



Netherlands Enterprise Agency

# Wind Farm Zones

## Site Investigations

June 10<sup>th</sup> 2015

*Ruud de Bruijne*

*RVO.nl*

*Frank van Erp*

*RVO.nl*

*Rein de Wolff*

*BLIX*

*Maarten Timmerman*

*BLIX*

*Bastiaan Burger*

*BLIX*

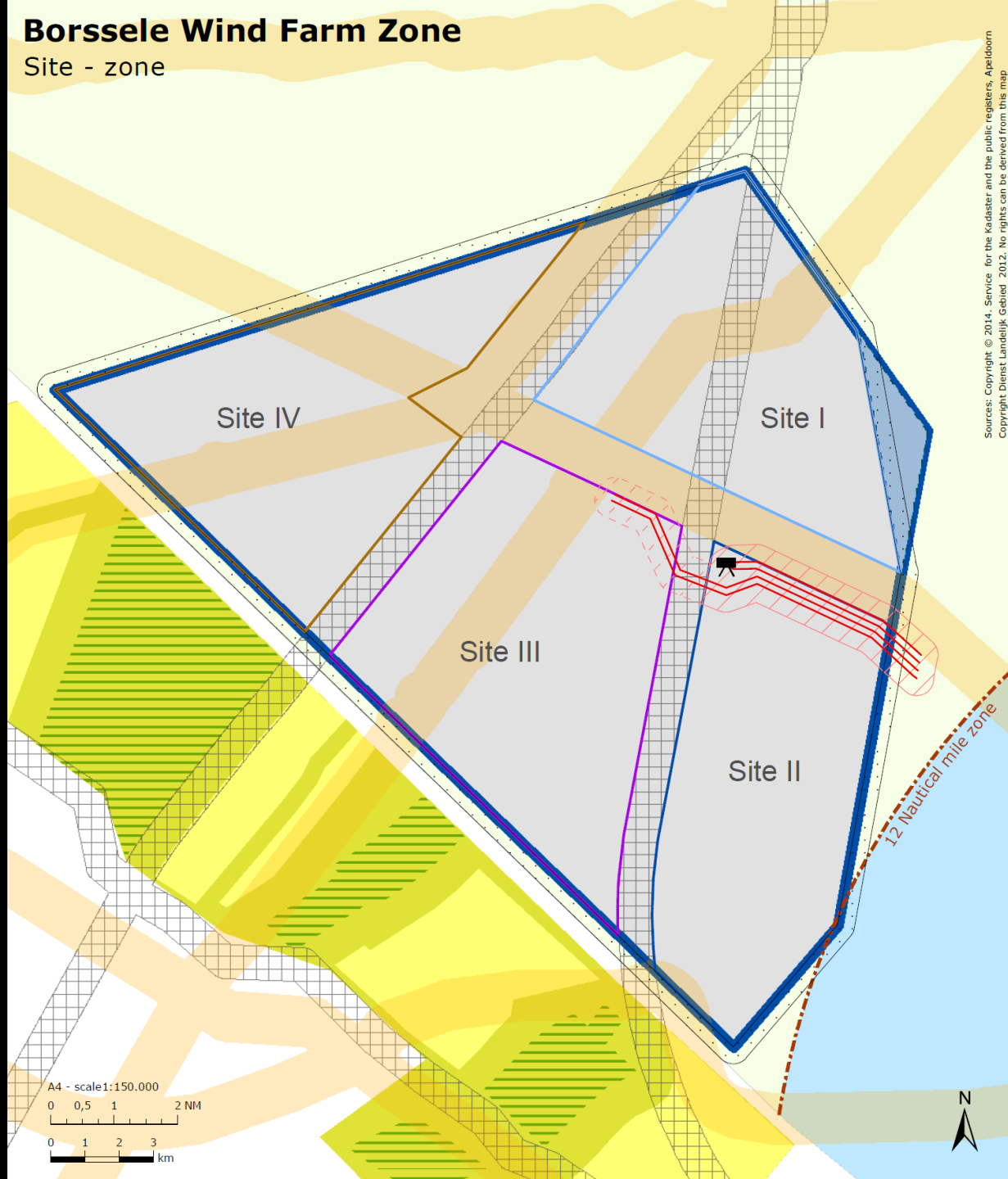


# Content

- WFZ Borssele sites I&II
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- WFZ Borssele sites III&IV
- QC & transparency
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# Borssele Wind Farm Zone

