

Rijksdienst voor Ondernemend Nederland

Webinar Ministerial **Orders and Tenders** IJmuiden Ver Wind Farm Sites Alpha and Beta

7 November 2023

Host: Ruud de Bruijne (Netherlands Enterprise Agency)













Rijksdienst voor Ondernemend Nederland

IJmuiden Ver Alpha and Beta

- Milestones grid connections
- Update Development Framework
- Update Site Decisions
- Update Offshore Grid Compensation Decision

Joost Vermeulen (Ministry of Economic Affairs and Climate Policy) Team Lead Offshore Wind – Roadmap & Spatial Planning

<u>kur</u>

Contents

- > Milestones* IJmuiden Ver Alpha and Beta:
 - History and next steps
 - Key takeaways from comments on draft timeline
 - Our considerations
 - Definitive milestones
 - Important provisions
- > Other changes to Development Framework
- > Update Site Decisions
- > Update Offshore Grid Compensation Decision
- * MST 1: TenneT-platform ready for electrical cable pull-in
- * MST 2: Wind farm ready for supplying full power
- * MST 3: Delivery of HVDC connection





History and next steps

- History
 - 30 May 2023: Information session on milestones IJmuiden Ver Alpha and Beta
 - 8 June 2023: Workshop
 - Consequences for the IJmuiden Ver Alpha and Beta tenders: moved to Q1 2024
 - Request to respond to the milestone planning
 - 8-19 June 2023: Comments on milestone planning
 - Q3 2023: Discussions/negotiations between TenneT and contractors
 - 17 October 2023: informal information session on IJmuiden Ver Alpha and Beta milestones
 - 30 October 2023: publication of the Development Framework for Offshore Wind Energy
- Next steps
 - 28 November 2023, workshop (at OEEC): Explanation of final Site decisions



Key takeaways from comments on draft timeline

- > Draft planning timetable is very challenging, especially:
 - Early mechanical cable pull-in preferably 6 months before MST 1
 - Time between MST 1 and 2 should be at least 6 months
 - Period between irrevocable permit and MST 1 should be at least 54 months
- Other concerns/questions:
 - Concerns about financial penalties if TenneT does not reach MST 1 in time
 - Consequences of delayed irrevocable permit on the planning and obligations
 - Difference between Alpha and Beta in time between MST 2 and MST 3
- > Pressure on the supply chain is increasing



Our considerations

- > Trying to facilitate the realisation of the wind farm by...
 - Finding more time between MST 1 and MST 2
 - Finding more time for mechanical cable pull-in before MST 1
 - Avoiding penalties if TenneT does not meet MST 1
- > ...While avoiding knock-on effects on upcoming projects...
- > ...and keeping the (policy) target of 21 GW by the end of 2031 within reach.



Final milestones

Site	Milestone 1: TenneT platform ready for electrical cable pull-in	Milestone 2: Wind far full power	m ready for supplying	Milestone 3: Delivery of HVDC connection
<i>IJmuiden Ver</i> , Alpha	1 March 2029	31 August 2029		31 December 2029
IJmuiden Ver, Beta	31 May 2029	2a*: 31 October 2029	2b*: 30 November 2029	31 January 2030

* 2a: At least 70% of the guaranteed transport capacity of the HVDC platform is connected (= at least 1.4 GW) and all 66 kV cables are connected and put into use. 2b: The wind farm must be able to supply full power.

- > Full period between MST 1 and MST 2 available for connecting wind farm, barring unexpected disruptions that may arise from connecting.
- > If such a disruption occurs and this puts pressure on achieving MST 2 and MST 3, TenneT will consult with the license holder and the minister.

