



Rijksdienst voor Ondernemend  
Nederland



# Information meeting Borssele V

Utrecht, 1 November 2017



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Nederland



## The Ministerial Order for Innovative Offshore Wind Energy (Borssele Site V)

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Utrecht, 1 November 2017



# What won't we be covering this morning?

- We won't be dealing with site studies or TenneT's connection requirements
- Giving immediate answers to (legal) questions from the floor. Questions should be emailed to [woz@rvo.nl](mailto:woz@rvo.nl) and will be answered on the website in the next few weeks.



# What will we be covering this morning?

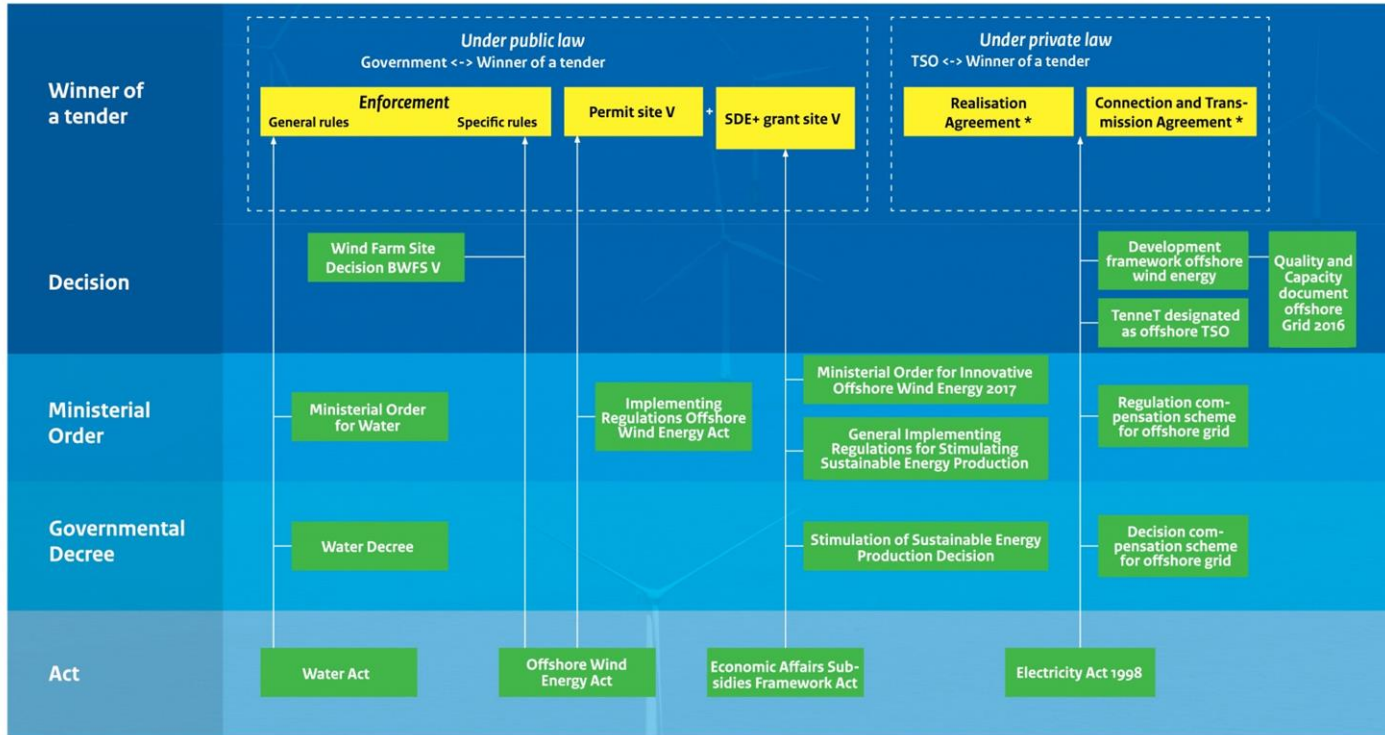
- An explanation concerning the Ministerial Order for Innovative Offshore Wind Energy

## *Break*

- Explanation concerning SDE+
- Submitting an application and an explanation concerning the appendices



Yellow box: For the winner of a tender (Winnaar)  
Green box: Final, non-juridical





# Why stipulate an innovation site?

- To create an opportunity for operators based in the Netherlands to demonstrate almost fully developed technologies for actual market introduction.
- Contributing towards cost reductions for an offshore wind energy → *farm is part of the Energy Agreement rollout!*
- To contribute to the Dutch economy by expanding the market and potential for Dutch companies (including export potential).
- To contribute to building knowledge in the Netherlands by involving Dutch SMEs and Dutch knowledge institutions.