Site - zone



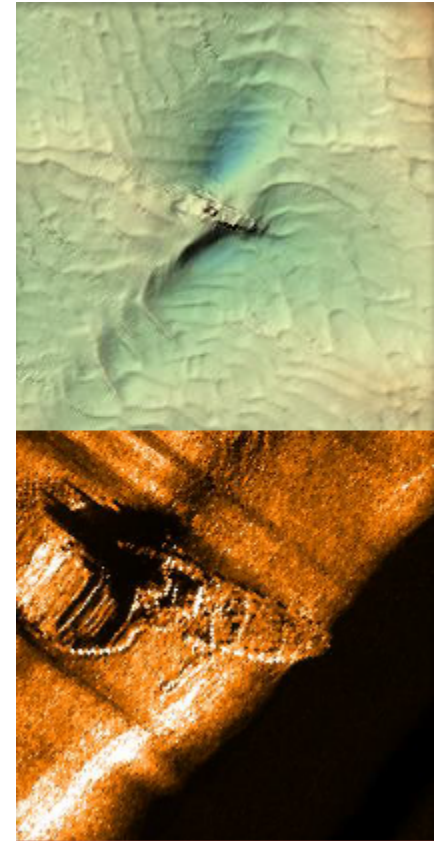


# WFZ Borssele sites I&II: Status

(since the March 2015 workshop)

## Geophysical survey (Deep)

- Reports published April 2015
- Including:
  - Bathymetry
  - Mapping and description of objects
  - Mapping of pipelines and cables
  - Preliminary Geological model
  - Geological engineering hazards
- Detailed data available on request



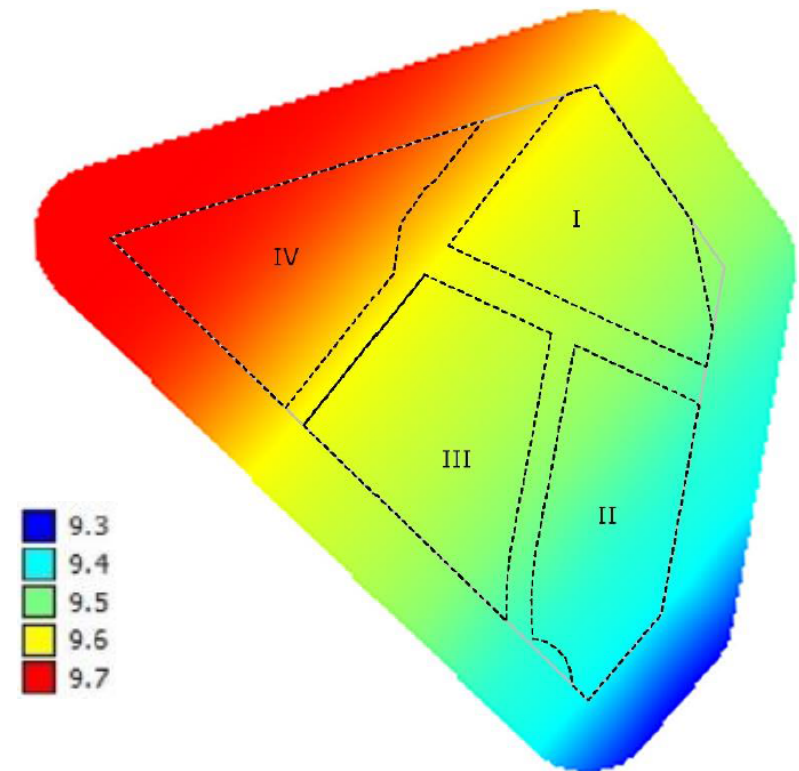


# WFZ Borssele sites I&II: Status

(since the March 2015 workshop)

## Wind resource analysis (Ecofys)

- Report published in May 2015
- Analysis of wind climate in Borssele WFZ based on extrapolated and modeled data.