Site	Mechanical cable pull-in (indicative date)	Remarks
<i>IJmuiden Ver</i> , Alpha	30 November 2028	To be further detailed in the interface management process
IJmuiden Ver, Beta	28 February 2029	To be further detailed in the interface management process



Important Provisions

- > Development framework par. 4.2.3:
 - TenneT will consult with the permit holder(s) of the wind farm(s) to make further agreements, including
 planning the construction and (joint) test phase.
 - A delay in delivery by TenneT or the permit holder may not impede the possibility of the other party to meet the subsequent milestone.
 - See paragraph 4 of the explanatory notes: IJmuiden Ver Alpha & Beta Draft Ministerial Orders
 - If the period between the permit becoming irrevocable and MST 1 is less than 48 months the milestones will be rescheduled.
 - See paragraph 4 of the explanatory notes: IJmuiden Ver Alpha & Beta Draft Ministerial Orders



Other changes in the Development Framework

- > TenneT-platform Ten noorden van de Waddeneilanden will be equipped with a helicopter deck;
- > Fiber optic connections between adjacent HVDC platforms;
- > Text on number of J-tubes and bays of a HVDC platform revised for customer connections;
- > TenneT asked to prepare for one or more offshore energy hubs and a hybrid connection to the UK;
- > TenneT asked to construct in accordance with the Clean and Emission-Free Construction covenant.



Changes to Site Decisions

- Overplanting
 - Allowed:
 - Maximum of 134 turbines, \geq 15 MW, and total rotor surface area \leq 6.157.522 m², such as
 - 134 turbines (15 MW, 236 m diam.) per site (2.010 MW, 5.861.634 m²)
 - 100 turbines (20 MW, 280 m diam.) per site (2.000 MW, 6.157.522 m²)
 - Intended, to be confirmed:
 - Maximum of 134 turbines, \geq 15 MW, and total rotor surface area \leq 7.081.150 m², such as
 - 115 turbines (20 MW, 280 m diam.) per site (2.300 MW, 7.081.150 m²)
 - 127 turbines (18 MW, 264 m diam.) per site (2.286 MW, 6.951.867 m²)
 - For all configurations: 25 m < tip level < 305 m. Spacing: $\ge 4D$
- Obstacle free sector for helicopter traffic to TenneT platforms
 - Circle 2200 m diam. + 2 corridors of 600 m width
- Safety/exclusion zone of 150 metres around closed oil/gas wells
- Some changes in monitoring requirements



Update Offshore Grid Compensation Decision

- > 2 changes:
 - 1. Number of days required for regular maintenance (for HVDC)
 - 2. Cap on electricity price to avoid windfall profits

Consultation is open 27 Oct – 10 Dec

https://www.internetconsultatie.nl/wijzgingbesluitschadevergoedingnetopzee





Update offshore grid

Jaarsma, Saskia Head of Offshore Development, TenneT

7 November 2023

C1 - Public Information

Disclaimer: This presentation is provided for information purposes only. No rights can be obtained from its contents which only present TenneT's current thinking and may be subject to change.



Topics to cover

- 2GW contractors announced and way of working
- Update on Model Agreements and Q&A
 - <u>https://www.tennet.eu/information-wind-farm-developers</u>

Disclaimer: This presentation is provided for information purposes only. No rights can be obtained from its contents which only present TenneT's current thinking and may be subject to change



Facilitation through technological standards Offshore grid expansion

We cannot achieve 40 GW by 2030 with linear growth alone: We need to significantly increase our transmission capacities.

By developing new standards for offshore grid connection systems, we lay the groundwork for stepping up in offshore grid expansion.

Starting at 700 MW AC to 400 MW DC to 900 MW DC, we are now at a whole new level: **Our new 2 GW high voltage direct current (HVDC) standard for offshore grid connection systems.**





2GW contractors announced – multiple consortia



HVDC/Platforms Framework Cooperation Agreements

Cable Framework Cooperation Agreements



2GW Model Agreements

- General Terms and Conditions
- Realisation Agreement
- Connection & Transmission Agreement
- Annexes

Note: Specific exceptions for Alpha and Beta, e.g.

