

# Vattenfall Wind Power a Green Job Creator

Promoting green employment  
Brussels, September 28, 2010

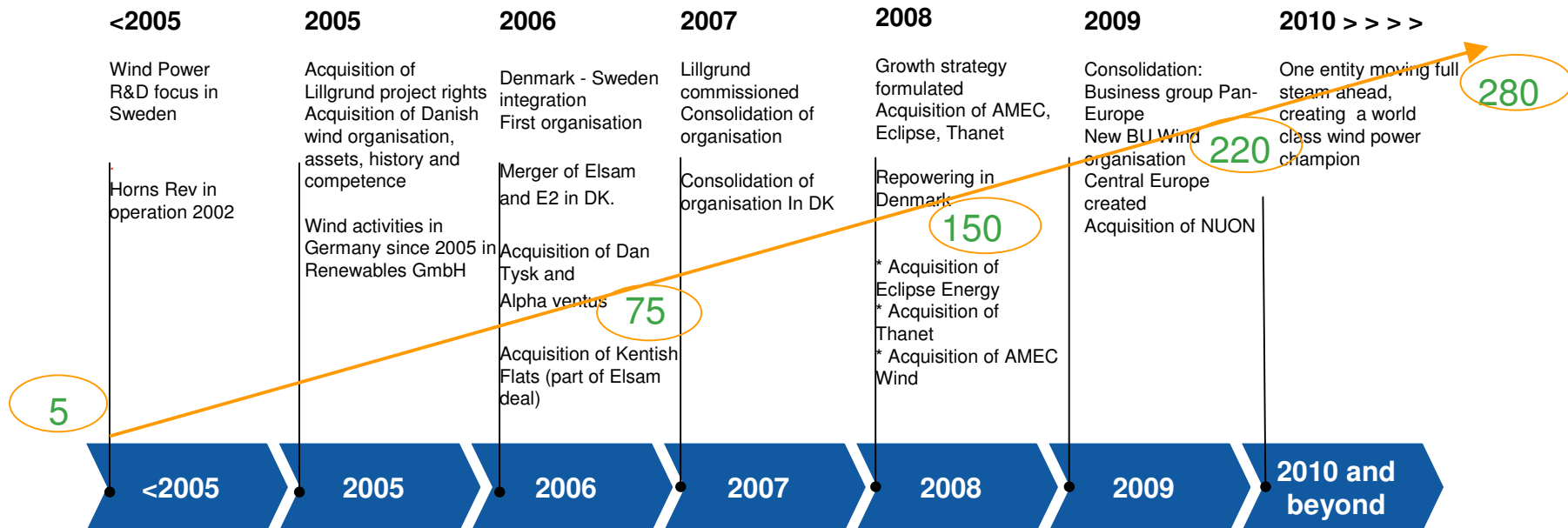
## Thanet – the largest offshore wind farm in the world



## Vattenfall in brief

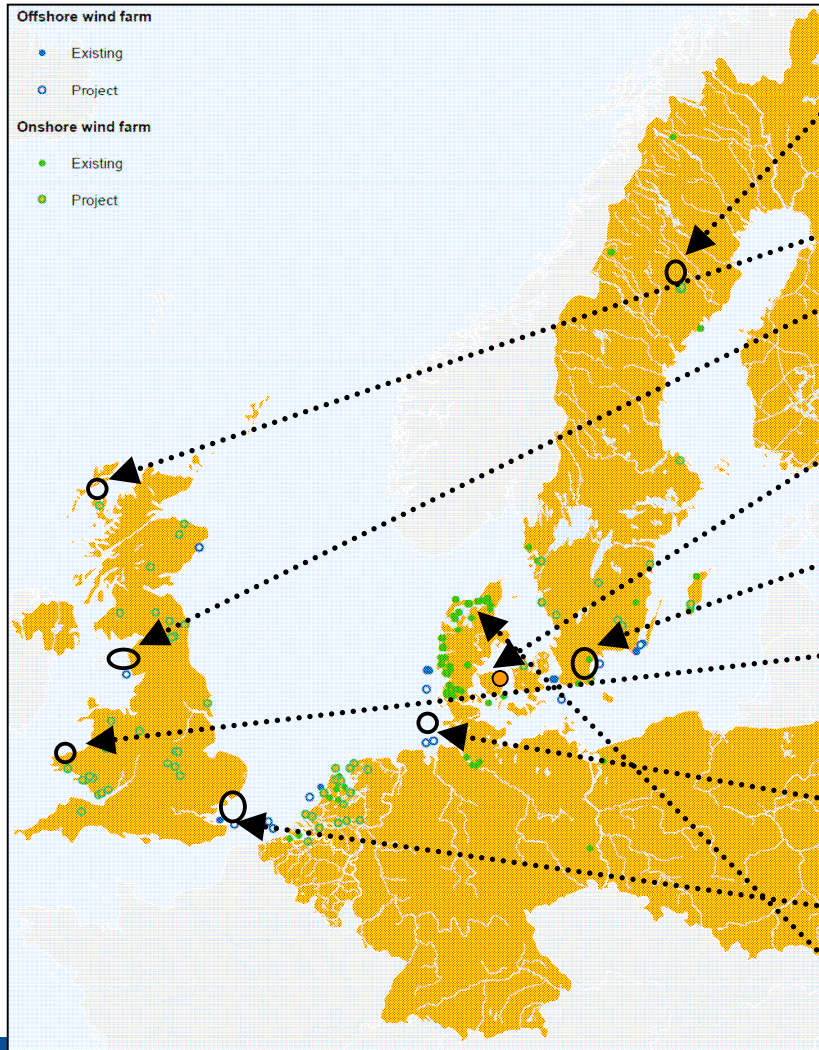
- Europe's fifth largest generator of electricity and the largest producer of heat
- Vision: To be a leading European energy company
- Operations currently in Sweden, Finland, Denmark, Germany, Poland, the Netherlands, Belgium and the UK
- New core markets: Sweden, Germany and the Netherlands
- Electricity: generation, transmission, distribution and sales
- Heat: production, distribution and sales
- Gas: distribution and sales
- Energy trading and lignite mining
- Consulting and contracting activities in the energy sector
- 40,000 employees out of which 25-30 % have green jobs
- Vattenfall AB is wholly owned by the Swedish state