*Mean windspeed (m/s) at 100m*



# WFZ Borssele sites I&II: Status

(since the March 2015 workshop)

## **Updated morphodynamical study WFS I & II (Deltares)**

- Based on the geophysical survey results for WFS I& II
- Will be a revision of the already published deskstudy
- Expected completion date: July 2015



# WFZ Borssele sites I&II: Status

(since the March 2015 workshop)

## Geotechnical survey (Fugro Engineers)

- Offshore works completed
  - 14 Boreholes
  - 56 Seabed PCPT's
- Draft reports completed
- Expected completion date main reports: July/ August 2015
- Preview of results in next presentation





# WFZ Borssele sites I&II: Status

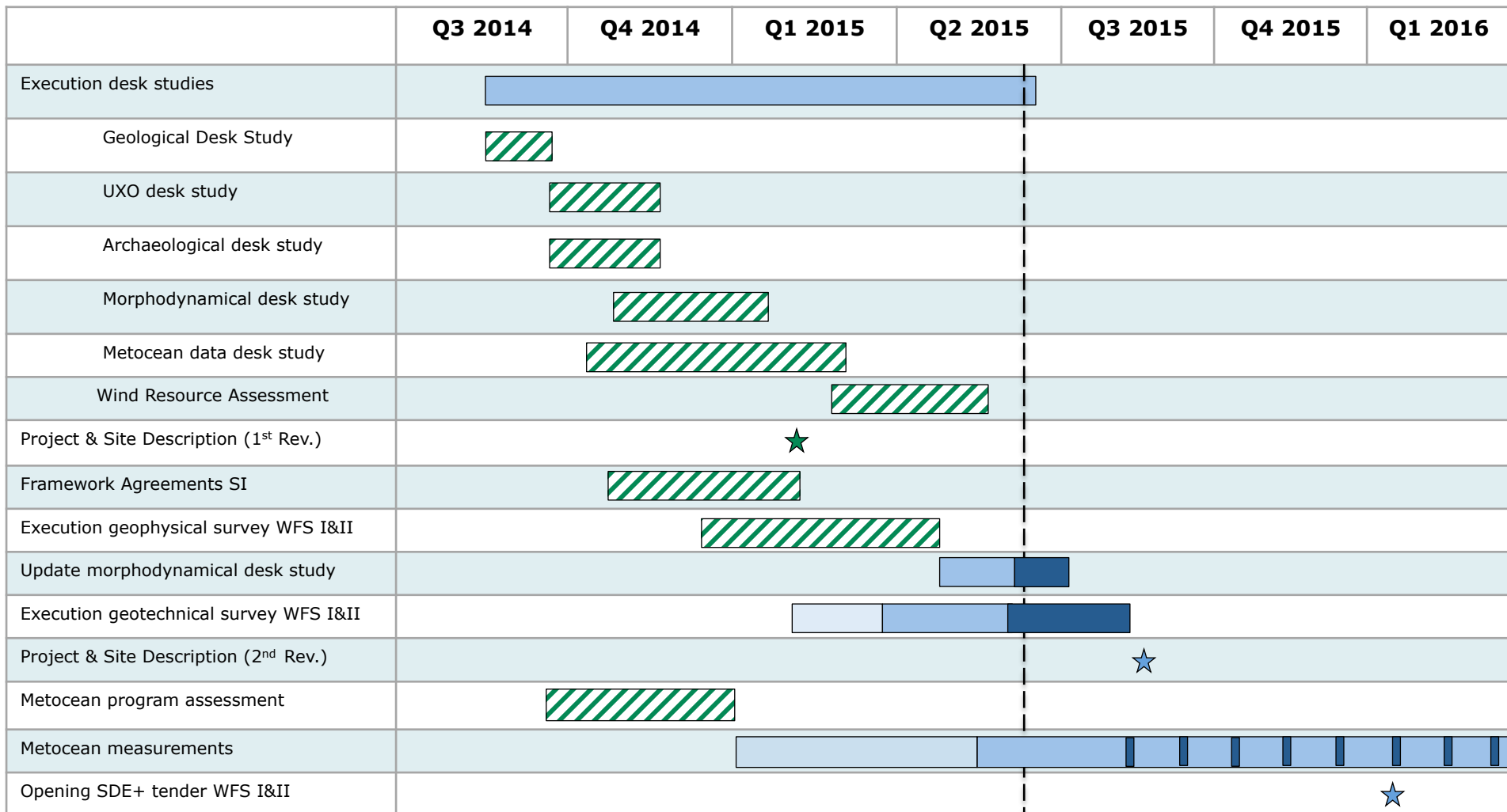
(since the March 2015 workshop)

