

# Model project plan for Borssele (Innovation) Wind Farm Site V

## Tips on how to draft your application:

- This project plan should be used to give a description of the project for which you are applying for a subsidy. Please use a project plan based on the following model and chapter headings, as this structure will enable us to assess your application properly and score it on the basis of the ranking criteria. The model indicates the aspects that you must address in any event. You may always add information which, although not requested, you believe to be relevant.
- Where there are several sub-demonstrations, please enter the aspects requested in Chapters 3, 4 and 6 for each sub-demonstration. Use different sub-paragraphs for this process and adhere to the numbering specified. Complete Chapters 3 through 6 once in case of a single integral demonstration.
- Indication of the number of pages: We are looking for a project plan with a maximum of 30 pages (excluding appendices) for projects involving a single integral demonstration. Where there are several sub-demonstrations, it may be 40–45 pages long (excluding appendices). The explanatory text is for information purposes and you may remove it.
- Since foreign experts will be involved in the assessment of your application, we would ask you to draw up the project plan in **English**.
- A completed ECN (Energy Research Centre of the Netherlands) calculation model is a mandatory appendix (Appendix 12 to the application form), which you will find on the website.
- Make sure that you substantiate technical and/or economic claims; for example, using the results of preliminary research.
- Research and development may be part of the project; for example, because a scientific programme is included. However, such activities are not eligible for a subsidy. The Ministerial Order is aimed at technologies which are now so far advanced that they can for the first time be applied offshore by an end-user.
- Applications which are incomplete on the closing date will be rejected. This fact means that you will **not be given the opportunity to remedy the situation!** Nor will we be able to accept supplementary information that is submitted subsequently.
- Make sure that you have eHerkenning (electronic identification device) in time to submit an application through eLoket (eService Point). This process may take a few working days. See [www.rvo.nl/eloket](http://www.rvo.nl/eloket). The required security level is 1.
- In eLoket, you can upload one document of 30 MB maximum for each requested appendix to the application form. To this end, you should incorporate the appendices to your project plan into a single document.
- Only complete applications may be submitted. Applications may not be submitted after 17:00 on the closing date. This procedure is not a technical defect.

## Title

Enter the title of the project as stated in the application form here.

## Structure of your project

Your project may consist of several sub-innovations, known as sub-demonstrations, which are almost or entirely independent of each other. Examples include the demonstration of a new foundation, new blades and a new access system. Your project may also be a single integral demonstration involving, for example, the demonstration of a complete, newly developed 10 MW turbine.

Indicate the structure of your project (click on the box). Add sub-demonstrations as you see fit. Please keep the numbering and names consistent throughout the project plan.

Example of a description: A Gravity-Based Foundation is built, installed, sunk, tested and decommissioned. The foundation is for turbines with a capacity of 8 to 12 MW.

- The project is a single, large, integral demonstration, namely: (description in a maximum of 100 words)
- The project is an integral whole made up of several sub-demonstrations, namely:

Choose the applicable option and add or remove rows as necessary.

Wind turbine number <sup>1</sup>	Sub-demonstration	Name	Description
1	1A		<i>No more than 30 words for each sub-demonstration</i>
1	1B		
1	1C		
2	2A		
2	2B		
1 and 2	12A		
1 and 2	12B		

### Public summary

Provide a summary of the project. Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland) will use this summary to publish details of the project if it is awarded the subsidy.

**Note:** Limit your description to your project, the problem or problems that your project addresses, and the solution or solutions that your project offers in this regard. An introduction to climate change, the general need for increasing the generation of renewable energy or the political background is not required.

Use the following layout and adhere strictly to the maximum number of characters:

**Background** – maximum of 1,200 characters (including spaces)

<Indicate the background to the project>

**Purpose of the project** – maximum of 1,200 characters (including spaces)

<Indicate the purpose of the project and the way it will contribute to a more cost-efficient realization of the energy targets in 2030.>

**Brief description of the activities** – maximum of 1,200 characters (including spaces)

<Provide a brief description of the activities and the distribution of tasks within the project>

**Results** – maximum of 1,200 characters (including spaces)

<What will the project deliver? What will the final result be?>

### 1. Overview and description of the participants and their reason for participating

In accordance with the explanatory notes in Appendix 9 to the application form, RVO.nl recommends that you apply not as a collaborative venture but as a private limited company, limited partnership or public limited company in which one or more parent companies or partners have a share, for example. Indicate in the following overview which party is applying for a subsidy, which parties are participating in the private limited company, limited partnership or public limited company, which party is responsible for project management, and which parties, if applicable, are involved in the project as the technology developers of the innovation(s) or sub-innovation(s) (whether or not in an outsourcing relationship).

<sup>1</sup> Indicate clearly in Appendix A (detailed project description) which turbine is Number 1 and, if applicable, which is Number 2.