# Basic idea

- Demonstrating new technologies is more expensive than rolling out existing ones
- Subsidy for the additional investment costs compared with site III
- Reason: advance funding (instead of after production has started)
- Operations will begin as soon as commissioning has taken place
- Tender, ranking based on four qualitative criteria
- One winner (one or two turbines; a minimum of 6 MW and a maximum of 20 MW)
- Where possible, the approach will be the same as that applied to standard sites; it will be departed from if necessary.



# Online consultation: amendments

## Wind Farm Site Decision

- Maximum total swept area permitted: 76,924 m<sup>2</sup>.
- Total installed capacity: min. 12 MW → 6-6 min. 6 MW
- The maximum nominal capacity of 10 MW/turbine has gone: The minimum nominal capacity for each turbine is now 6 MW.

## The Ministerial Order for Innovative Offshore Wind Energy:

- The nominal capacity is now a minimum of 6 MW and a maximum of 20 MW
- The subsidy cap for the investment subsidy is now €15 million
- The level of the second bank guarantee has been reduced.





# Subsidy: who, what and how much

(Articles 2, 3 and 7 of the Ministerial Order)

- Subsidy granted to a producer of renewable electricity using offshore wind energy
- For a power generation facility with a nominal capacity of at least 6 MW and a maximum of 20 MW
- Subsidy cap: €59 million
  - Investment subsidy : max. €15 million
  - Operating subsidy (= subsidy per kWh) : max. €44 million



# Subsidy: who, what and how much

(Articles 2, 3 and 7 of the Ministerial Order)

- One combined application for a subsidy and a permit
- This is investment aid, i.e. not R&D
- The technology is so far advanced that its use by an operator in an operational environment is possible.
- Technology readiness levels 7-9.



# Grounds for rejection

(Article 6 of the Ministerial Order and Article 59 of the SDE+ Decision)

- Submitting a late or incomplete application
- It has not been demonstrated that the facility will be commissioned within four years (after the permit date becomes irrevocable)
- The wind farm does not meet the Wind Farm Site Decision requirements:
- It has not been demonstrated that the project plan:
  - is practically feasible;
  - is technically, financially and economically feasible
- Fewer than three points were awarded for a ranking criterion (scale of 1-5)



# Grounds for rejection

(Article 6 of the Ministerial Order and Article 59 of the SDE+ Decision)

- The level of own assets is below 10% of the total investment costs
- The level of own assets is below 20%: no letter of intent from a financial backer
- There is an outstanding recovery order for support (European Commission claim)
- The applicant is a company in difficulties
  - definition in Article 2(18) of the General Block Exemption Regulations; concerns the financial situation
  - you must declare on the application form whether this is the case



# Ranking (Article 8 of the Ministerial Order)

- Committee of independent experts
- Four criteria, each score greater than or equal to 3 points  
(scale of 1-5 points)
  1. Contribution to cost reduction of offshore wind energy
  2. Contribution to the Dutch economy
  3. Innovation: degree of innovation relative to the state of the art from an international point of view and the degree to which the Dutch knowledge position is boosted
  4. Quality of the project (approach and methodology, risk management, feasibility, participating parties, effectiveness and efficiency of the resources deployed)



# Ranking (Article 8 of the Ministerial Order)

- Each criterion carries the same weight
- The highest scoring application wins; there is one winner
- Several applications rank equally: the application for which the lowest investment subsidy is requested (- SME top-up) wins; if the result is again the same; lots are drawn



# 1. Contribution to cost reduction

- This specifically concerns the LCOE expected to result from applying the innovation or innovations at a commercial offshore wind farm, not the costs of the demonstration project itself.
- ECN calculation model (online soon) to calculate the expected base amount as a result of your innovation or innovations. Make assumptions explicit and substantiate them with results from preliminary research.
  - Complete for each wind turbine
  - Where there are two different turbines: for the total combined effect, too
- In other words, it must be possible to quantify the effect of the innovation.



# 1. Contribution to cost reduction

- Cost reductions that contribute to the operator's business case, such as the reduction of imbalance costs or risk premiums, are also considered.
- Potential for use elsewhere: for specific locations only or generically applicable?





