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Att: Lars Christian Sæther

Deres ref:	Vår ref:	Dato:
19/1187	OED1921	31.10.2019

A/S Norske Shell – Høringsuttalelse til forslag om åpning av område for fornybar energi til havs og forslag til forskrift til havenergiloven

Vi viser til Olje- og energidepartementets brev datert 02.07.2019 med vedlegg.

Shell setter pris på anledningen til å komme med innspill i forbindelse med forslag om åpning av områder for produksjon av fornybar energi til havs og forslag til forskrift til havenergiloven. Våre synspunkter og anbefalinger er vedlagt i de påfølgende sider til dette brevet.

Vi henviser også til vårt tidligere brev, OED1810 datert 01.08.2018, som inkluderer tidligere innspill til Havenergiloven hvorav vi vurderer disse kommentarene som fortsatt relevante.

Shell utdyper gjerne innholdet i dette brevet og vår erfaring fra andre jurisdiksjoner som har hatt suksess med å utvikle sine offshore vind ressurser i et møte med Olje- og energidepartementet.

Med vennlig hilsen,

A/S Norske Shell

Mona Nilsen
Norway Energy Transition Advisor

Foretaksregisteret.nr.:NO 914 807 077

Attachment

Comments to the proposal for regulations on renewable energy production at sea and the opening of areas

Introduction to Shell's offshore wind business

Shell is playing an active role in the world's transition towards a low-carbon future. Shell New Energies is investing up to 2 billion dollars a year in different services and products from a range of cleaner sources, with a focus on two areas: new fuels for transport and power.

Offshore Wind power is a key area of focus to grow our renewable power business. Shell is one of the most experienced companies in the offshore industry, with over 50 years' experience in the North Sea. We see many examples where offshore oil and gas capabilities can be transferred to offshore wind, both commercially and technically.

Shell can manage and co-ordinate complex projects through their entire life cycle, managing every aspect of the project during the development, construction and operation, with a strong focus on safety.

In addition to financial investment, we invest our time and expertise to help progress the offshore wind industry. Through our partnerships and research and development, we are working to build a sustainable business opportunity while reducing carbon emissions.

Shell has built a global portfolio of wind power projects over the last years. We developed and built the first large scale offshore windfarm to be constructed in the Netherlands, Egmond aan Zee. More recently Shell and partners began construction of Borssele 3&4, a 731 MW offshore windfarm.

Shell has secured the right to build a large wind project together with EDP Renewables off the coast of Massachusetts in the USA. Mayflower Wind Energy, as the joint venture is called (Shell share 50%), will have a potential capacity of 1.6 gigawatts once constructed. FID has not yet been taken on this project. With EDF Renewables, Shell has also got the rights to build a wind project off the coast of New Jersey in the Atlantic Shores Offshore Wind joint venture (Shell share 50%), with a potential capacity of 2.5 gigawatts of wind energy. FID has not yet been taken on this project.

Shell is also active in offshore wind technology development through our partnerships, among others developing and testing the Makani kite and Tetraspar concept in Norwegian waters at the MET center in Haugesund.

Shell established its first business in Norway more than 100 years ago. A/S Norske Shell is an active operator and partner in gas and oil production on the Norwegian Continental Shelf; as operator of Ormen Lange and Knarr, technical service provider at the Nyhamna gas processing and export facility, and partner in a number of production licenses. Shell is also an active partner in the CCS initiatives Northern Lights and Technology Centre Mongstad. A/S Norske Shell's head office is located in Sola, near Stavanger

Based on our experience from developing wind resources, both on- and offshore, our experience in the offshore oil and gas sector as well as our long-standing presence as operator in Norway, we offer our support and some thoughts on how to develop offshore wind resources in Norway.

Comments to Proposal for the opening of areas pursuant to the Ocean Energy Act

Shell recognizes that Norway has a vast potential for production of offshore wind, and also an ambition to develop an offshore wind industry able to compete in a rapidly growing global market creating local jobs and economic growth. Offshore wind can also play an important role in meeting the CO_2 targets embedded in the Paris Agreement.

With the increased number of interconnector developments between Norway and the rest of Europe, Norway has the opportunity to export dispatchable renewable power to Europe. Supplying Europe with more renewable power creates the opportunity to back-fill supply from offshore wind power, which can enable the power price in Norway to maintain competitive for energy intensive industries. One such industry that could benefit from competitive power prices is production of green hydrogen, where we see markets emerging in the Maritime-, Heavy Duty and Industry markets.

The opening of license areas are important steps to facilitate this development, foster innovation and to develop an underutilized energy resource.

Ref section 3: ", the Ministry welcomes views regarding the area Sørlige Nordsjø II

The three areas currently being considered for opening, have different profiles when considering technological needs and commercial viability. Sørlig Nordsjø II has a position close to international borders, good wind qualities and because of the water depths potential for bottom-fixed wind. It is in industry's interest and also Shell's recommendation that the area Sørlig Nordsjø II should be opened for offshore wind development. Provided there is export infrastructure layout in place, this area has the potential to pioneer creation and export of energy from Norwegian offshore wind production to markets on the European and UK continent, which in the greater and longer term picture can form the foundation of a long term industry of the scale needed to ensure efficiency and cost effectiveness.