- Alpha: bird curtailment information exchange
- Beta: milestone 2a and 2b included





Annex 0	Definitions used in Annexes
Annex 1	Details of Connected Party
Annex 2	Description and technical specifications of the Connection, including
	drawings
Annex 3	Technical terms and conditions for the Platform
Annex 4	Technical requirements applicable for the connection of offshore
	power park modules
Annex 5	Compliance Activities; applicable testing requirements
Annex 6	Interface management
Annex 7	Operational arrangements
Annex 8	Tariff sheet



Algemene Voorwaarden voor Realisatie, Aansluiting en Transport van gelijkstroomverbindingen op zee, TenneT 2023

Realisation Agreement – Interface OWF – TenneT

6. Information exchange, planning, access and operational topics

6.1 The parties shall jointly draw up a combined schedule prior to the conclusion of this Agreement, based on the respective schedules of TenneT and Connected Party. The agreed schedule will be added in Annex 9 and shall include at least the following milestones: [...]

6.2 During the term of this Realization Agreement: Parties keep each other mutually informed of the progress of the realization, both by means of bi-monthly reports or as often as the Parties agree.

6.4 A Project Working Group (or "PWG") shall be installed which shall meet regularly to discuss operational issues and planning.

6.5 The parties mutually recognize their interest in ensuring that all issues affecting the successful, efficient and timely execution of both projects (during construction, regular operations and decommissioning) are discussed, coordinated and worked out within the PWG.



Realisation Agreement – Delivery procedure

4. Testing and delivery of the Connection

4.1 From the date on which the Platform is ready to receive the 66 kV cables from Connected Party ('Platform ready for electrical cable pull-in') as stipulated in the Development Framework, or at an earlier time if TenneT gives express written permission to Connected Party to do so, Connected Party shall be entitled to connect 66 kV cables to the Platform and to perform other work on the Platform. TenneT will not withhold the aforementioned permission on unreasonable grounds.

Starting two (2) months before the scheduled start of the offshore work for the connection of 66 kV cables to the Connected Party's Platform, the Connected Party must inform TenneT on a weekly basis of all changes in the schedule of this offshore work that are necessary to make the wind farm ready for the delivery of full power and, starting at least two (2) weeks prior to the scheduled date, align on changes on a daily basis in order to ensure that a change is also workable for TenneT (e.g. taking into account personnel from both Parties who are available, PoB and the weather window).

As the Connected Party is part of the integrated HVDC system. In order to enable the wind farm integration the Connected Party shall participate in the test & commissioning alignment process. The result of the alignments shall deliver an integrated commissioning schedule for the GCS including the offshore wind farm.



Realisation Agreement – Delivery procedure

4. Testing and delivery of the Connection - Mutual liability

Includes mutual, reciprocal liabilities:

TenneT liable towards OWF if platform not ready for cable pull-in at Milestone 1

(4.1) If, at the time that the Platform must be ready for cable pull-in, Connected Party is unable to commence the work due to a failure to comply with this agreement that can be attributed to TenneT, this will constitute breach of contract pursuant to Section 6:74 of the Dutch Civil Code.

• OWF liable towards TenneT if wind farm not ready for full power at Milestone 2:

(4.3) If, at the time when the Wind Farm is required to be ready to deliver full power, the Connected Party is unable to deliver the full power of the Wind Farm, due to a failure to comply with this agreement attributable to the Connected Party, this shall constitute breach of contract pursuant to Section 6:74 of the Dutch Civil Code.

Updated delivery procedure in line with Development Framework:

- Milestone 1: platform ready for electrical cable pull-in → electricity transport possible but transportation capacity not contractually guaranteed
- Milestone 2: OWF ready to provide full power (2 GW)
- Milestone 3: ISD grid connection system → transportation capacity contractually guaranteed and governmental compensation scheme applies
- Until Milestone 3: Grid Connection System under care & custody of the Contractors.



Next steps & Information updates

- Publications: Offshore documents (tennet.eu)
 - Model agreements REA / CTA on TenneT website
 - Update documents expected in November
- Questions: <u>Until opening date tender</u>: questions can be sent to <u>netopzee@tennet.eu</u>
- Directly after announcement of the winner(s) of the wind tenders, exchange on REA/CTA agreements will start.



