Borssele site decision workshop report - 15 September 2014

Opening

The goal of this second workshop is to update the wind sector about the state of affairs with regard to the development related to offshore wind energy. The Netherlands Enterprise Agency (RVO) has started a number of studies partly because of the results from the first workshop. Central government wants to verify whether the started studies deliver the correct site data for the wind sector to be able to do a bid. In addition, TenneT is eager to start a dialogue with the wind sector about the electrical infrastructure that TenneT will be realising offshore and then, in particular, about the infield voltage level and the location of the platforms.

Presentations

The presentations about the general state of affairs of the offshore wind energy file, the planning for the EIA and the Borssele site decision, the studies with regard to site data and the electrical infrastructure have been enclosed as an annex with this report.

The following issues were discussed due to the presentations:

- The results of the studies with regard to site data will be published on a website that will soon become available. The reports will be delivered in English with a Dutch summary.
- The first delivery of the new TenneT electric infrastructure is being planned for 1 January 2009.
- The choice for the infield voltage level (33 or 66 kV) is important with regard to the location choice for the platforms and the configuration. When the choice must have been made has not yet been decided.
- The wind sector would greatly like to see an overall planning in which the different processes are shown in cohesion with each other: the site decision, the Offshore Wind Energy Act, the electrical infrastructure and the STROOM (streamline, optimise and modernise) legislation. The background in relation to this is the care to be given to ensure that the different processes in the planning fit in with each other in view of the dependencies between the projects. Bert Wilbrink explains that, by preference, the project would work with irrevocable site decisions. This will definitely be the case as from the 2017 tender, but this is not feasible for 2015. Work is now being performed towards a final site decision closely before the tender. An appeal, however, is still possible within this context. The National Coordination Regulations procedure for the electrical infrastructure will, at that time, be in the draft decision phase. The effective date for the STROOM legislation is planned for 1/1/2016. The act will be published formally two months before this date. There will be sufficient certainty about TenneT's planning on 1 January 2016. It shall be determined whether an outline overall planning can be created. The planning will then be published on the website.
- The Borssele site decision contains the infrastructure up to the power point of TenneT.

Work sessions

The participants will discuss site data and the TenneT electrical infrastructure during two parallel sessions.

Site data work session - (feedback from Laut van Seventer)

- The verification with regard to the market whether the studies that the RVO is performing are sufficiently complete and are of sufficient quality in the opinion of the market parties to be able to make a bid in the tender was the input for the work session. The parties also discussed what should still take place and how a process can be followed as optimally as possible, so that the quality can be assured and the wind sector can deliver sufficient input.
- The following issues/tips were discussed:
    - The suggestion was made to contact Belgian wind farm operators, in particular, about data related to geology/geomorphology because the soil dynamics play an important role. The RVO indicates that the initial contacts have been made with Belgian experts, but that they are studying how this can be further followed up. It is noted that the site data of Belgian farms cannot simply be translated for the situation in Borssele. The tip is also given to contact cable owners because they may also have information about the morphology and morphodynamics of the site.
    - The wind sector asks to which extent the different studies will also be useful for TenneT. The RVO indicates that the area that is being studied includes an additional kilometre around the Borssele site. This could mean that the studies could possibly also be useful for the high-voltage station of TenneT. Since the planning will be a few months later, TenneT will investigate the cable route itself.
    - Currently, a desk study/ hazard identification and risk assessment is being carried out for UXOs. The wind sector asks that the UXOs be localised as exactly as possible during the geophysical survey. The RVO indicates that the exact localisation of UXOs will increase costs significantly and that this is only useful to a limited extent because the UXOs may move fairly shortly after the survey because of the soil dynamics. The plan is, therefore, not to perform a detailed UXO survey during the geophysical surveys, but a (global) magnetometer survey will be performed that will provide insight into the extent to which (metal) objects over the site can be prevented. The exact localisation of UXOs will then be the responsibility of the developers when it is announced where and when building will take place. The removal of UXOs is a job for the government. A reporting obligation applies if an UXO is localised.
    - Morphodyanmics is an important issue for Borssele. A given tip is to include the bathymetric of the site when determining the metocean conditions. The RVO indicates that this is a part of the metocean data study.
    - Ensure that the GIS data is available on a website through a GIS viewer. Combine certification for geophysics and geothechnology. If possible, investigate whether an independent agency can process all the results of the geophysical and geotechnical surveys.
    - Inform the fishing sector when geophysical and geotechnical surveys are being performed.