## 2. Contribution to the Dutch economy

- Impact/revenue for participating companies
- Turnover, export, employment: quantify
- Sound business case for supplier and end user
- Sound substantiation is required (details from prior research and pilots; market research)
- Realism and clarity regarding assumptions
- Insight into the implementation phase (approach to market introduction)
- Advantages over alternatives, chance of success, non-technological aspects



## 3. Innovation

- This could be a single, overall demonstration or several (standalone) sub-demonstrations
- The state of the art, from an international point of view, will be the benchmark
  - Describe the development relative to the state of the art!
- The number of innovations and how ground-breaking they are: marginal improvement through to a technological breakthrough
- The use of both positions can therefore be positive



# 3. Innovation

- Dealing with the technical risks
- Is a scientific research programme linked to the project? Who, what, €? (NB: not eligible for subsidy)
- Dissemination of knowledge: what and how? Have data been made available?



## 4. Quality of the project

- Description of the background to the problem, the definition thereof, preliminary research carried out and objectives
- Detailing of the project phases and task distribution (who does what) including go or no-go times, the resources to be used and the results
- Dealing with the risks: insight into the project risks and how to deal with them → risk analysis



## 4. Quality of the project

- The feasibility of the project: are the objectives realistic given the budget, the timetable, the preliminary research carried out, the approach and the expertise of the project partners?
- The participating parties: useful and necessary; participation Dutch SMEs receives a positive weighting!
- Effectiveness and efficiency: impact versus costs



# Requirements (Articles 9, 10 and 11 of the Ministerial Order)

- The implementation agreement is entered into within two weeks of the award
- A bank guarantee of €600,000 is awarded within four weeks of the award
- A 2<sup>nd</sup> bank guarantee of €2,000,000 is awarded within 12 months of the award
- The power generation facility must have been commissioned within five years (of the date on which the subsidy is awarded)
- A report on the progress and results: a maximum of once a year
  - After commissioning, a report on the results will be requested in any event after approximately two to three years



# Level of the subsidy

(Articles 13 and 18 of the Ministerial Order)

- Operating subsidy: in accordance with the SDE+ scheme (15 years + 1; tender amount - adjustment amount (price of grey energy) = subsidy)
- Tender amount SDE+: the amount for the winner of site III = max. €0.05449/kWh
- Investment subsidy: 45% of the additional investment costs compared with site III;
- Medium-sized companies : + 10 percentage points
- Small companies : + 20 percentage points



# Definition of SME

(General Block Exemption Regulations, appendix I)

Categorie ondernemingen	Aantal werkzame personen: Arbeidsjaareenheid (AJE)	Jaaromzet	of	Jaarlijks balanstotaal
Middelgroot	< 250	≤ 50 miljoen EUR	of	≤ 43 miljoen EUR
Klein	< 50	≤ 10 miljoen EUR	of	≤ 10 miljoen EUR
Micro	< 10	≤ 2 miljoen EUR	of	≤ 2 miljoen EUR

- Autonomous enterprise, partner enterprise or linked enterprise?
- See the test at <https://www.rvo.nl/subsidies-regelingen/subsidiespelregels/standaardformulieren/mkb-toets>





# Example of an investment subsidy

Investments costs Innovation Site 20 MW	€ 70,000,000
Reference costs: investment for 20MW of the Borssele Site III*	€ 43,560,000
Eligible costs	€ 26,440,000
Subsidy large enterprise (45% of 26.44 mln)	€ 11,898,000
Subsidy medium enterprise (55% of 26.44 mln)	€ 14,542,000
Subsidy small enterprise (65% of 26.44 mln)	€ 17,186,000

→ Subsidy for small enterprise will be capped to € 15,000,000

\* Reference costs/MW: € 2.178.000/MW (Source: ECN model)



# Cumulation

- Cumulation: accumulation of this subsidy with other subsidies (for the same activities or costs)
- Investment subsidy percentages are the maximums under the General Block Exemption Regulation
- The maximum investment aid under the General Block Exemption Regulations is €15 million.
- Either: Additional subsidies are complicated
- Or: Subsidies for R&D activities or a scientific programme
  - For example, the Ministerial Order for renewable energy (HER), offshore wind R&D tender



# Payment of the investment subsidy

(Articles 19, 20, 21 and 22 of the Ministerial Order)

- Advance based on the milestones in the project plan
  - The time when the costs are incurred and paid for must coincide with the advance
- The first advance is paid within two weeks of the start of activities
  - Enter the start date on the application form
  - At the earliest after the 1<sup>st</sup> bank guarantee requirement has been met
- The following advances will be provided within two weeks of 1 January, 1 April, 1 July and 1 October
- The advance = 90% of the subsidy percentage multiplied by the eligible costs in a milestone period, divided by the number of advance times



