

# Wind farm zone Borssele

*Status and progress of site studies carried out for the Borssele wind farm zone*

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# Site investigations: steps

## ➤ Start works Borssele (July 2014)

- First round desk studies

## ➤ Project and site description 1<sup>st</sup> Revision

- Geophysical and geotechnical surveys (WFS I&II);
- metocean measurement campaign
- Update desk studies

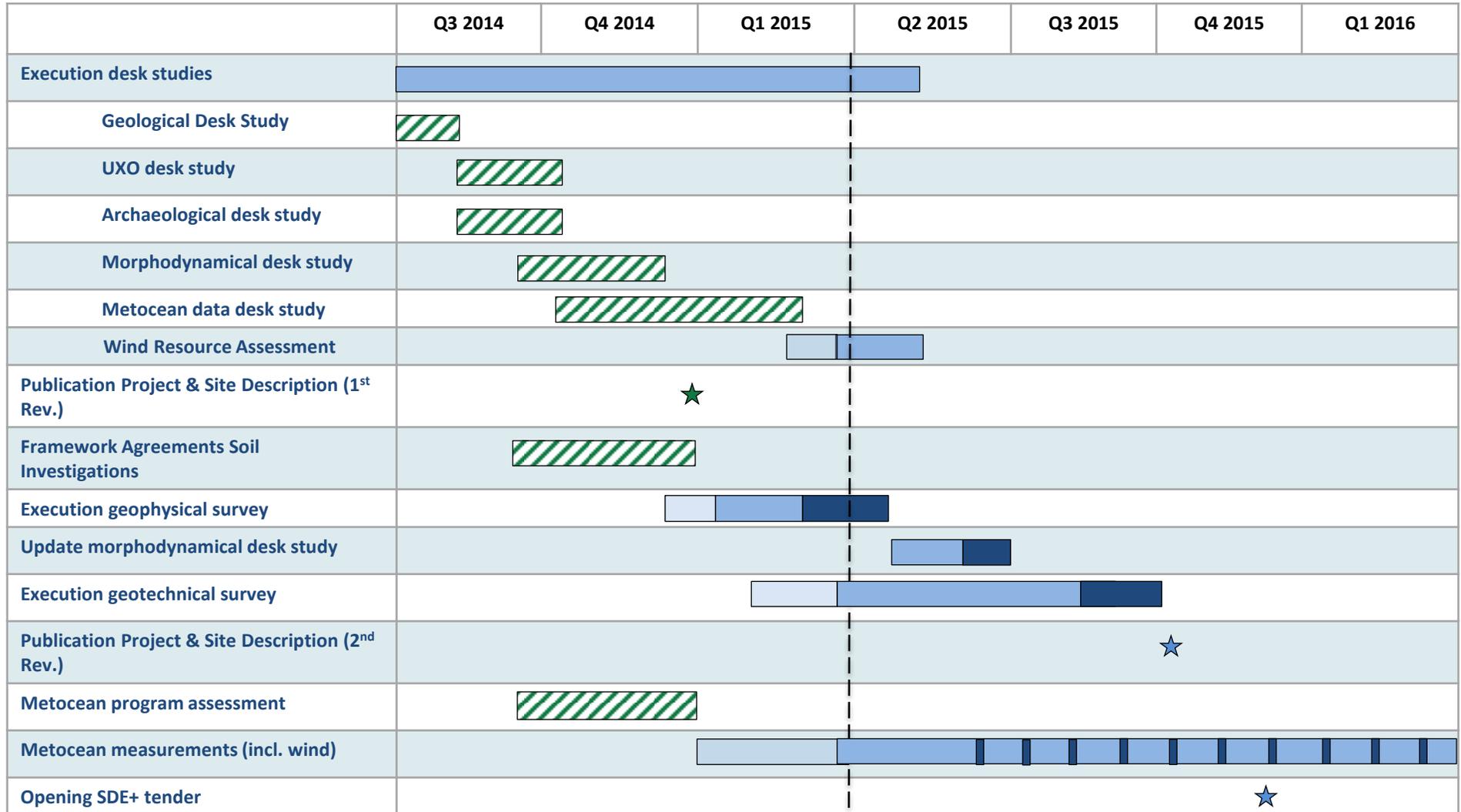
## ➤ Project and site description 2<sup>nd</sup> Revision

- Geophysical and geotechnical surveys (WFS III&IV)

