Ministry of Economic Affairs

Webinar Offshore Wind Energy 2040

Development of a new approach and roadmap

June 3, 2021

Questions and Answers

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Planning		
No.	**Question**	**Answer**
1	What will be the cumulative capacity by 2030 and by 2040?	The current Roadmap to 2030 will lead to a total operational capacity of about 10.7 GW in 2030. In order to achieve an annual production of 49 TWh in 2030, as agreed in the national Climate Agreement, this capacity needs to be expanded to about 11.4 GW. The EU CO2-reduction objective of -55% (compared to 1990) may lead to an additional need of up to 45 TWh (about 10 GW) of offshore wind capacity in 2030, on top of the 11.4 GW. The new Cabinet decides what the exact additional capacity to be realised by 2030 will be. Anticipating the demand for extra capacity in 2030 and the further growth towards 2040, the Cabinet aims at assigning Wind Farm Zones with space for an additional 27 GW capacity. If and when this capacity is realised, depends on the future development of demand for green electricity and hydrogen.
2	For which of the scheduled projects will the new approach be applied?	The scheduled projects 'Ten noorden van de Waddeneilanden' and 'IJmuiden Ver' will be built under the current Roadmap before 2030. The main aim for the new approach is the Roadmap to 2040, so for projects after 2030. However, we expect to incorporate elements of the new approach before 2030 for projects additional to our current Roadmap, as a result of the higher 55%-reduction target. So it will be a gradual process.
3	Adding up to 10 GW of offshore wind by 2030 will be a challenge from a time perspective. A system parallel to the central auctioning system in which market parties develop supply and demand together can help accelerate the build-out. What's the Government's view on this option?	In general, we welcome any suggestion to accelerate by developing a demand driven build-out. In developing the new approach, we have an open view on different types of market frameworks. However, space in the Dutch EEZ is scarce, with many interests and stakeholders sharing the EEZ, and hence a valuable asset that needs to be allocated in an efficient and transparent manner.
4	How will the extra capacity before 2030 be integrated into the existing auction structures? When can we expect these tenders?	The exact timing and integration into the current tender scheme is subject to study and is therefore yet to be determined.

Hydrogen		
No.	**Question**	**Answer**
5	In the planning for the Roadmap EZK, RVO, RWS and TenneT are included. If you also consider offshore H2 production towards 2040, how do you then see the role of Gasunie and EBN?	We intend to work with all relevant stakeholders in developing a new approach, including relevant stakeholders for hydrogen. The role of TSOs and other public organisations in the further roll out of offshore wind is amongst the questions we intend to answer in this project.
6	Hydrogen has a large potential for transporting energy from offshore wind farms to shore. What is the strategy for development of this technology?	The Dutch Government sees great potential in hydrogen and has set out a strategy for its development (kabinetsvisie waterstof, https://www.government.nl/documents/reports/2020/09/01/report-north-sea-energy-outlook) Specifically, in December 2020, the Cabinet announced plans for a large-scale pilot project to see if there is market potential for the development of offshore hydrogen production. Additionally RVO has initiated a study into system integration of offshore wind in the period 2030-2040. The study will give us more insight and clarity on the conditions and the speed of the development of offshore hydrogen production. We expect the results of this study in the second half of 2021.
7	Will offshore hydrogen production still require purified water? Or are new techniques becoming available?	The technologies for offshore production of hydrogen are evolving fast. As part of the ongoing offshore wind system integration study 2030-2040, we are assessing the market and technological developments of offshore hydrogen production. We expect the results of this study in the second half of 2021.

Infrastructure		
No.	**Question**	**Answer**
8	A potential hybrid connection with the UK was mentioned for IJmuiden Ver. Does this mean electricity and hydrogen?	No, the connection would be electricity only. Hybrid refers to connecting the wind farm to the Netherlands as well as the UK, so that the connection can be used to transport wind energy as well as interconnector. However, no decisions have been made by policy makers nor the parties involved on whether or not this project will be realised.
9	Is a pipeline connection considered for IJmuiden Noord, and if not, why not?	No. The anticipated 2 GW in IJmuiden Ver (noord) will be connected by a HVDC-platform. The start of the permit procedure has already been officially announced.
10	Will the existing offshore oil and gas infrastructure be taken into account in the development of the "Infrastructure Development Plan"?	Existing infrastructure will definitely be taken into account. Several studies are currently investigating the best way to (re)use the infrastructure. Also from a safety point of view, existing offshore infrastructure is taken into account.
11	Will a TSO also include a gas grid / connection operator Gasunie for offshore connections?	A role for TSOs, such as TenneT and Gasunie, in future offshore energy infrastructure on the Dutch EEZ has yet to be determined. The role of TSOs and other public organisations in the further roll out of offshore wind is amongst the questions we intend to answer in this project.