- The study of DNV GL into the wind measurement program is being concluded during the coming weeks. The study compares and values different methods to map the wind climate in the Borssele area. Including, for example, making use of:
  - Historical re-analysis data of models
  - Floating LIDAR (Light Detection and Ranging) data
  - LIDAR data on an existing platform
  - Installing a meteorological measuring mast

  Financial experts will also be consulted when the question will be asked on how they assess the value of specific data within this context. A session will be organised in October with wind experts from the sector. Tip with regard to this: also study the Belgian farms for validation. Start as soon as possible with tendering so that you do not lose time. Include flexibility in the tender, so that corrections can still be implemented.
- When the surveys and studies have been finalised, the results will be printed. The research agencies may not work for other parties during the surveys and studies.
- The sector consultation will take place through knowledge workshops and through input via the specific NWEA working group.
- The quality of the site data is very important to the wind sector. The government is doing all it can to supply high quality data by:
  - Hiring experts for the performance of the studies.
  - Harmonising the scope in the NWEA working group.
  - Having studies that (may) form the input for a Design Basis certified.

  The RVO indicates that quality is an important objective. It is, however, not realistic to try to exclude all surveys and studies in view of the available time and the stage at which the surveys and studies are taking place. Together with the sector, he best equilibrium will have to be found between excluding risks and the amount of time and the budget that will be used for this. The responsibility for applying the data lies with the wind sector. It is also the wind sector that must decide how to deal with the uncertainties that will exist regarding the results of the studies. The wind sector asks whether the possible presence of significant omissions or shortcomings in the data may lead to the adjustment of the bid price or, if this should be possible, withdrawing the tender bid altogether. Central government will involve this issue when setting up the tender and will refer back to this at a later stage.

Electrical infrastructure work session (feedback from Martin Ars)

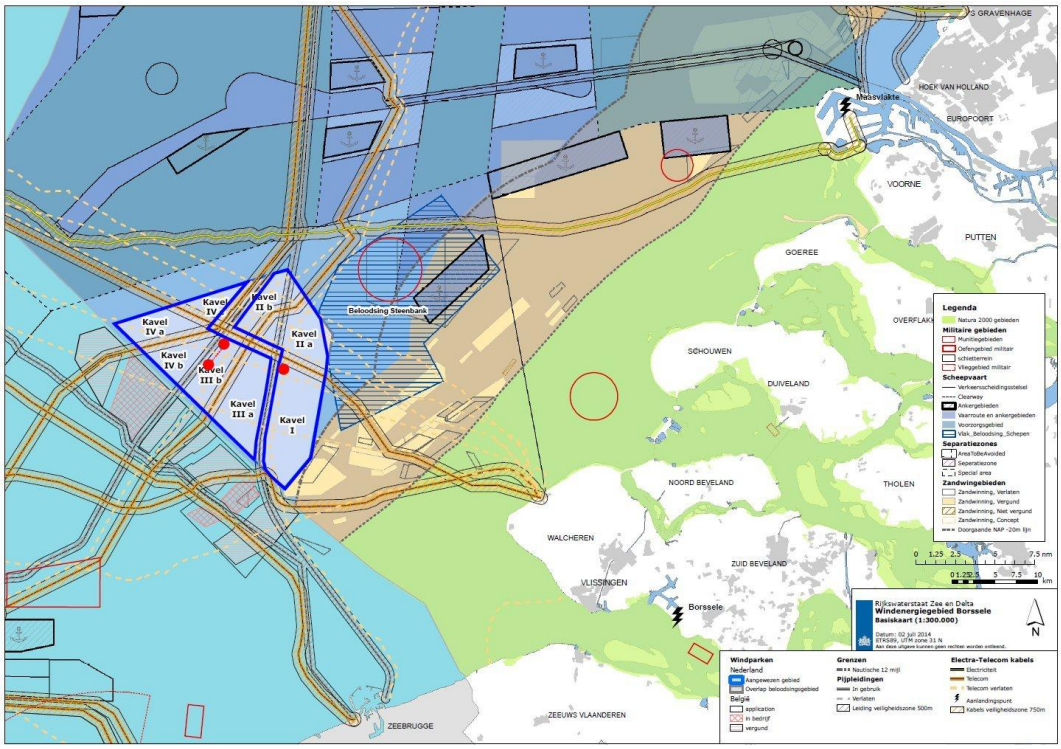
- Input for the work session is consultation with the market parties about the set-up of the electrical infrastructure for the wind farms. The participants specified the following issues with regard to this:
  - Platform location
  - Redundancy
  - 33 or 66 kV for the inter-array cables
  - Data connection
  - Grid compliance
  - Planning

- How to involve the market - decision tree: when must decisions be taken and when will the market be involved in this.
- Must a helicopter platform be included on the platforms or not?
- Who is the owner of which part of the installation?
- Left for the time being: giving a guarantee

