

Vattenfall UK Offshore Wind Power

Thanet Offshore Wind Farm – Case Study

July 2010

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Wind Power

is a cornerstone for our drive to

“make electricity clean”

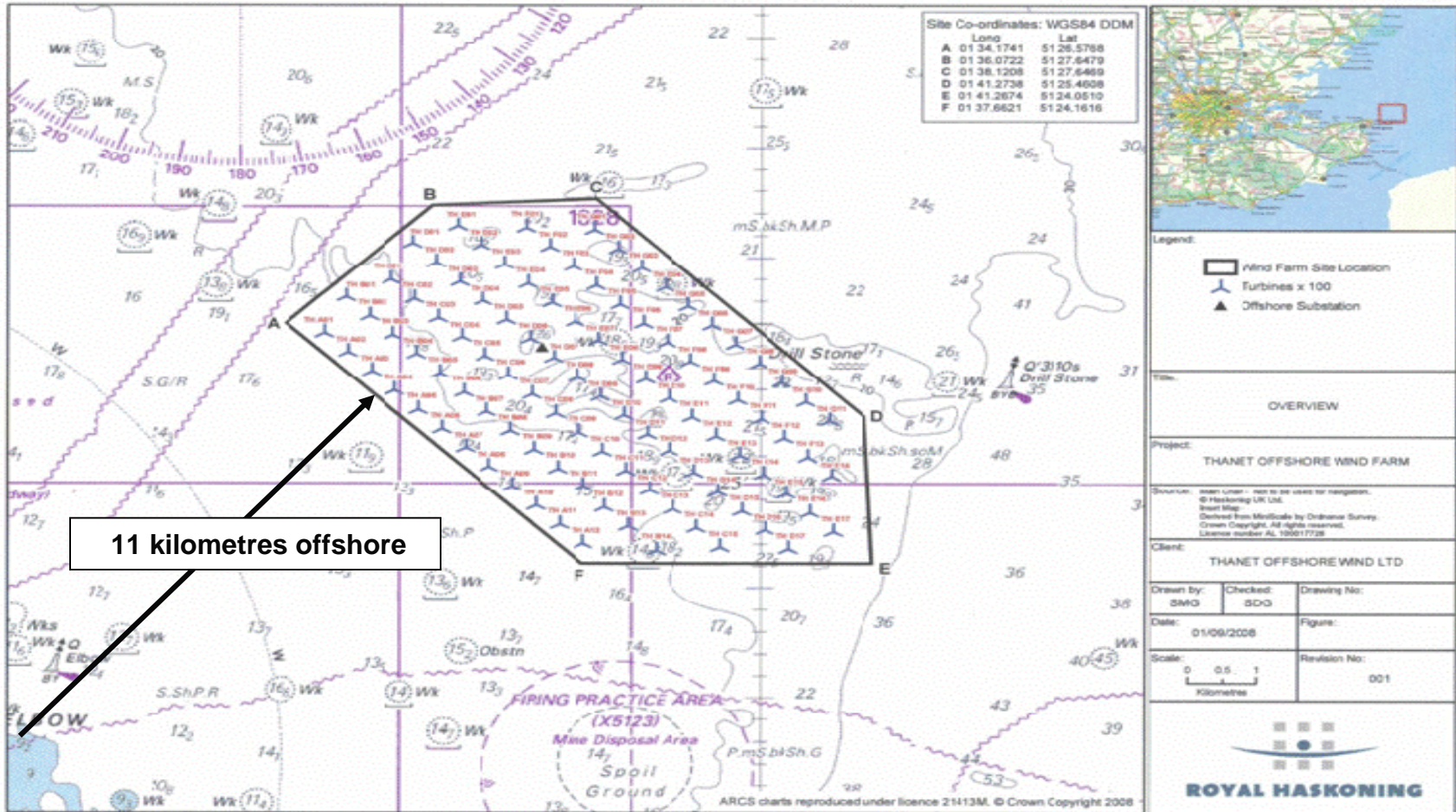
Vattenfall to lead Thanet Offshore Wind Farm



- In November 2008 Vattenfall acquired the rights to build Thanet Offshore Wind Farm from CRC Energy.
- The Thanet Offshore Wind Farm will be a big sister to the Kentish Flats Wind Farm, a few miles along the coast of Kent.