## **Metocean measurement campaign (Fugro)**

- Procurement & preparations completed
- Installation: Waiting on Weather
- Campaign: 12 months data
- Windspeed, current and wave data
- Results to be published monthly







Procurement

Execution



Reporting (and DNV-GL  
Statement of Compliance)

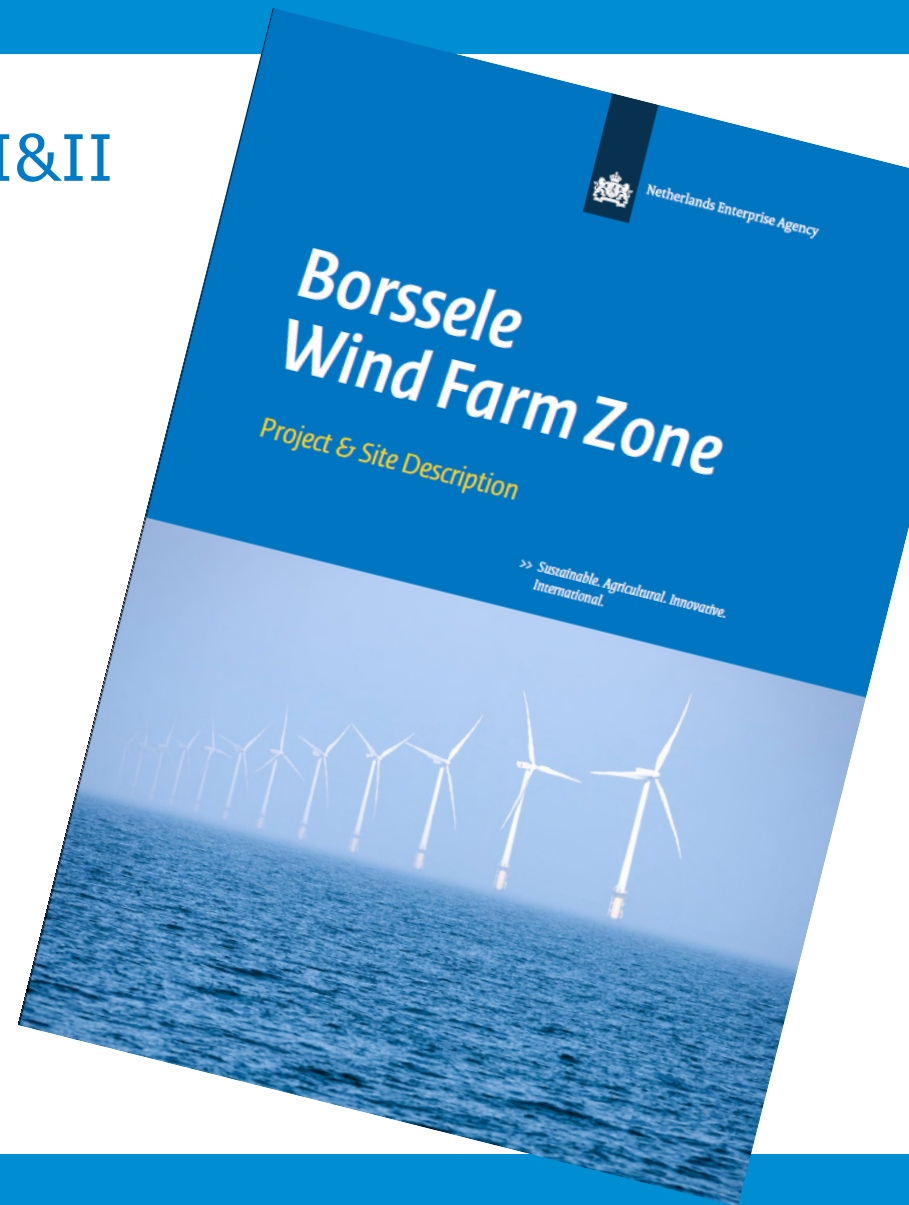
Completed

10<sup>h</sup> June 2015



## Planning Borssele WFZ sites I&II

- Complete set site investigations data expected end of July/ beginning August
- All deliverables online (geophysical data on HDD)
- Including 2<sup>nd</sup> revision of the Project and Site description





# WFZ Borssele sites I&II Site Investigations

## **Final Expert meeting August 2015**

Presentations of all studies by contractors

Discussion with contractors - Q&A



## WFZ Borssele sites III&IV

- Geophysical investigations
  - Contract awarded to Fugro Survey
  - Offshore works ongoing
  - Report with SoC expected August/ September 2015
- Geotechnical investigation
  - Procurement in preparation
  - Due date expected Q1 2016
- Due date full package WFS Borssele III&IV planned Q1 2016



## QC & transparency

- Project Management
  - BLIX
- Experts
  - Geophysical  
Reynolds and RPS Energy
  - Geotechnical  
RPS Energy and Windsupport Ltd
  - Metocean  
ECN and Carbon Trust
  - Wind resource assessment  
ECN
- Client REP's
  - RPS Energy and Periplus