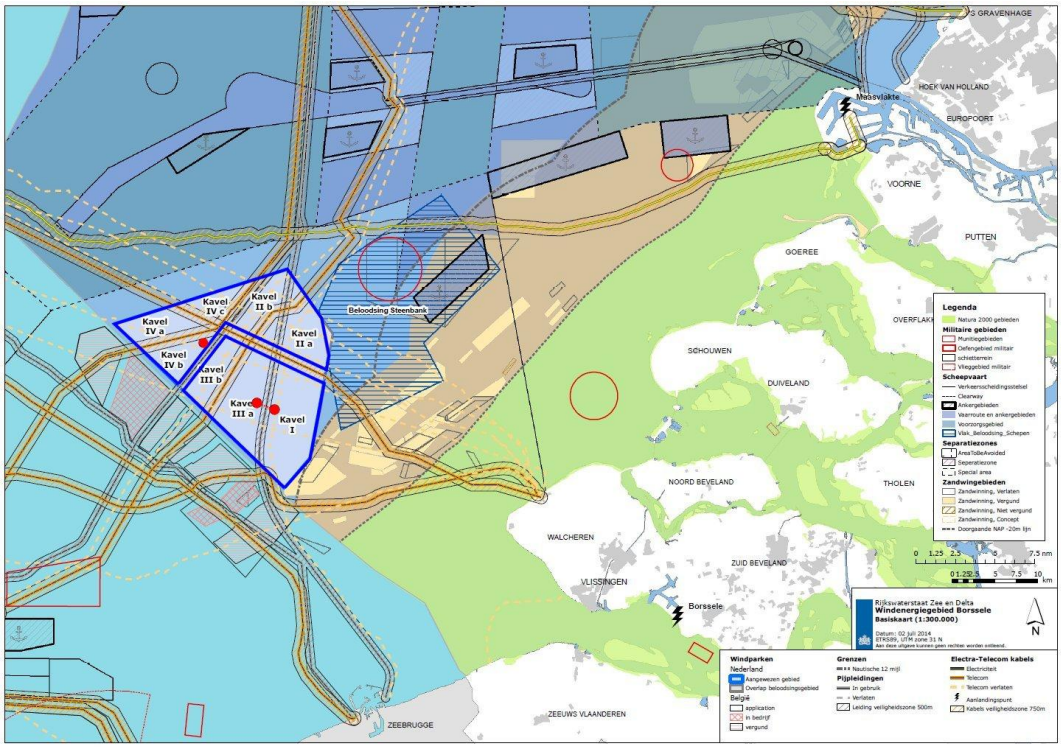
- The following criteria were formulated regarding the location of the platforms:
  - Keep the costs for the whole system as low as possible.
  - Spatial: in a corridor by preference.
  - The corridor must be accessible for cable maintenance.
  - Realistic planning.
  - Platform in-between the farms, so that the cables do not have to run through another wind farm.
  - An export cable is cheaper than an inter-array; the sector, therefore, prefers the shortest possible inter-array cables.
  - Redundancy costs and a maximum distance between the 2 platforms.
    TenneT indicates that it is assuming a distance of 4 kilometres between the platforms. There are experiences elsewhere that this distance can also be greater (12 km).

Two variants are selected based on this:

- If sites 1 and 2 are developed simultaneously, a platform in the centre seems logical because the inter-array cables can be as short as possible.



- If sites 4 and 1 are developed simultaneously, a platform in the centre alongside the existing cable seems to be the right place.



- The combination of sites 3 and 4 does not seem logical because that would mean too many cable crossings. The combination of sites 2 and 3 with a platform in the corner or in the centre would then seem a better option.

- With regard to the choice of applying 33 or 66 kV, the conclusion was arrived at that it would be logical, technically speaking, to choose 66 kV when larger turbines are used because that would entail fewer strings. The wind sector, however, can also see risks with regard to the availability of one 66 kV cable on the market, which leads to higher prices. Using 66 kV is not proven technology either. In addition, smaller turbines will not be possible.
  The advantage of 66 kV is, however, that you would need a lot fewer strings with regard to a 350 MW farm and this would mean that the number of cable crossings would be reduced significantly. A few market parties indicate that further research is required, but it is unclear which studies should be performed.
- The other issues from the overview were not discussed because of the time constraint.

Due to this feedback, the question was asked whether it is possible to combine both 33 kV and 66 kV on 1 platform. This is possible technically, but is not the preferred option. TenneT is basing itself as much as possible on standardisation for all platforms. Connecting two farms on to one platform where one farm uses 33 kV and the other farm uses 66 kV leads to additional problems.

Conclusion

The chairperson of the day thanks those attending for their contribution to the workshop and the good feedback. He also emphasises that it is in everyone's interest to also continue to highlight the issues about which there is agreement during communication moments and to also focus attention on the questions that 'still require an answer'.

The report of the meeting will be sent back as soon as possible together with the presentations.
Three more knowledge workshops will be organised during the coming months: on 15 October, 17 November and 15 December. The order of the topics will be further determined.
NWEA offers having further discussions of certain issues in a smaller set-up. This offer is appreciated by central government.