction bidding for sections in the opened areas. The model for and the carrying out of the auction have to be described in detail by the Ministry. When the competition is decided, the originator given the area allocation has to follow the procedural steps based on sequences stated in the guidance.

The proposal for the guidance made it necessary for the Ministry at the same time to forward an open hearing for amendments in the Ocean Energy Act and in the regulations to the same Ocean Energy Act.

According to the Act for Ocean Energy a license is issued for a limited period for up to 30 years but can be subject to renewals. Regulations and specific conditions can be issued relating to the start-up, construction, design, commissioning, maintenance, operation, preparedness, security, facilitation for connection to other installations or systems, shut-down of the installation and to avoid damage to the natural environment and cultural heritage.

To conclude, the hearings of the proposal for the guidance and the amendments in the Ocean Act and the regulations are now ended. The unified present and proposed regulation of offshore wind power so far can be described as a suitable starting-point for the developments for the next years. The final evaluation awaits the decisions for the total regulation including the guidance and the amendments of the Act for Ocean Energy and the regulation to the act.

6 Offshore electricity transmission installations

A license in accordance with the Act for Ocean Energy is needed for electricity transmission installations outside the baseline. Installations within the baseline are dependent on a license with reference to the Energy Act. Offshore wind power production installations will at first be connected through radial power transmission cables to Norway, to other countries or to petroleum installations. The involved originators have to pay the costs for transmission. If such transmission through connection onshore in Norway makes it necessary with strengthening of Norwegian onshore transmission installations, provisions for a construction contribution with reference to the Energy Act have to rule.

If a wind power production installation is connected to transmission systems both in Norway and abroad, an additional license is needed for power exchange with reference to the Energy Act. Regulation of hybrid solutions for transmission installation are under further investigation, managed by the energy authorities.

7 Conclusion

The regulation for further development of hydro power resources is considered to be adequate.

For onshore wind power development the proposals for regulation amendments based on the white paper with specific changes in the licensing procedure can legally be described as suitable for further development. It remains to be seen whether the specific proposals for regulation amendments are sufficient due to the subsistent resistance against onshore wind in society.

For offshore wind power and the appurtenant electricity transmission the present and proposed regulation so far can be described as a sufficient starting-point for the developments for the next years to come. The final evaluation has to await the decisions for the entire package of regulation.