# History of Vattenfall Wind Power



Vattenfall Wind Power is still being created

# Vattenfall is building nine wind farms in six countries



## Stor-Rotliden in Sweden

40 Vestas V 90 turbines. Annual energy boost of around 240 GWh, sufficient to supply 50,000 homes per year with clean energy. *Official opening spring 2011.*

## Edinbane in Scotland

18 Enercon 2.3 MW turbines. Annual energy boost of around 128,3 GWh, sufficient to supply 22,000 homes per year with clean energy. **Officially opened June 2010.**

## Ormonde in England

30 Repower 5M turbines. Annual energy boost of around 500 GWh, sufficient to supply 100,000 homes per year with clean energy. *Official opening Sep 2011.*

## Draeby Fed in Denmark

4 turbines. Annual energy boost of around 25 GWh, sufficient to supply 6.100 homes per year with clean energy. *Official opening spring 2010.*

## Östra Herrestad in Sweden

9 Vestas 1,8 MW turbines. Annual energy boost of around 58 GWh, sufficient to supply 11,000 homes per year with clean energy. *Official opening spring 2011.*

## Pendine in Wales

6 Enercon E48 turbines. Annual energy boost of around 14 GWh, sufficient to supply 3,000 homes per year with clean energy. *Official opening – not clear.*

## Alpha Ventus in Germany - consortium of EWE, E.ON and Vattenfall

12 turbines (6 Areva Multibrid M5000 and 6 Repower 5M). Annual energy boost of around 220 GWh, sufficient to supply 50,000 homes per year with clean energy. **Officially opened April 2010.**

## Thanet Offshore Wind Farm in England

100 Vestas V90 turbines. Annual energy boost of around 1 TWh, sufficient to supply 240,000 homes per year with clean energy. **Official opening September 2010.**

## Nørrekær Enge in Denmark

13 Siemens 2,3 MW turbines. Annual energy boost of around 120 GWh, sufficient to supply 30,000 homes per year with clean energy. *Official opening took place in Nov 2010.*

# Stor-Rotliden – in construction

## Stor-Rotliden - Key Data

Rated power	78 MW (29x2MW & 11x1.8MW)
Expected energy generation	229 GWh/year

## Location – Åsele kommun, Västerbottens län



Approximately 100km west of Umeå (130km by car).