# Payment of the investment subsidy

(Articles 19, 20, 21 and 22 of the Ministerial Order)

- Notify if the eligible costs deviate from the budget by more than 25% in the relevant quarter
- Payment of the investment subsidy stops when production starts (although there will be a 10% supplementary payment in the event of an interim investment subsidy calculation);
- Application for an interim calculation: submit an application to RVO.nl within 13 weeks after the commissioning of the power generation facility
  - including the accountant's audit certificate = support with documentary evidence



# Points to note

- eService Point: apply for eRecognition without delay! (1-5 working days)
  - Security level = 1; see [www.rvo.nl/eloket](http://www.rvo.nl/eloket)
- Ensure that you start preparing the application in eService Point in good time
  - eService Point will be open from mid-December
- Try your project idea out
  - see the form on the website (available soon)



# Points to note

- Substantiation for the claims you are making:
  - Cost reduction
  - Impact on the Dutch economy
- Technical feasibility:
  - provide a clear description of the operating principle
  - describe previous research and results
- Economic feasibility:
  - describe the market, advantages over competing solutions, make a business plan and be realistic!!!



# Points to note

- The project must be implemented in accordance with the project plan
  - The policy rule concerning a change in the power generation facility will be applied
  - Avenue of thought: an amendment is possible if the demonstration goal is achieved (approximately five years) and the number of MW must remain the same (contributes towards the sustainability goals)
- Generation of electricity: at the wind farm site
- No possibility of also including other forms of energy generation in the project (under the Electricity Act)



# Schedule

Milestones	Date
Publication of the Ministerial Order	26 October 2017:
Deadline for submitting questions to RVO.nl	15 December 2017 at 17:00
The tender opens on	2 January 2018
The tender closes on	18 January 2018 at 17:00
Result (3 weeks)	19 April 2018
Start of production	As from 31 August 2020 (TenneT's Bèta Platform will be ready)





# **The operating subsidy and the General Implementing Regulations for the Stimulation of Sustainable Energy Production**



# The Ministerial Order for Innovative Offshore Wind Energy

- Article 5 (and Article 1):

Net P50 value of full load hours:

the number of full load hours, whereby the expected annual energy production for a particular offshore wind farm at a specific location should be determined with a probability of 50%



# The Ministerial Order for Innovative Offshore Wind Energy

- Article 5 (continued) and Article 2b(3)(d):

The calculation of the P50 value should take account of:

- Availability
- Wake effects
- Electricity losses
- Curtailment losses



# The Ministerial Order for Innovative Offshore Wind Energy

- Article 5 (continued):

Wake effects: which power generation facilities should you take into account?

- Own power generation facility at site V
- Wind farms commissioned before 1 July 2016.



# The Ministerial Order for Innovative Offshore Wind Energy

- Articles 6 to 11 inclusive were dealt with before the break.



# The Ministerial Order for Innovative Offshore Wind Energy

- Article 13

The tender amount is a maximum of €0.05449.

Unlike the earlier Borssele tenders, the tender amount is not a ranking criterion!



# The Ministerial Order for Innovative Offshore Wind Energy

- Article 14
  - The operating subsidy is provided for 15 years.
  - The start date for the subsidy may be different for two elements of the decision to provide a subsidy. There must be a period of at least two months between those two dates → Consider metering for each wind turbine, for example
  - Banking of the electricity production is possible.



# The Ministerial Order for Innovative Offshore Wind Energy

- Article 15
  - The base electricity price is €0.025 per kWh.
  - The adjustment amount for 2018 is €0.032719 per kWh
  - The value of guarantees of origin for 2018 is €0,00





# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

Article 2a The application shall contain:

- A description of the power generation facility (project plan)
- Operation calculation
- Financing plan
- Insight into own assets
- Letter of intent from the financial backer if the level of own assets is below 20%



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

Operation calculation:

- A specification of the investment costs for each component of the power generation facility
- An overview of all costs and benefits of the power generation facility
- A calculation of the return on investment over the project period



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

Insight into own assets:

The following may be included in the own assets:

- The own assets of participants in the collaborative venture
- The other assets of the parent company (provided it agrees to such)

Please note: The own assets of a participant or parent company may be included by a maximum of two applicants for a subsidy.