Overview (add rows, if necessary)

Name of participant	Involved in (sub-demonstration number)	Type of organisation <sup>2</sup>	Role in the project

#### Description/motivation

Describe the aforementioned participants, focusing on the following points:

- Name
- Explain why this participant is interested in participating in the project.
- Explain why this participant is important to the project from the consortium's perspective. Include the available knowledge, experience and resources in the description.
- Describe the participant's experience as regards the realisation and operation of offshore wind farms.
- Describe the specific contribution to the project.

## 2. Background including the objective and results

Make sure that at least the following items are addressed:

- The broader background to and the definition of the problem to be resolved by the project; which problem or problems must be resolved. Describe both the technical and non-technical challenges (e.g. regulations). Also describe why this problem is relevant and identify the problem owner.
- Objective  
Describe the objective of this project as specifically as possible; describe what the desired solution to the problem outlined ought to be.
- Results
  - Provide an explicit description of the results of this project. What will this project deliver? What are the learning processes or learning points during the project?
  - Indicate how and for what purpose the knowledge acquired will be used in a follow-up (if any). How will this outcome help you in any follow-up (upscaling or market introduction)?

## 3. Degree of innovation relative to the state of the art or technology from an international point of view and the degree to which the Dutch knowledge position is boosted

Make sure you describe at least the following aspects. Do so in separate sub-paragraphs for each sub-demonstration (if there are any). Use the numbering and names indicated earlier for the sub-demonstration.

- Describe the innovation or innovations you are demonstrating.
- What are the aspects to be improved, which aspect will you be improving, and what will the situation be if your technology is applied?
- The present state of the art from an international point of view.
- The degree of innovation relative to the aforementioned state of the art.
- The results of previous research or development (summarise key points and append any reports or executive summaries as annexes or provide a web link).
- Any alternatives being developed or already available on the market, and the way your innovation or sub-innovation "competes" with them.
- The technological or other advance that must be made in order to achieve the results.
- State whether any research and/or developments regarding your innovation or sub-innovation are yet to take place during this project (Please note: such activities are not eligible for a subsidy). If so, indicate the areas requiring research or development. Describe what the desired solution for the problem outlined ought to be.

<sup>2</sup> Select from: Large enterprise, medium-sized enterprise, small enterprise, research organisation, other. See also <https://www.rvo.nl/subsidies-regelingen/subsidiespelregels/standaardformulieren/mkb-toets>.

- Describe the end result of this project or sub-project. What will it deliver? Will the development of the innovation or sub-innovation have been finalized by the end of the project and will it have reached TRL9<sup>3</sup>? If not, what else needs to happen? How, where and when will it happen, and how certain is it that it will take place?
- Provide a comprehensive project description in Appendix A.
- Technological risks: Describe how you will deal with them.

**Note:** Projects will receive good scores for the "quality of the project" criterion only if preliminary research has been conducted into the technical feasibility of the proposed innovation. The claims made must be substantiated as regards the functioning of the technology; to this end, you should show the preliminary work carried out (send documents or reports as an appendix and indicate the relevant passages clearly, or provide a web link to the reports.)

#### **4. Contribution to cost price reduction of offshore wind energy**

- Provide a qualitative description for each sub-demonstration, showing how the innovation results in a cost price reduction of offshore wind energy (causing the cost price to fall). Cost price reduction is defined here as a reduction of the Levelised Cost of Energy (LCOE) in €/MWh. This description concerns the cost price anticipated when the technology to be demonstrated is implemented on a commercial scale rather than the cost price of this demonstration project itself.
- Use the ECN cost model (Appendix 12 to the application form) to calculate the impact of your innovation or innovations on the cost price for offshore wind energy. Complete this model for each wind turbine. In other words, if you have several sub-demonstrations for a single wind turbine, you will have to take account of any interaction between the sub-demonstrations: what is the combined impact?
- Provide a list of the assumptions that you have made: which figures in the ECN cost model have you adapted and why?
- Substantiate the claims you are making through the results of previous research or studies.
- By inserting an X (+ the sub-demonstration number, if applicable) in Table 1, indicate the cost elements to which your project relates and the contribution to the cost reduction which can be expected for that specific element. The reduction should be expressed as a percentage compared with the ECN cost model.

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<sup>3</sup> For definitions of TRLs, please see

[http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016\\_2017/annexes/h2020-wp1617-annex-g-trl\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016_2017/annexes/h2020-wp1617-annex-g-trl_en.pdf).