## ➤ Project and site description 3<sup>rd</sup> Revision



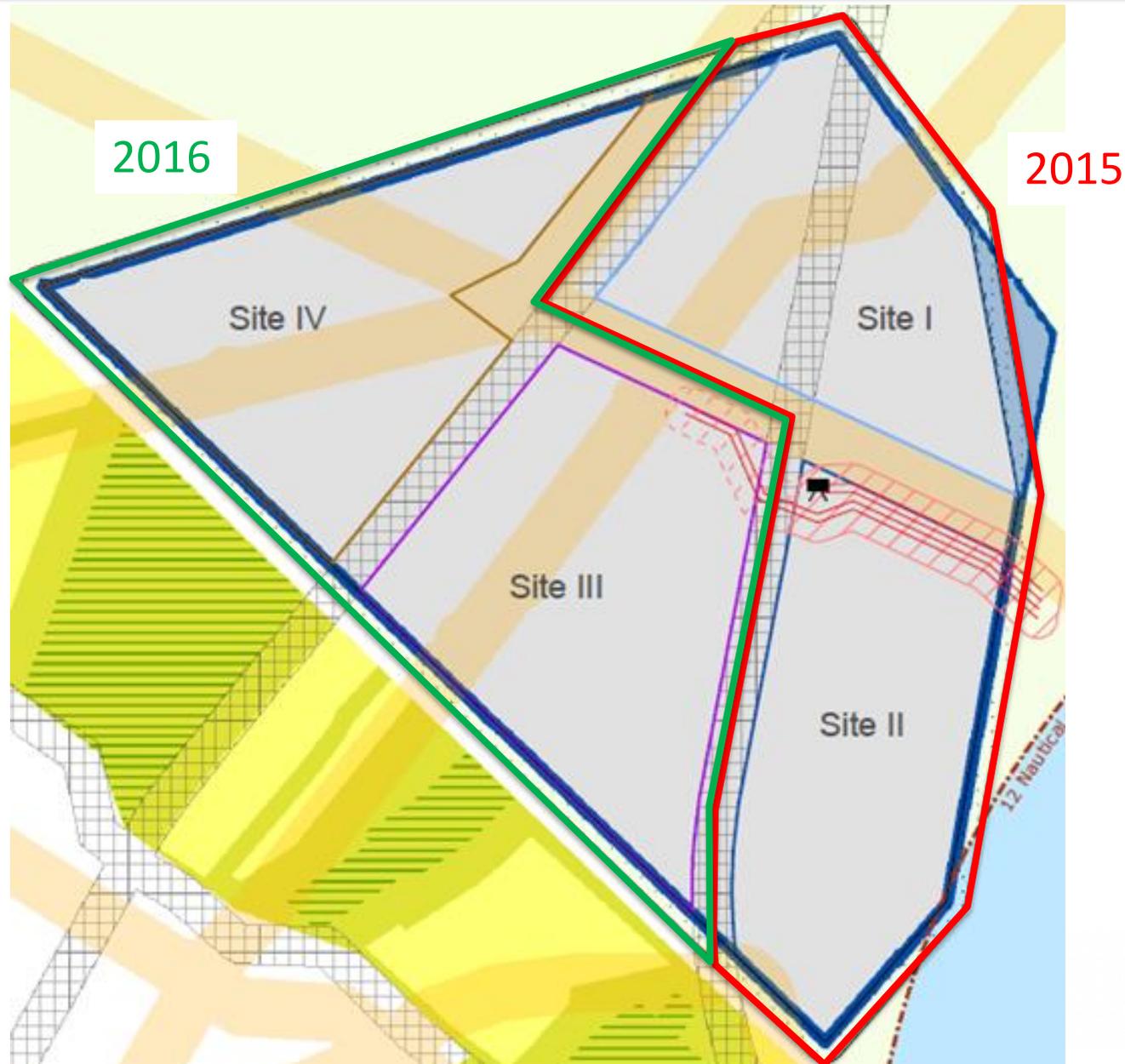
# Progress of studies and investigations on target for delivery of the information package for first tender in Q4 2015



30<sup>th</sup> March 2015

# Borssele wind farm zone is divided into four wind farm sites.

Site I and II will be tendered in 2015, sites III and IV in 2016



# Desk studies indicate that there are no specific constraints for developing offshore wind farms

- **Geology and Geomorphology (CRUX)**  
To be replaced by geological model resulted from geophysical survey
- **UXO (REASeuro)**  
Possible presence of UXO's but no constraint for OWF related activities
- **Archeology (Vestigia)**  
Prehistoric sites not likely. Historic wrecks could be present
- **Morphodynamics (Deltares)**  
BWFZ is highly dynamic. To be updated with results geophysical survey
- **Metocean (Deltares)**  
Full set data for each site available
- **Wind resource assessment (Ecofys)**  
Ongoing, expected end of April 2015
- **Wind Measurement Program Assessment (DNV-GL)**  
Advice: Floating Lidar measurement campaign in BWFZ.