TenneT is a leading European grid operator. We are committed to providing a secure and reliable supply of electricity 24 hours a day, 365 days a year, while helping to drive the energy transition in our pursuit of a brighter energy future – more sustainable, reliable and affordable than ever before. In our role as the first cross-border Transmission System Operator (TSO) we design, build, maintain and operate 24,500 kilometres of high-voltage electricity grid in the Netherlands and large parts of Germany, and facilitate the European energy market through our 16 interconnectors to neighbouring countries. We are one of the largest investors in national and international onshore and offshore electricity grids, with a turnover of EUR 6.4 billion and a total asset value of EUR 32 billion. Every day our 6,600 employees take ownership, show courage and make and maintain connections to ensure that the supply and demand of electricity is balanced for over 42 million people.

Lighting the way ahead together





C1 - Public Information

Disclaimer

This PowerPoint presentation is offered to you by TenneT TSO B.V. ('TenneT'). The content of the presentation – including all texts, images and audio fragments – is protected by copyright laws. No part of the content of the PowerPoint presentation may be copied, unless TenneT has expressly offered possibilities to do so, and no changes whatsoever may be made to the content. TenneT endeavours to ensure the provision of correct and up-to-date information, but makes no representations regarding correctness, accuracy or completeness.

TenneT declines any and all liability for any (alleged) damage arising from this PowerPoint presentation and for any consequences of activities undertaken on the strength of data or information contained therein.









Rijksdienst voor Ondernemend Nederland

Webinar Ministerial Orders and Tenders for IJmuiden Ver Wind Farm Sites Alpha and Beta 7 November 2023

Geert Harm Boerhave (Netherlands Enterprise Agency)



International Responsible Business Conduct

- > Big difference to Hollandse Kust (west) presentation in early 2022
- > Pilot at RVO
- > IRBC Agreement part of IJmuiden Ver tenders!
- > Covenant Renewable Energy



Overview Dutch System Offshore Wind

- > Offshore Wind Energy Act
- > Wind Farm Site Decision
- Ministerial Order for a specific site
- > Applications by developers
- > Evaluation by RVO
- > Winner receives the permit
- Policy rule for changes in the project



Evaluation by RVO

- Check on regulations of the Wind Farm Site Decision
- Check on general requirements of the Offshore Wind Energy Act
- > Check on general requirements of Ministerial Order
- Comparative assessment of the criteria
- > In the permit a list of regulations



Policy rule regarding project changes

- Will be published soon after the tenders are published in the Government Gazette
- > Changes in the project will be possible as long as the score for the criteria remains the same (or is even better) and the timelines are still OK.



Why a comparative assessment with financial bid?

- > Evaluation HKW site VI and VII tender
- Consultation with the industry
- Consultation with other Ministerial departments



What is the comparative assessment?

- > Table 1: Financial Bid
- > *Table 2*: Certainty of realization
- > Table 3: Energy production
- > *Table 4*: International Responsible Business Conduct (IRBC)
- > *Table 5*: Transparency of circularity
- Table 6: Ecology (Site Alpha) and integration in Dutch energy system (Site Beta)
- > *Table 7*: Site Beta also Harbour Porpoise disturbance days



What are the major differences with HKW tender?

- More objective criteria, therefore just one application per site instead of multiple applications
- > A DC grid connection instead of an AC grid connection
- > An annual financial bid, instead of just one payment



Article 2

- Tenders open from 29 February 09:00 (CET) until 28 March 2024 17:00 (CET)
- > Only one application per wind farm site



Article 4 List of documents for application

New: Information on how you will meet the timetable of development framework.



Article 5

In the application the developer must prove that exploitation of the wind farm will start within 56 months (Site Alpha) or 59 months (Site Beta).



Costs & bank guarantee

- > €0 for application
- > €21,840,000 for each wind farm site (costs of site studies and EIA)
- > €200 million guarantee or deposit
 - By bank or insurance company
- > The winner will deliver these within 4 weeks after permit award



When will the bank guarantee be collected?