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

Article 2b The application shall also contain:

- A wind energy yield calculation
- Information demonstrating that Section 6:16d(1)(c) of the Water Decree will be complied with in good time



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

## **Wind energy yield calculation (part 1)**

"The wind energy yield calculation must have been drawn up by an independent organisation with expertise in the field of wind energy yield calculations, where use is made of reputable calculation models, environmental models, wind models and wind maps and shall contain at least":



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

## **Wind energy yield calculation (part 2)**

- The location details of the wind farm
- Technical specifications of the desired wind turbines (brand, type, axis height, rotor diameter and capacity curve)
- The local wind data for the wind farm
- A calculation of the P50 value for the net electricity production per annum of the wind farm.



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

The calculation of the P50 value must take account of:

- Availability
- Wake effects (own wind farm and wind farms commissioned before 1 July 2016)
- Electricity losses
- Curtailment losses



# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

Article 2c The application shall also contain:

- if a collaborative venture is involved: a statement of participation signed by each participant
- The most recently adopted annual accounts of the applicant, its parent company, the participants in the collaborative venture or their parent companies. The annual accounts may not be more than three years old





# The General Implementing Regulations for the Stimulation of Sustainable Energy Production

## Article 2c

- Documents that demonstrate sufficiently that the applicable Wind Farm Site Decision is being complied with
- A project plan that reflects the applicant's intentions regarding the manner in which the power generation facility will be realised and operated and the parties to be engaged for that purpose.



# Wind Farm Site Decision for Borssele Site V

Regulations for the construction of a wind farm:

*(below are a few regulations)*

- Boundaries of the site
- Maximum number of turbines per site: 2
- Installed capacity: a minimum of 6 MW and a maximum of 20 MW
- Minimum capacity of the turbine: 6 MW.



# Key points to consider in SDE+

## Start date of SDE+ subsidy

- 1<sup>st</sup> of the month
- a maximum of three changes may be made
- the start date may also be adjusted subsequently, but **not** after the official commissioning of the wind farm in its entirety



# What is banking?

- Annual generation ceiling: calculated net P50 (MWh) generation
- Forward banking: a generation shortfall in one year is a credit for the following years. Where more than the established P50 is generated, the full amount generated is eligible for a subsidy provided there is sufficient in the forward banking pot
- Backward banking: the excess output is carried over to subsequent years. Where a level below the established P50 is generated, the shortfall is supplemented until the P50 value is reached using the backward reserve
- There is no limit for the quantity generated.



# Bank guarantee for SDE+

- A bank guarantee of €600,000 must be issued within four weeks after the subsidy is provided, followed
- After twelve months by a new bank guarantee for €2 million
- Release after the power generation facility has been commissioned, but the new bank guarantee for the removal of the wind farm must be provided first



# Questions: bank guarantee

- What is the definition of commissioning?
  - Answer: SDE+ uses the first supply of electricity as the commissioning start date
- Who can issue a bank guarantee?
  - Answer: A bank established within the EU
- May a bank guarantee be issued by a parent company?
  - Answer: No



# The Wind Farm Site Decision also contains a bank guarantee

The Wind Farm Site Decision also contains a regulation relating to the bank guarantee for the removal of the wind farm:

- €120,000 per MW
- Issued before the first guarantees of origin are supplied.



# Tender amount, adjustment amount and base energy price

- The maximum subsidy per kWh is the difference between the tender amount and the base energy price
- The subsidy paid out annually is the difference between the tender amount and the adjustment amount
- However, the adjustment amount may not be lower than the base electricity price.





# Questions: Final adjustment amount

- "The value of the guarantee of origin for the determination of the advance is set at 0 so how does this affect the payment?"
  - Answer: The value of the Guarantees of Origin are re-examined every year when the final adjustment amount is determined.



# Calculation of the profile and imbalance factors

- The profile and unbalance factors are calculated once a year by the Energy Research Centre of the Netherlands (ECN), including for the "final adjustment amounts" for the final payment. To do this, the ECN receives data concerning the imbalance volume and the hourly wind production from several economic operators.
- The assumption is: 100% of the expected wind production is sold through the day-ahead market (APX) and the entire imbalance volume (the difference between the quantity actually generated and the day-ahead prediction) is disposed of through TenneT's imbalance market.



# ECN recommendations

- Difference between profile and imbalance costs of offshore wind energy and other wind categories
- Only one factor for profile and imbalance costs for the North Sea
- No profile and imbalance costs for each specific wind farm, but generically, based on market consultation.