**BREAKER**

**SURVEY** IMO 9244753

**SURVEY**

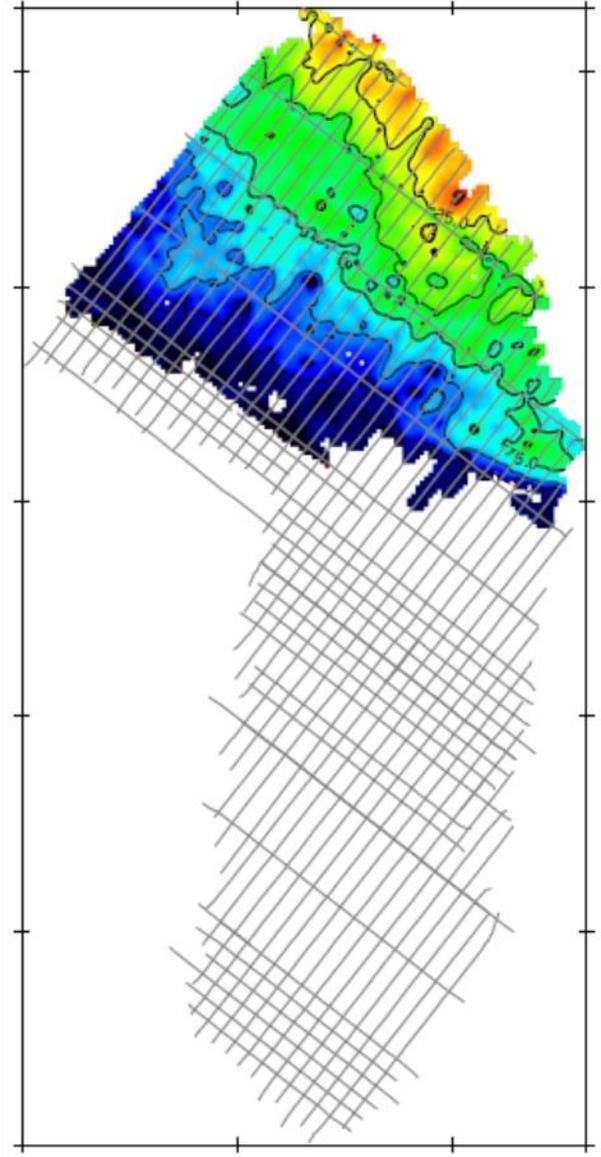