- > If Milestone 2 is only just missed, a €0 fine
- If Milestone 2 is missed by one month, €10 million will be collected
- If Milestone 2 is missed by a second month, another €10 million will be collected
- After this each month €20 million will be collected



Why this bank guarantee?

- > A safeguard to ensure the wind farm is built in time.
- Also, even if the full bank guarantee is collected, the obligation to build the wind farm remains!
- > A penalty charge can still be issued!





Rijksdienst voor Ondernemend Nederland

Break

Preview film – Celebrating Roadmap Offshore Wind Energy 2023

Approximately 3 minutes



Financial Bid

- Annual amount
- > First payment to be paid within 4 weeks after the permit is granted
- Then, every year, within 4 weeks of the anniversary of the date the permit was granted



Certainty of realization

- > Experience of the developer and supply chain
- > Financial strength of developer



Energy production of the wind farm

- Maximum score if:
 - 8.6 TWh for site Alpha
 - 8.7 TWh for site Beta
- > Independent wind report
- > No external wakes, just internal wakes
- > Availability of the wind farm 96%
- No wind farm blockage, no wind hysteresis, availability of platform and export cable of TenneT is 100%, no solar energy



IRBC Agreement for the Renewable Energy Sector

- 1. Integration of IRBC in policy and management systems
- 2. Identification of risks to human rights and the environment in the supply chain
- 3. Prevent negative impact
- 4. Evaluate and monitor due dilligence
- 5. Annual report on due dilligence
- 6. Having a complaint mechanism



IRBC how to ensure a score

- > Sign up to the Dutch Covenant IRBC for renewable energy
- Join a similar multi-stakeholder covenant also based on OECD-Directives
- Or a company can have its own system, but in this case it will only achieve 50% of the maximum score.



When does a party have to join a covenant

- > Before 29 February 2024:
 - The developer
 - The party responsible for project management
 - The turbine supplier
 - The turbine installer
 - The party responsible for maintenance



When does a party have to join a covenant

- > 12 months after permit is irrevocable:
 - Foundation producer
 - Foundation installer
 - Cable producer
 - Cable installer



Which party has to join the covenant

- For example company A and company B have a SPV together called IJmuiden Ver CV.
- In this case both company A and company B have to join the covenant. It is not necessary for IJmuiden Ver CV to join.



Circularity

- Focus on transparency
- > In the application itself:
 - Information about circular strategies for the tower, rotor, blades, transition piece, foundation and cables
 - Information about smart maintenance for these elements
 - Insight in critical and strategic raw materials and how these are used in circular strategies
 - Other information, only for the winner, 18 months after the permit is irrevocable



For circularity, what if I don't use a transition piece?

In that case, the secondary steel should be seen as part of a transition piece. In that way the maximum score can still be achieved.



Application form

- > Draft application form online but will be updated soon
- > Annex Ecology maximum 75 pages
- Annex System Integration maximum 50 pages
- > Other annexes no page limit



A BA

Rijksdienst voor Ondernemend Nederland

Draft Ministerial Order for granting the permit IJmuiden Ver Alpha (Ecology)

7 November 2023

Frank van Erp (Netherlands Enterprise Agency)

- > Objectives
- > Wind Farm Site
- > Criteria
- > Detailed look at criteria





Objectives

> Reduce negative ecological impacts

- Locally occurring birds
- Marine mammals

> Strengthening and restoring

- Underwater wildlife
- Marine ecosystems
- Naturally occurring diversity of benthos

Knowledge contribution

Focus: Implementing measures and validating effectiveness

Maximum points preferences



Site specific features Alpha

- Adjacent to Natura 2000
 Brown Bank area
- Promising for reef-building species (Ross worm)







Changes compared to July 2023 draft Ministerial Order

- Motivation
 - Clarifications
 - Market situation
 - Level playing field
 - Enabling overplanting

