



Netherlands Enterprise Agency

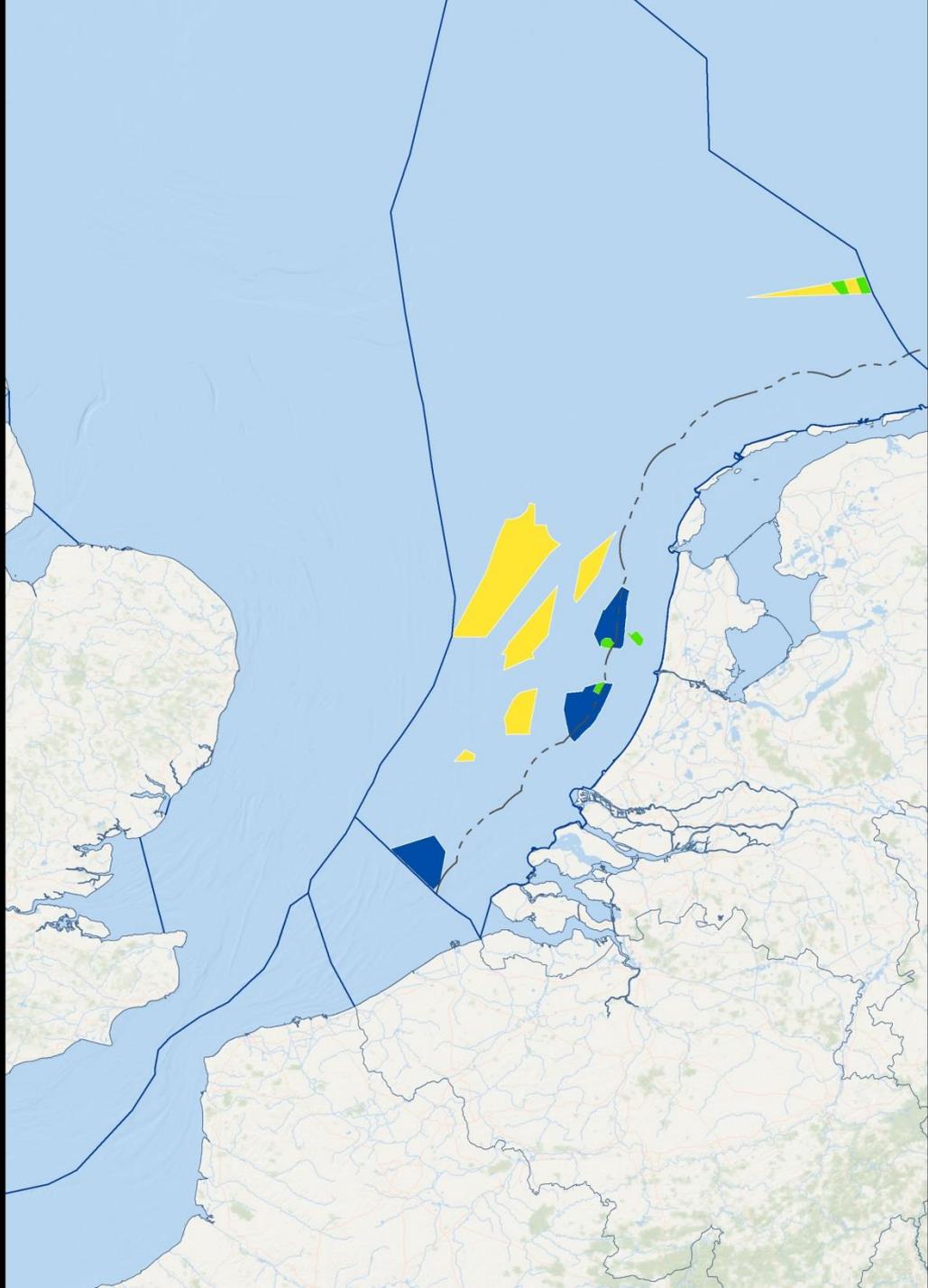
## Green power from the North Sea

# Driving down offshore wind costs the Dutch way

Ruud de Bruijne

7th June 2017, London ExCel Conference Centre

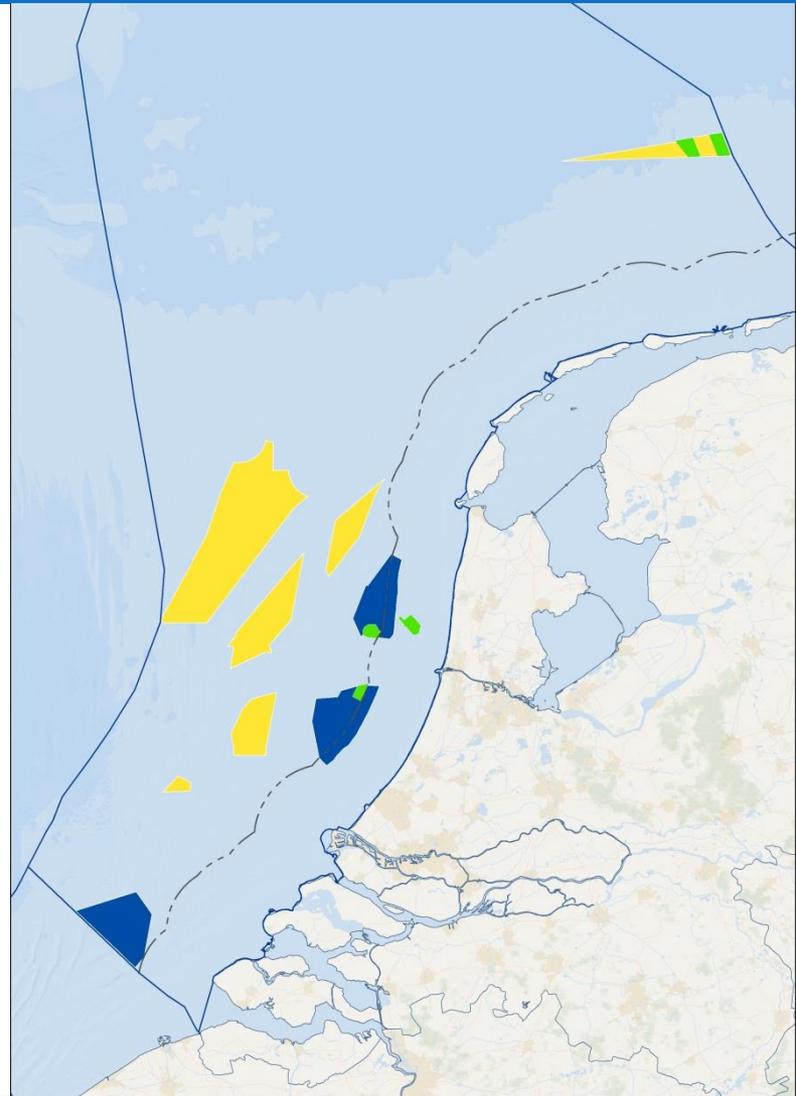
>> Sustainable. Agricultural.  
Innovative. International.





## Roadmap towards 4,5 GW

- **Existing wind farms**
  - Egmond 108 MW
  - Princess Amalia
  - Luchterduinen
  - Gemini 600 MW
- **1<sup>st</sup> Roadmap, tendered**