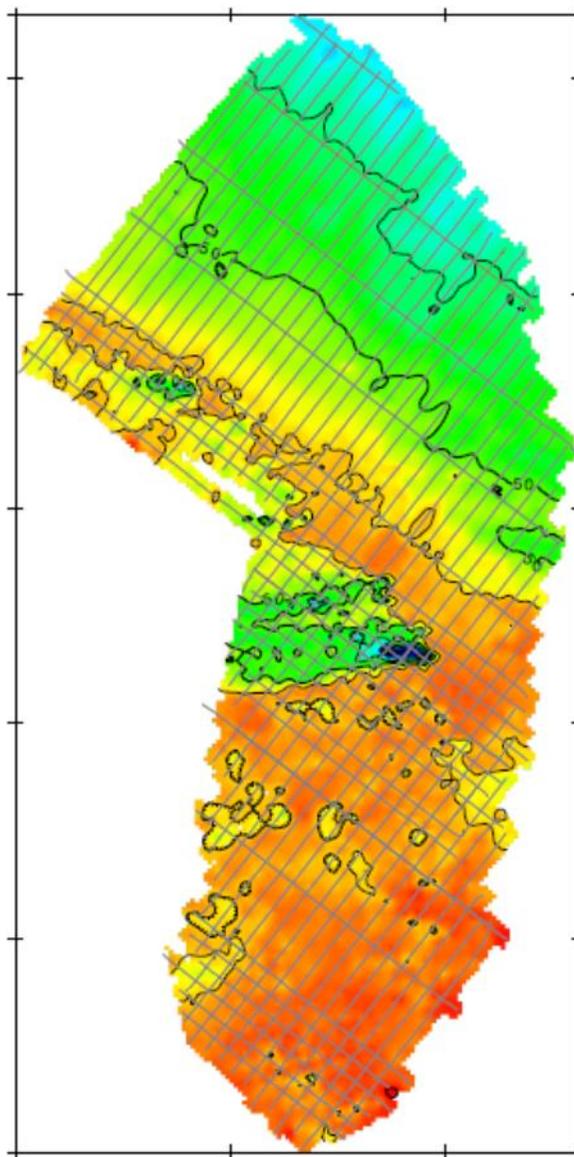
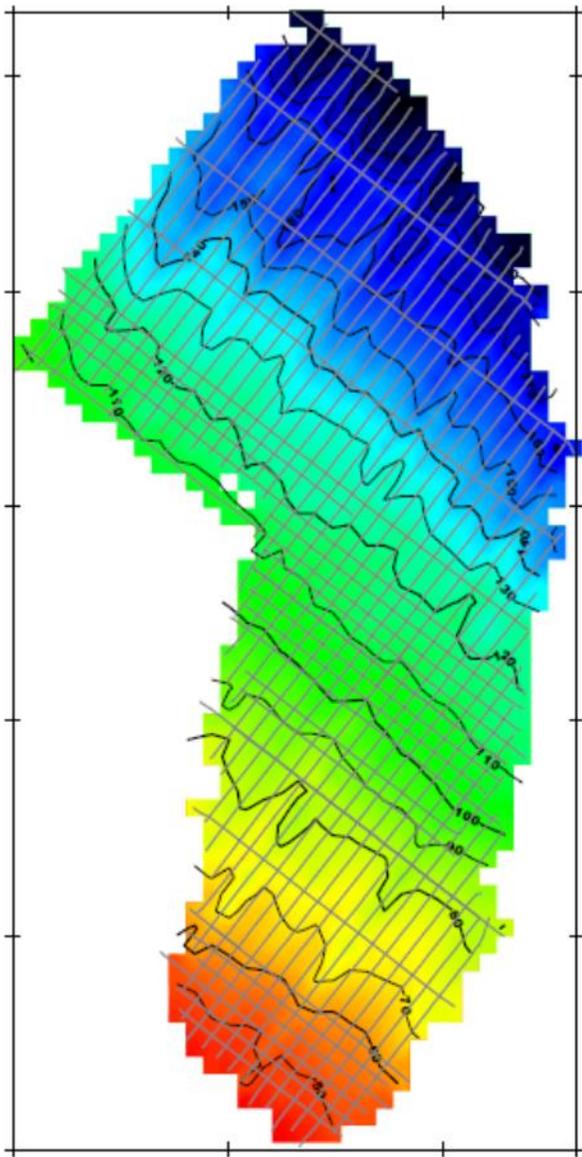
**deep**