# Advances procedure for SDE

- The applicant registers with CertiQ
- The applicant requests ... MW by July 1 from RVO.nl
- RVO.nl checks this with CertiQ
- RVO.nl arranges six monthly advances (at the start of the month)
- Monthly advance:
  - $80\% \times 1/12 \times \dots \text{MW} \times P50 \times (\text{tender amount} - \text{provisional adjustment amount})$



# Advances procedure for SDE

- Advances may be set at a lower level if the applicant indicates in advance that the production is lower than anticipated.
- If production is greater than  $1/12$  of the P50 x number of months' production in the first incomplete year, this will be posted as backward banking.



# Questions: advances

How does SDE+ payment take place and when is payment made?

Answer:

- Advance:  $80\% \times 1/12$  of the maximum eligible production on a monthly basis. RVO makes every effort to effect payment in the first week of the month concerned.
- After the final adjustment amount has been established (the following year), the remaining part of the eligible production is transferred.



# What do you need to submit an application?

- Applications are submitted through RVO.nl's e-Service Point  
You will need the correct login  
means (see RVO.nl's website for details)
- A draft application form will be available soon (online)
- Various appendices will be requested



# Which information is requested in the application form

- General details concerning the organisation (name, Chamber of Commerce number, legal form, address, IBAN, etc.)
- The size of your undertaking (relevant to the subsidy percentage)
- A description of your power generation facility (nominal capacity of the wind farm, type of turbine or turbines, production data, etc.)
- Timetable for the start of investment activities, construction and production





# Which information is requested in the application form

- Financial details (own assets)
- Tender amount and operating subsidy
- Investment subsidy requested
- Wind Farm Site Decision: Foundation and corrosion protection details



## Appendix 1: Project plan

- Description of the project (wind turbines, wind farm layout, which parties are involved, etc.)
- Construction plan
- Operation plan
- Removal of the wind farm
- Explanatory notes on the ranking criteria
- A model project plan will be made available.



## Appendix 2: Wind report

- Drawn up by an independent organisation with expertise in the field of wind energy yield calculations
- The wind report will contain the location details and technical specifications of the wind turbine or turbines
- Local wind data for the wind farm
- A calculation of the P50 value
- The calculation of the P50 value of the wind farm concerned takes account only of the wake effect of the wind farm itself and the Belgian wind farms which have been operational since before 1 July 2016



# Appendix 3a: Operation calculation

- A specification of the investment costs for each component of the power generation facility
- An overview of all costs and benefits of the power generation facility
- A calculation of return on investment over the subsidy period

An Excel model will be available online soon



## Appendix 3b: Investment budget

- Costs of investment in the production of renewable energy
- Costs of investment in the less environmentally-friendly alternative (reference costs)
- Eligible costs

An Excel model will be available online soon.



# Appendix 4: Annual report

- The most recently adopted annual account of the applicant or, if applicable, those of the collaboration partners.
- If applicable, the annual accounts of the parent company, provided they agree to the provision thereof



# Appendix 5: Financing plan

- Explanation of how you plan to finance the project
- Explanation concerning how own assets and outside funds are distributed within the project



# Other appendices

- Appendix 6: Table of wind turbine details and wind turbine locations
- Appendix 7: Table of cabling plan details
- Appendix 8: Letter of intent from the financial backer
- Appendix 9: Overview of the collaborative venture
- Appendix 10: Certification plan
- Appendix 11: Environmental impact of the foundation
- Appendix 12: Calculation of the expected future base amount for offshore wind energy (see the sheet on cost reduction)





# When is the deadline for asking questions?

- You may address your questions to [woz@rvo.nl](mailto:woz@rvo.nl)
- RVO.nl will answer only those questions it has received by 17:00 on 15 December 2017 at the latest
- They will be answered as soon as possible and thereafter there will be radio silence until the result of the tender is known.



# Going forward

[Offshorewind.rvo.nl](http://Offshorewind.rvo.nl) for:

- Publication of questions and answers regarding research data
- Publication of Project & Site Description
- Publication of this session's Powerpoint sheets
- Publication of research data
- Project idea form

[woz@rvo.nl](mailto:woz@rvo.nl) for:

- Your questions



# Going forward

Zwolle office for:

- Information session on SDE+ and permit

[mijn.rvo.nl](https://mijn.rvo.nl) for:

- Applying for a subsidy and permit
- Notes on the appendices and models provided

[rvo.nl/eloket](https://rvo.nl/eloket) for:

- Requests for information about the eService Point and eRecognition