- DNV-GL SoC's
  - Geophysical investigations
  - Geotechnical investigations
  - Metocean desk study
  - Morphodynamical study
- Transparency
  - Anonymized questions answered and published



# Lessons learned

- NWEA meeting: Concrete improvements possible  
Highlights
  - “Consultation industry in smaller working group’s and instutionalized”
  - “Ensure results Site Investigation beeing used in other workstreams”
  - “In general scopes of the desk studies and surveys cover information requirements industry”
  - “Quality of contractors and results is good”
- Full overview on website shortly
  - Please add your comments, advices & requests
- Preliminary conclusion:
  - Lessons learned to be incorporated in NEA’s PEP
  - Approach Hollandse Kust similar to Borssele



## Next steps

- Hollandse Kust ZH
  - Project execution plan based on Borssele experience & lessons learned
  - Deskstudies (Geology; UXO; Archaeology; Morphodynamics; Metocean)  
due date: Q4 2015-Q1 2016
  - Geophysical & Geotechnical investigations in 2016
  - Due date full package Site Investigations Q4 2016



## **Website:**

[english.rvo.nl/offshore-wind-energy](http://english.rvo.nl/offshore-wind-energy)

## **Downloads & order form HDD**

[offshorewind.rvo.nl](http://offshorewind.rvo.nl)

## **Contact and Questions:**

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