# Site investigations on track

- **Geophysical survey BWFZ Sites I&II (Deep)**  
Survey and reporting completed, Report planned to be available mid April 2015
- **Geotechnical investigations BWFZ Sites I&II (Fugro)**  
Started. Offshore works expected to start April 2015
- **Metocean campaign**  
Starts shortly. Alcatel period ends 31-3-2015
- **Geophysical survey BWFZ Sites III&IV**  
Procurement ongoing.



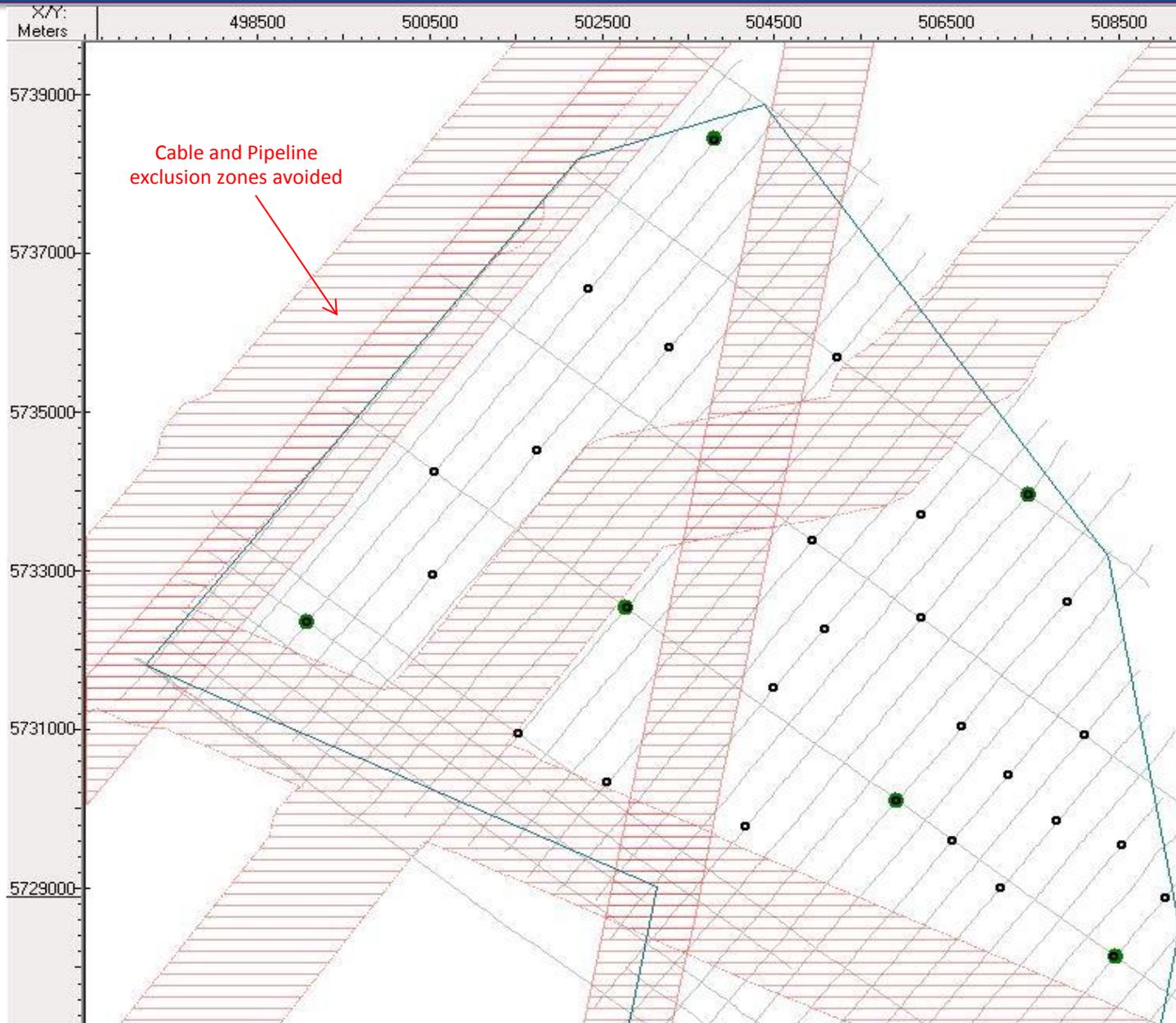
# Geological model developed based on geophys results