Thanet Offshore Wind Farm; Location



Thanet Offshore Wind Farm; Facts

- Depth of water at the site is 20-30 metres
- Foundation type monopiles
- 100 WTG V90 3MW each – total installed 300 MW
- Offshore Sub-Station 32/132 KV installed on a jacket
- Rotor Diameter 90m & Hub height 70m
- Turbine spacing 500m along rows and 800m in between rows
- Total seabed area 35sq.km
- 75 kilometres of Array cables
- 25 Kilometres offshore export cables
- 3 kilometres onshore export cables

Building the wind farm; Foundation Installation



Thanet Offshore Wind Farm; Main Suppliers

Thanet Offshore Wind Farm is a multi (multi) contract project.

- 7 main suppliers
 - SIF
 - Smulders
 - A2SEA
 - MPI
 - Prysmian
 - Siemens
 - Vestas
- And on top of that further 70 suppliers

Turbines have been installed continuously since Dec 09



Thanet Offshore Wind Farm; Status

- 100 MP's installed
- 100 TP's installed
- Offshore substation installed
- 90 Array cables installed
- 73 WTG's installed
- 1st export cable energised
- 1st WTG produced electricity 16th May 2010
- All WTG's to be commissioned by August 2010

Thanet Offshore Wind Farm; Offshore Substation

1st string energised 14th May 2010



Thanet Offshore Wind Farm; Lessons Learnt

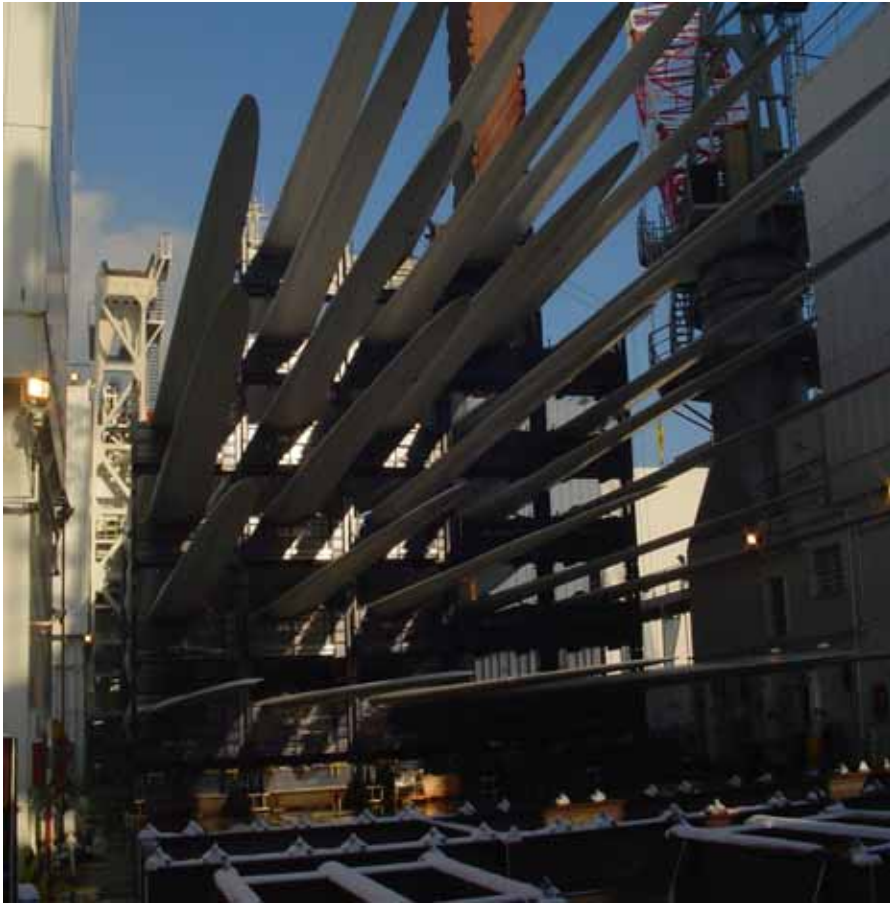
- **Planning**

- O&M in project design phase
- Offshore work is complex and expensive
- Weather condition (wind speed, wave height, current from specific location) to be incorporated in the planning

- **Construction**

- Construct onshore and install offshore
- Plan B and a plan C
- Make decisions in due time
- Keep it simple
- Be proactive
- Don't postpone for tomorrow what you can do today

Thanet Offshore Wind Farm; Conclusion



- Thanet has been a challenge
 - Supply chain
 - Technical
 - Design of the project
- On target to deliver expectations set on time for purchase
 - Technical
 - Programme
 - Economical

Thank you for your attention