- > Criteria
 - Bird collision casualties
 - Harbour porpoises
 - Energy production

- > Objectives
- > Wind Farm Site
- > Criteria
- > Detailed look at criteria





Table 6.1.1 Reduce bird collision casualties

- > Reference level: 134*15 MW
 - Diameter: 236 m
 - Tip lowest level: 25 m
- > Measures:
 - Increasing tip lowest level
 - Increasing wind turbine capacity

- > Scoring
 - 20 points if all turbines conform to:

Installed wind turbine capacity [MW]	Tip lowest level [m]
≤ 17	Equal or higher than 35
> 17 and ≤ 19	Equal or higher than 30
> 19	Equal or higher than 25



Birds

Table 6.1.3 Accessibility of BrownBank

	Points
Wind farm design does <u>not</u> take into account and/or contribute to accessibility of Brown Bank for target species	0
Wind farm design does take into account and contributes to accessibility of Brown Bank for target species	12

Table 6.1.4 ADLS and 1.5 Visibility

- Aircraft Detection Light System: assume application is legally permitted when wind farm is put into use
- Visibility: apply measure or reserve financial resources



Harbour porpoises

Table 6.1.7 Disturbance days inconstruction phase (foundations)

- > Both IJV Alpha and Beta
- > Separate annex 14
- Calculation verified by independent expert organisation
- > Scoring:
 - 20 points for 77 k harbour porpoise disturbance days (scenario 2GW)
 - 'Overplantingsfactor' to accommodate overplanting:

Table 6.1.8 Pressure factors inoperational phase

- > Each measure: 4 points
 - 1. Reduce vessel speed
 - 2. Using significantly quieter ships
 - 3. Optimising logistical planning to minimise underwater noise



Underwater nature

Table 6.2.1 Underwater nature

- Create habitats with foundations, scour protection and potentially existing cable crossings
- > In balance ≠ equal

Table 6.3.1 Electromagnetic fields

- Gain knowledge about the presence of EMF in infield cables
- Goal is to measure EMF, no measures to prevent disturbance yet



Towards an ecologically sound wind farm

- Significantly less impact on birds
- Significantly less impact on harbour porpoises
- Supporting positive ecological impact



Rijksdienst voor Ondernemend Nederland

Webinar Ministerial Orders and Tenders for IJmuiden Ver Wind Farm Sites Alpha and Beta 7 November 2023

Geert Harm Boerhave (Netherlands Enterprise Agency)



Integration into the Dutch energy system

- Investments onshore for integration of electricity from IJmuiden Ver Beta
- > Investments in offshore floating solar in IJmuiden Ver Beta
- The winner will give detailed information about the investments within 6 months after the permit is irrevocable



Investments onshore

- Maximum points for 1 GW of guaranteed electricity consumption
- Conditions
 - GHG reduction in NL
 - Enlarge electricity demand
 - Not everywhere in NL
 - Provide information showing feasibility
 - Annual report obligation
 - It cannot be part of a previously permitted offshore wind project
 - Must be operational no later than 72 months after permit is irrevocable



Can I still apply for subsidies later on?

- > You have to realize the investments unconditionally
- For these investments still possible to receive future subsidies (if you meet the requirements of the relevant subsidy scheme)



Can I export the hydrogen?

- Hydrogen that is delivered to the hydrogen backbone does meet the GHG requiments
- > Hydrogen can be exported to for example Belgium or Germany



Investments in offshore floating solar in site Beta

- > Maximum score if 50 MW offshore floating solar is realised
- Requirements
 - Ready within 72 months
 - Permitholder has to monitor the synergy between wind and solar production
 - Give access to the State for research
 - The winner tries to have the solar field operational at least 10 years
- The Bill on the new Dutch Energy Act contains the basis for making it possible to feed solar energy into the offshore grid



Rijksdienst voor Ondernemend Nederland

Thank you for your participation

- Please fill in the questionnaire
- The webinar recording, presentation and Q&A will be made available on our website