# Geotechnical Investigation contract awarded to Fugro



# Geotechnical sample locations - WFS I

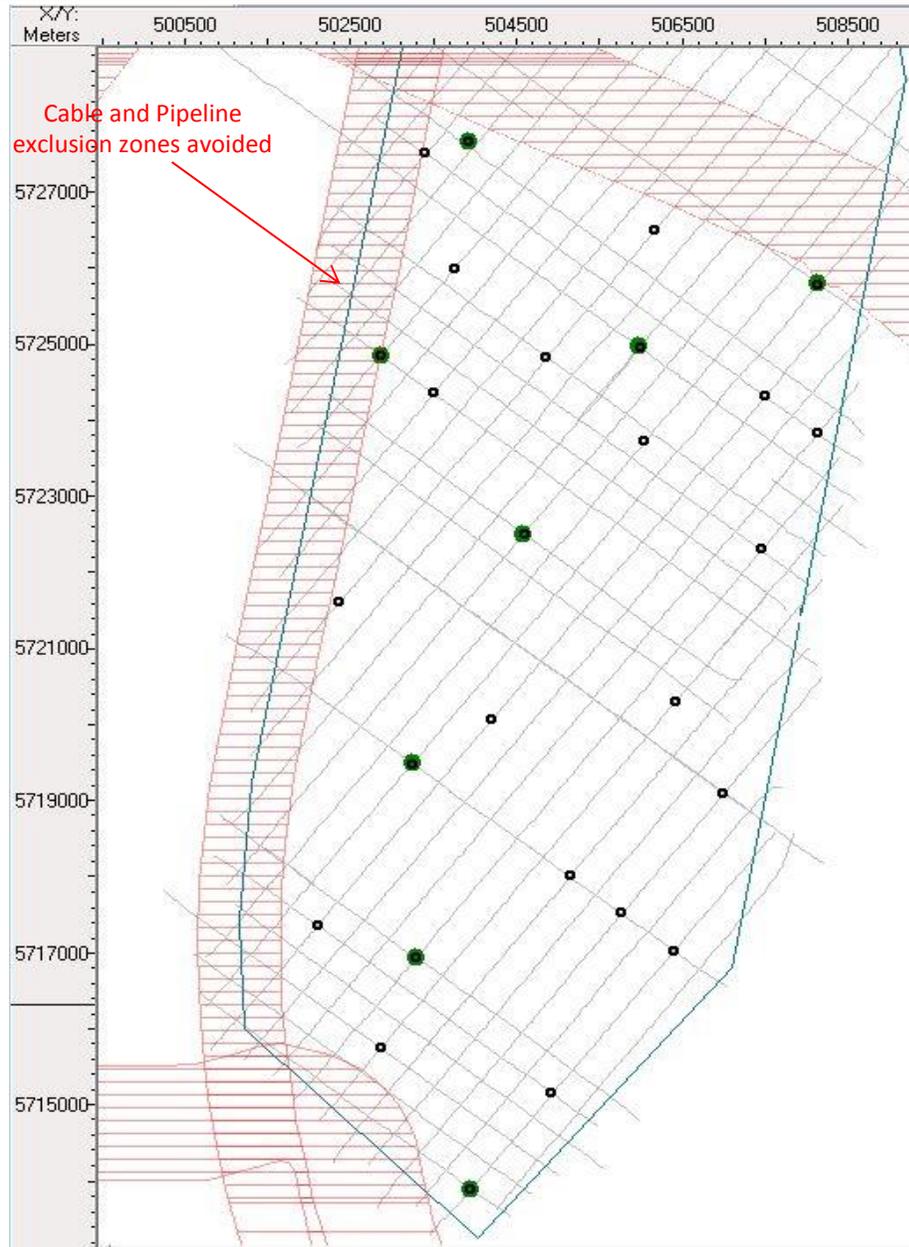


**Borehole Locations** ●  
**CPT Locations** ○

**6 Boreholes / PCPT's (target depths 3 x 60m / 3 x 80m)**  
**28 PCPT's (target depth 50m)**



# Geotechnical sample locations - WFS II



**Borehole Locations** ●  
**CPT Locations** ○

**8 Boreholes / PCPT's (target depths 5 x 50m / 1 x 60m / 1 x 65m / 1 x 80m)**  
**27 PCPT's (target depth 50m)**



# Post survey updates

- **Geology and Geomorphology (CRUX)**

To be replaced by geological model resulted from geophysical survey.

- **Morphodynamics (Deltares)**

To be updated after geophys campaign WFS I&II, will be published as 2<sup>nd</sup> revision

To be updated after geophys campaign WFS III&IV, will be published as 3<sup>rd</sup> and final revision

- **Wind resource assessment (Ecofys)**

Update after 6 months wind data from metocean campaign available

- **Project and site description**

To be updated after geotech campaign WFS I&II, will be published as 2<sup>nd</sup> revision

To be updated after geotech survey WFS III&IV, will be published as 3<sup>rd</sup> revision  
(if available including 6 months metocean data )



# Several quality checks have been implemented in order to provide a complete and reliable information package

- **Project management: RVO & BLIX**
- **Market consultations and workshops**
- **Review SoW's by internal and external experts (i.e. NWEA, Reynolds, Wind Support, RPS Energy)**
- **Verification of scopes by certifying body (DNV-GL)**
- **Review of results by project team and experts**
- **Statement of Compliance by certifying body (DNV-GL)**