  - Borssele I & II 700 MW
  - Borssele III & IV 680 MW
- **1<sup>st</sup> Roadmap, tendering planned**
  - Hollandse Kust (zuid) I & II
  - Hollandse Kust (zuid) III & IV
  - Hollandse Kust (noord) V





**GOVERNMENT**

**MARKET**

**Consenting**



**HV Substation**



**Support  
mechanism**



**Site  
investigations**



**Grant  
and  
permit  
tendering**

**price**



# Key succes factors

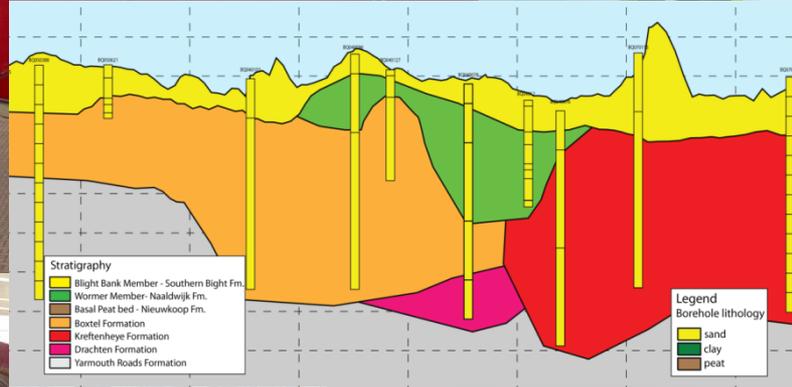
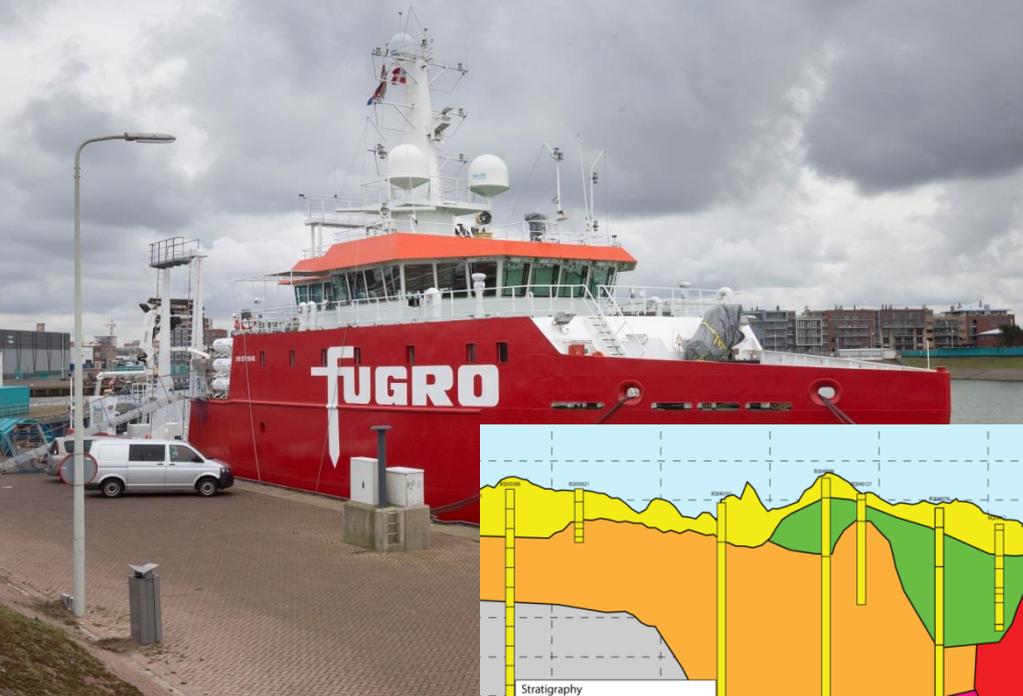
## Process