Offshore energy hubs		
12	What are the benefits / disadvantages between fixed and floating 'energy islands'	There are several benefits and disadvantages to both structures. However, in the end the choice for a certain design will depend on the required hub functionalities and space, as well as location, physical conditions (such as water depth and wave height), and costs.
13	How might Brexit affect the development of a North Sea grid and wind farm connections to England?	In the long term, all parties agree, good cooperation between Member States of the EU and the UK is a necessity in order for hybrid projects to be developed successfully. What this cooperation will look like is still uncertain and subject to debate between the EU and the UK.
14	Is the effect of the offshore market design being taken into account?	Market design options for offshore energy hubs will be taken into account. This is also a subject of discussion at the EU-level.

Capacity/demand		
15	Will this growth of offshore wind in the Netherlands not outstrip demand (oversupply) and potentially cannibalise electricity prices, negatively impact all zero-subsidy development projects and future investments?	Future growth of offshore wind will have to be in pace with growth of demand for green electricity and hydrogen. This means it is not certain at this point in time how much capacity will be installed in 2040. We are currently preparing for a growth of 27 GW, because this is the minimum of additional capacity needed in the carbon neutral scenarios in the North Sea Energy Outlook. Building additional offshore wind capacity without the growth of demand will negatively impact the business case of offshore wind projects. The new approach for offshore wind needs to deal with this challenge and make sure the business case for offshore wind project remains viable.

Other		
16	Are the wind energy search areas for post 2030 development available as shapefiles for mapping?	These are indicative search areas for new wind farm zones. When new wind farm zones are designated, we can disclose the coordinates.
17	Would it not be wise to set up dedicated innovation programmes to support the 2040 Roadmap?	With the Innovation programme of TKI Offshore Wind (https://www.topsectorenergie.nl/en/tki-wind-op-zee/innovation-program), there is already a solid base for innovation aimed at the future development of offshore wind. This programme already covers a wide range of developments related to offshore wind. In developing a new approach for offshore wind, we will review if additional topics of interest require attention in innovation programmes.
18	What is the role of the ports?	Challenges in the supply chain, related to port and vessel capacity, are important. We are aware of the need for a clear view on future development for the supply chain. Bottlenecks can be prevented if the supply chain is given sufficient time to prepare. As part of the new approach and Roadmap, we are working hard to create clarity on the policy framework and the development timeline.
19	What are the biggest threats to achieving our ambitious goal for offshore wind from other use functions of the North Sea?	The North Sea has great potential for many different uses, such a renewable energy, fishery, nature, and shipping. We have high ambitions for offshore wind, but other operations in the North Sea are obviously important as well. How these can best be combined in the North Sea is determined in the North Sea

Other		
		Programme (Programma Noordzee), which is updated every six years. In this programme, a comprehensive approach is taken so that the growth of offshore wind does not prohibit sustainable use of the North Sea by other operations.
20	Are the reports mentioned in the webinar available?	The North Sea Energy Outlook report is available here: https://www.government.nl/documents/reports/2020/09/01/report-north-sea-energy-outlook The Guidehouse study on combined offshore wind and hydrogen is available here: https://www.government.nl/documents/reports/2020/09/01/report-north-sea-energy-outlook The Afry study on the business case and supporting interventions for Dutch offshore wind is available here: https://www.rijksoverheid.nl/documenten/publicaties/2020/03/05/the-business-case-and-supporting-interventions-for-dutch-offshore-wind The PWC/InvestNL study on financing offshore wind is available here: https://www.klimaatakkoord.nl/documenten/publicaties/2020/10/02/financing-offshore-wind-rapport Future study reports and information on the new approach and the 2040 Roadmap will be made available on the RVO website: https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/duurzame-energie-opwekken/windenergie-op-zee/nieuwe-routekaart
21	What will the turbine density (MW/km2) be for the eight new wind farm zones?	That is not known yet. That will be published in the Site Decision of that particular site.
22	Are you planning to continue the "De Rijke Noordzee" programme?	That is not up to us. De Rijke Noordzee is an initiative from NGO's Natuur & Milieu and the North Sea Foundation, with support from the Postcode Lottery.
23	Are the slides of the webinar publicly available?	Yes, the slides are published on the RVO website (https://offshorewind.rvo.nl/presentationshk).