# New website: english.rvo.nl/offshore-wind-energy

Offshorewind.rvo.nl - Windows Internet Explorer

https://rvothema4.pleio.nl/ Offshorewind.rvo.nl

Log in



Netherlands Enterprise Agency

## Offshorewind.rvo.nl

Home Borssele WFZ North Holland coast WFZ South Holland coast WFZ

All Search



### Welcome

#### Guide Site data wind farm zones

All site data will be published on these pages. For each wind farm zone you will find a roll down menu for all available downloads:

- General : General information about the wind farm zone, including the planning
- Maps: Maps of the wind farm zone, both in PDF and GIS
- Studies: Reports and annexes of desk studies and site investigations. If a study is not yet finished the scope of work is published when available.
- Workshops: Minutes and presentations of workshops

More information about offshore wind you can find here:

- Offshore wind energy in English visit [english.rvo.nl](http://english.rvo.nl)
- Windenergie op zee in het Nederlands, ga naar [www.rvo.nl](http://www.rvo.nl)

Commissioned by the Dutch Ministry of Economic Affairs.

### Next events

MAR 30 Workshop wind farm zone Borssele

60

# Regular updates. Including Q&A log



## Offshorewind.rvo.nl

### Site data studies Borssele WFZ

Here you can find the reports of studies that have been performed on the Borssele wind farm zone. Please note that these are desk studies, executed prior to the ongoing geophysical and geotechnical surveys. Were appropriate desk studies will be updated when the survey results are available. For the ongoing and planned studies the scopes of work have been presented, when available. For more information about Wind farm zone Borssele please visit:

- Windgebied Borssele in Dutch
- Wind farm zone Borssele in English

### Questions and Answers - Studies

Site investigations - geophysical survey (06-02-2015)  
Site investigations - Ground Model (06-02-2015)  
Data sources (26-2-2015)  
Geological desk study (22-1-2015)

### To be expected

April 2015:  
• Site Investigations: Geophysical Survey - Deep  
• Wind Resource Assessment

Q2 2015:  
• Metocean conditions

### Geological Desk Study

Annex - CRUX  
Report - CRUX

### UXO Desk Study

Map overview war related events - GIS data - REASeuro  
Report - REASeuro  
Annex - REASeuro

### Morphodynamical Desk Study

GIS data - All Wind Farm Sites - Deltares  
Map Reference sea bed level - PDF - Deltares  
Map Maximum sea bed level - PDF - Deltares  
Map Bathymetry 2010 - PDF - Deltares  
Map Bathymetry 1999-2001 - PDF - Deltares  
Report - Deltares

### Archaeological Desk Study

Map wrecks and obstructions - GIS data - Vestigia  
Map archaeology - GIS data - Vestigia  
Map geology and bathymetry- GIS data - Vestigia  
Annex - Vestigia  
Report - Vestigia

### Metocean Desk Study - WFS I

GIS data - All Wind Farm Sites - Deltares  
Map Hs50 WSW - All Wind Farm Sites - Deltares  
Map Hs50 OMNI - All Wind Farm Sites - Deltares  
Map Hs50 NNW - All Wind Farm Sites - Deltares  
Tables - WFS I - Deltares  
Persistence tables - WFS I - Deltares  
Annex - WFS I - Deltares  
Report - WFS I - Deltares

### Metocean desk study - WFS II

GIS data - All Wind Farm Sites - Deltares  
[Map Hs50 WSW - All Wind Farm Sites - Deltares](#)  
Map Hs50 OMNI - All Wind Farm Sites - Deltares  
Map Hs50 NNW - All Wind Farm Sites - Deltares  
Report - Site II - Deltares  
Tables - Site II - Deltares  
Persistence Tables - Site II - Deltares  
Annex A-D - Site II - Deltares

### Metocean desk study - WFS III

GIS data - All Wind Farm Sites - Deltares  
Map Hs50 WSW - All Wind Farm Sites - Deltares  
Map Hs50 OMNI - All Wind Farm Sites - Deltares  
Map Hs50 NNW - All Wind Farm Sites - Deltares  
Annex A-D - Site III - Deltares  
Tables - Site III - Deltares  
Persistence tables - Site III - Deltares  
Report - Site III - Deltares

Questions?

**Visit our website**  
**[English.rvo.nl/offshore-wind-energy](https://english.rvo.nl/offshore-wind-energy)**

**Write us [woz@rvo.nl](mailto:woz@rvo.nl)**