Utsira Nord with its proximity to shore brings other opportunities which also can be of interest for Shell to further explore. The water depths would drive towards floating wind, and would complement Sørlig Nordsjø II.

Ref section 4 *Interests and considerations in the areas*

Shell would advise to consider introducing a prequalification scheme to assess and assure that the parties allowed to apply for the Norway offshore wind resources satisfy some minium criteria; as having relevant experience and competence in complex energy projects and in offshore wind, experience with managing stakeholders and coexistence with other industries, good safety performance and a track record for stimulating local content. This to ensure an initial quality and credibility of the parties allowed to post a project area application. We believe that the success of the first offshore wind projects in Norway is critical for public acceptance and credibility.

Ref section 8 *Connection to the grid*

In general, offshore wind returns expectations depend on the maturity of the market. For emerging markets (ones that do not have offshore wind yet), these returns are trending lower as markets mature and technical risks decrease. In order to attract offshore wind developers, the potential of reasonable return expectations will be looked for. Market-specific risks need to be managed and the Norwegian government is well positioned to support this.

Infrastructure

Export connections to the electricity grid is a major cost and risk component for offshore wind projects. Offshore wind requires a lengthy development process which is difficult to commit to without a clear line of sight on grid feasibility, both in terms of available capacity as well as cost, and this cannot be done without support from the Norwegian authorities.

- First, grid capacity at a certain location and in the system is highly time dependent and the offshore wind project timeline will have to fit into grid development and expansion plans as set by the regulators and TSO.

- Secondly, considering the strategic location of the potential projects, the low power prices in Norway and increasing interdependency between European countries, optimal offshore wind development in Norway will require utilizing the broader European context.
- Pan-European developments are planned on government and government body levels and would thus require Norway's support. Furthermore, electricity markets and transmission systems are highly regulated where national and European regulations often have strict requirements which exclude private developers from developing, owning and operating major parts of the electricity grid.
- Finally, mature and successful offshore wind markets in Europe have highly supported offshore grid developments and this is seen as a prime enabler due to de-risking an important part of the project, increasing the market's attractiveness for developers, and establishing a level-playing field to enable competition.

It is therefore essential that the authorities take an active role in creating the framework for the grid connection.

Revenue

Offshore wind development is currently not cost efficient in Norway, and lengthy compared to onshore renewable power and margins are thin compared to other offshore (oil & gas) activities. In new and emerging markets, a predictable revenue stream is vital to securing project or corporate finance, which in turn is important for keeping costs low. The European power market is undergoing a very large transition and as a result predictablity of prices is low.

Other European markets have successfully navigated the early stage of a new industry through de-risking revenues, which has been instrumental in attracting investors and traversing the industry's learning curve to today's cost competitive levels. Even though the availability of near-shore, bottom-fixed opportunities is diminishing, these countries still benefit from the thriving offshore wind industry and can develop previously uncompetitive opportunities.

Providing a form of predictability on revenues is one of the most effective ways of establishing an attractive investment environment which is instrumental to the cost-competitiveness of offshore wind and the development of the market. This may be through direct aid schemes or favorable tax provisions. Examples of support schemes are plentiful and can be tailored for market- and technology-specific requirements and conditions.

Section 9.2 *Safety, etc*

Offshore wind offers the development of a new industry in Norway and it is of importance to create a solid safety framework managing the risks this industry will represent. Offshore wind projects have a very different risk profile to the oil & gas sector, especially with regards to major accident risk and environmental impact, and it is of importance to take this into consideration when transferring the authority for safety to the Minstry of Labour and Social Affairs represented by the Petroleum Safety Authority. Offshore wind industry has economical margins which are far less than the oil and gas industry and it will be important that the Norway safety regulations are fit for purpose managing the risks involved and aligned with the requirements and regulations set out globally. This can contribute to make Norway a competitive player in the wind industry

Health, Security, Safety and Environment is core in all business performed by Shell and we are commited to advice and support in the development of a suitable HSSE framework for the offshore wind industry in Norway.

Comments to Appendix 1 Proposal for regulations to the law on renewable energy production at sea

Ref Chapter 2, Section 6. The content of the project-specific impact assessment; bullet a) letter i): *"a description of alternative developments that the applicant has investigated and a description of the choice of development solution and project area, with an explanation of the criteria for choices that have been made, and connection to grid facilities and any coordination with petroleum operations"*

Shell suggest to delete or rephrase the text "description of the choice of development solution" as it will significantly decrease the optimization of the project to increase value in later stages if being fixed to a certain concept already at this stage. Concept select might also be influenced by the Impact Assessment results.

Ref Chapter 2, Section 10 Decision on the approval of detailed plan for construction and operation of energy plant; 4th pharagraph; *"The energy facility shall be put into operation within three years after the decision on an approved detailed plan for the development and operation of the energy facility. A facility is being considered to be in operation once electricity is being generated and transported out of the project area"*

Regulating a fixed timeframe for commencing electrisity export from a wind energy facility may be counter productive and limiting the development options. Each development project will be unique in the sense of how the various phases will be developed. Early energy production and export shall indeed be a focus and this can also open for energy to be transported out of the area with other energy carriers than via a grid connection. Suggested new wording: *"The decision on the approval of detailed plan for construction and operation of the energy facility shall be based on the early production and export of energy. A facility is being considered to be in operation once energy is being generated and transported out of the project area."*