Table 1: Quantitative estimate of cost reduction (fill in for each wind turbine)

Cost Element		X	Estimated % reduction (or increase in production): Separate effects	Estimated % reduction (or increase in production): Combined effects
1. CAPEX	a. Consenting, development and project management construction			
	b. Turbine supply			
	c. Turbine installation			
	d. Support structure supply			
	e. Support structure installation			
	f. Offshore export cable supply			
	g. Infield/inter-array cable supply			
	h. Subsea cable installation			
	i. OHVS supply (incl. foundation)			
	j. OHVS installation			
	k. Other electrical supply/installation (onshore substation, onshore reactive power comp., onshore cable)			
	l. Decommissioning			
2. OPEX	a. Operations & Maintenance WTGs			
	b. Operations & Maintenance Balance of Plant			
	c. Insurance			
	d. Owner's costs			
3. AEP	a. Gross AEP			
	b. Wake losses			
	c. Electrical losses			
	d. Availability WTGs			
	e. Availability Balance of plant			
4. WACC	a. Cost of Equity			
	b. Cost of Debt			
	c. Debt Term (years)			
	d. Gearing			
5. Timing	a. Phasing of CAPEX, OPEX and AEP over time			
	b. Re-financing / Changes in WACC			

### 5. Interaction between the sub-demonstrations (if applicable)

Depending on their nature, sub-demonstrations may interact with each other. For instance, it might not be possible for activities involving one installation to start before another innovation has been built or installed, or one innovation may influence another during the operational phase. Indicate below, in as structured a manner as possible,

- For wind turbines with different sub-demonstrations: which sub-demonstrations can be applied jointly in a future wind farm;
- Which potential link there is or may be between demonstrations or sub-demonstrations and how they influence each other;

- The risks resulting from any connection between these innovations or sub-innovations; the extent of those risks in terms of the likelihood of their occurrence and in terms of consequences;
- How any negative consequences of such risks could be minimized;
- Whether there are any fall-back scenarios;
- Any other matters which you consider relevant. Examples include a possible effect whereby the sum of the sub-innovations on the LCOE is greater or less than the separate elements. Indicate what the combined effect would be in such case.
- If the project comprises two differently designed wind turbines, complete the following table once more, but this time for the project in its entirety (in so far as all innovations could be jointly applied to one wind turbine). With the aid of the ECN calculation model, indicate the future base amount expected for that combined application (e.g. you must complete the ECN model three times if you have two turbines with different designs).

Table 2: Quantitative estimate of cost reduction: combined effect of total project

Cost Element		X	Estimated % reduction (or increase in production)
1. CAPEX	a. Consenting, development and project management construction		
	b. Turbine supply		
	c. Turbine installation		
	d. Support structure supply		
	e. Support structure installation		
	f. Offshore export cable supply		
	g. Infield/inter-array cable supply		
	h. Subsea cable installation		
	i. OHVS supply (incl. foundations)		
	j. OHVS installation		
	k. Other electrical supply installation (onshore substation, onshore reactive power comp., onshore cable)		
l. Decommissioning			
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2. OPEX	a. Operations & Maintenance WTGs		
	b. Operations & Maintenance Balance of Plant		
	c. Insurance		
	d. Owner's costs		
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3. AEP	a. Gross AEP		
	b. Wake losses		
	c. Electrical losses		
	d. Availability WTGs		
	e. Availability Balance of plant		
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4. WACC	a. Cost of Equity		
	b. Cost of Debt		
	c. Debt Term (years)		
	d. Gearing		
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5. Timing	a. Phasing of CAPEX, OPEX and AEP over time		
	b. Re-financing / Changes in WACC		

## 6. Contribution of the project to the Dutch economy

Indicate the contribution to the Dutch economy in terms of the expected turnover, export and direct employment. Quantify where possible, clearly state the assumptions that you are applying and provide substantiation for the claims you are making (including any market research conducted). Complete this chapter for each sub-demonstration if there are any.

### **Business case of the technology developer or developers**

Provide a description of the intended new products/services, which at least addresses the following points:

#### A. Description of the market

- The market and the target group at which the project is aimed. To which type of wind farm is the technology applicable? Does the technology have a generic application or is it only intended for specific locations, turbines, foundations, and so on? Also provide a description of the possibilities at the European or global level.
- What is the market size?
- What are the current market developments and/or trends?
- Who are the key stakeholders on the market and what positions do they hold there?
- Prepare a competition analysis and create an overview of the competitive advantages.
- Show the position of the participants in this market before and after the project (including the market share held).

#### B. Strategy

- Which part of the market do you intend to target in particular?
- Which companies will be earning money from the results of this project, and how?
- What do you hope to achieve within five years' time?
- Once the power generation facility has been commissioned, how long will it be before further introduction to the market takes place?
- How will the sales strategy be designed? It should provide an insight into the development and marketing of the technologies, concepts and services used in the project after its completion. How will this project be followed up?
- Indicate the business development in an overview of milestones.