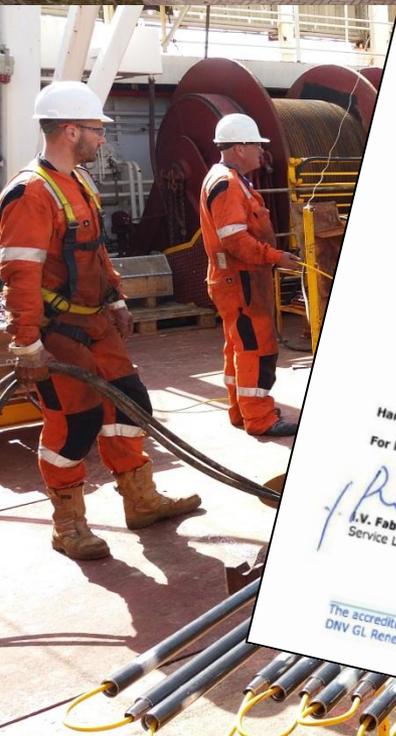
- Stable policy =>trust
- System design: joint initiative industry and government
- Industry and government committed
- Clear planning & milestones met in time
- Stakeholder management



## System

- Planning, 5 successive tenders of 700 MW each
- Standardization (i.e. Wind Farm Site Decisions, Tender procedure)
- High quality information





DNV-GL

# STATEMENT OF COMPLIANCE

Statement No.:  
SC-DNVGL-SE-0190-02664-0

Issued  
2017-03-21

Issued for:  
**Site Conditions Assessment**  
of  
**Wind Farm Zone Hollandse Kust (zuid)**  
**(WFS I and WFS II)**  
Comprising:  
**Wind Turbines, Substation and Power**  
**Cables**  
Specified in Annex 1

Issued to:  
**Netherlands Enterprise Agency**  
Croeselaan 15  
3521 BJ Utrecht  
The Netherlands

According to:  
**DNVGL-SE-0190:2015-12**  
**Project certification of wind power plants**

Based on the documents:  
CR-SC-DNVGL-SE-0190-02664-2

Certification Report, dated 2017-03-21

Changes of the site conditions are to be approved by DNV GL.

Hamburg, 2017-03-21

For DNV GL Renewables Certification

*[Signature]*  
**J.V. Fabio Pollicino**  
Service Line Leader Project Certification

**DAKKS**  
Deutsche  
Akademische  
Gemeinschaft  
D-DE 10001-04-00  
By DAKKS according to EN ISO/IEC 17065  
accredited Certification Body for products. The  
accreditation is valid for the fields of certification  
listed in the certificate.

Hellerup, 2017-03-21  
For DNV GL Renewables Certification

*[Signature]*  
**Erik Asp**  
Project Manager

The accredited certification body is Germanischer Lloyd Industrial Services GmbH, Brooktorikal 18, 20457 Hamburg, Germany.  
DNV GL Renewables Certification is the trading name of DNV GL's certification business in the field of renewable energy.





## Outlook

- **1<sup>st</sup> Roadmap till 2023**
  - Deployment well on track
  - Cost reduction:  
broadly achieved ahead of time
- **Current government: Energy Agenda**
  - Centered around CO<sub>2</sub> reduction
  - Energy efficiency & increase RES
- **2<sup>nd</sup> Roadmap 2023 – 2030**  
*official preparations for decision making*
  - 7 annual tenders of 1 GW
  - 0 subsidy from 2026
  - Local economic benefits
  - Preparations for 3<sup>rd</sup> Roadmap





# Challenges

**Offshore wind becomes mayor player at the North Sea with impact on other players and functions**

- O&G industry
- Telecom
- Fishery
- Ecology
- Shipping

**With increasing production capacity international clustering becomes a (long term) perspective**

- System integration
- Joint infrastructure

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