#### C. Financial

- How much still needs to be invested in terms of costs until commercialization is complete, and by whom?
- How do you intend to finance these investments?
- What are the expected turnover, costs and profit margin in the first five years?
- What is the expected return on investment of this project for the producer?
- How does the expected sales price compare with competitors' prices?
- What impact will the project have on employment in the Netherlands (in FTEs, with substantiation. Examples include new jobs with the developer, upstream suppliers and end-users.)?
- Summarise the economic outlook in the following table for each participant.

<i>Economic outlook for the product, process or service to be developed</i>					
Project costs					
Commercialisation costs					
<b>Total costs</b>					
<b>Year</b>	<b>20..</b>	<b>20..</b>	<b>20..</b>	<b>20..</b>	<b>20..</b>
Expected turnover (€)					
– of which export (€)					
Expected gross profit margin (€)					
Expect cost savings (€)					
Additional direct employment (FTE)					
Net returns (€)					
<b>Net returns (€) (cumulative)</b>					

#### **Business case of the end-user/operator**

- What is the return on investment for the end-user?
- Indicate how this figure compares with the return on investment of the reference investment.
- What is it about the product/technology that sets it apart? Why would a wind farm operator choose the intended product or this service?

#### **SWOT analysis**

- In a SWOT analysis, indicate the overall picture of strengths, weaknesses, opportunities and threats.
- How are the risks (weaknesses and threats) managed? Also consider the non-technological aspects which could play a part in the market introduction of the project results (market acceptance, cost price aspects, chain/network structure, laws and regulations, standardisation and certification, knowledge protection, and so on). How will you deal with them?

#### **7. Knowledge dissemination and intellectual property (1 page)**

- Indicate the extent to which the project will boost the Dutch knowledge position, how this process will take place, at which organisations this process will take place, and how those organisations will exploit this fact.
- Indicate how the knowledge or results gained from the project will be actively disseminated, inside and outside the project. Describe how you will guarantee that others can learn from the project results.
- Will data acquired during the project be made available and, if so, when and to whom?
- Will the wind farm site be made available for conducting scientific or other research? If so, describe the scientific or other programme and indicate the parties who will be involved in it. Will the programme also be open to participation by other interested parties? How much money will be invested and by whom? What evidence is there to show that this programme will in fact be implemented?
- Indicate clearly which IPR agreements have been made within the project consortium (including the entitled party, payments and licences).

#### **8. Project approach and risk analysis**

- Provide a brief overview of your construction plan (which you must describe in detail within Appendix B); for example, by means of an outline planning, Gantt chart, or relationships between actions.
- Risk analysis: Identify the project risks, such as potential problems that may arise and potential delays that may occur during the implementation of the project. Describe for each risk the likelihood of the risk occurring, the actions put in place to avoid certain risks, or the possible solutions to counter the occurrence of certain consequences (mitigating measures) and the residual risk.



## APPENDICES TO THE PROJECT PLAN

You must annex at least the following appendices to the project plan. Incorporate them into one document of no more than 30 MB in order to submit them via the eLoket (eService Point).

### Appendix A: Detailed project description

- Which wind turbines will be used in the power generation facility, what is their intended location and what is the infrastructure that you will be installing for this purpose? Who are the suppliers of wind turbines, cables, foundations and other hardware? Supply the relevant map documents, illustrations, tables and graphics for this chapter.

### Appendix B: Construction plan

- Which phases are required to construct the power generation facility, when do the various elements need to be completed and which parties will you be engaging for the work? Provide for each project phase a brief description of the activities, the methods and technologies to be used, and the project results.
- The most important milestones assessed and which should, as a minimum, be included in your project plan are: the order to build, the start of construction, the start of electricity production and the start of operating subsidy. Please note: the investment subsidy stops when electricity production starts and may in any event not overlap with the operating subsidy. Describe other relevant milestones as well, beginning with your intention to build a wind farm and ending with the start of operations of the wind farm.
- Investment subsidy advances to be paid are based on the costs of the activities in the milestones eligible for a subsidy. If there are many (more than six) milestones or overlapping milestones in your construction plan, you must indicate how the milestones can be combined or divided to form cost milestones. Using the costs in the project phases, indicate for which cost milestones you wish to receive the investment subsidy advances. These milestone periods must not overlap.
- In the investment budget, indicate to which project phase the costs belong and enter in a table the total costs for each milestone.

Completed project phases	Date of completing project phase	Milestone name	Cost milestone date
<i>One project phase may not feature in more than one milestone period.</i>	<i>More than one project phase may be completed in one milestone period or cost milestone period.</i>		<i>Milestone periods must not overlap.</i>

### Appendix C: Operation plan

- When will you commence operations, who will operate the power generation facility, how has maintenance been arranged and with which party, and for how many years do you intend to operate the farm in accordance with the permit requirements?
- When do you plan to decommission the wind farm and who do you plan to engage to have the wind farm removed?