## Project Background and Progress

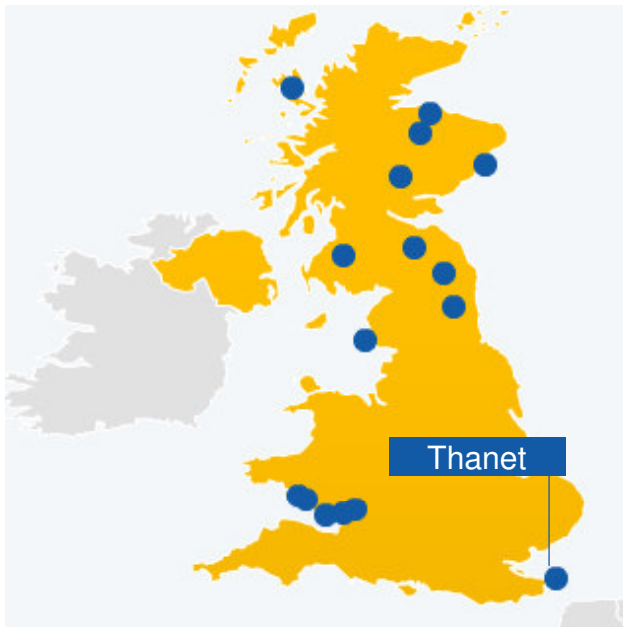
- Project developed by o2 Vindkompaniet
- Acquired in Q1 2009 (fully consented)
- Civil works (roads) started in June 2009.
- All turbines in place and commissioning is expected at the end of 2010
- Key suppliers (multi-contract)
  - Vestas V90, 29 rated 2MW and 11 rated 1.8MW
  - PEAB: civil works
  - Siemens: Transformer and substations
  - Ericsson: Electric and optic cables
  - Grid connection: Vattenfall Eldistribution (130kV substation Tuggen)
- **70 – 100 persons have worked constantly at the site**
- A local O&M group consisting of 9 persons will operate the wind farm
- Secondary jobs will be created in e.g. tourism

# Thanet Offshore Wind farm

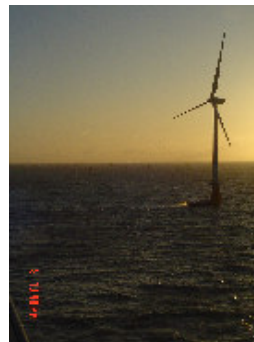
## Thanet - Key Data

Rated power	300 MW (100x3MW)
Expected energy generation	974 GWh/year Covers the annual need for 200 00 British households

## Location – offshore UK



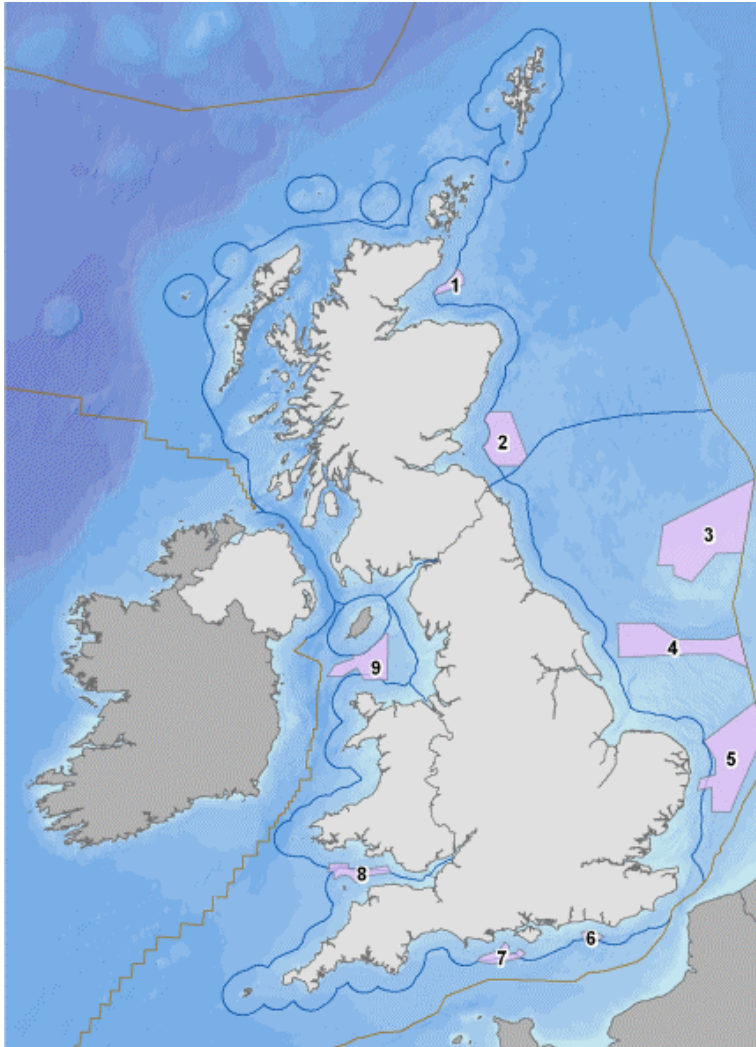
The Thanet project is located approximately 12 km off Foreness Point, the most eastern part of Kent.



## Project Background and Progress

- Thanet offshore wind farm will be **the largest operational wind farm in the world** when commissioned.
- Officially opened on 23 September 2010.
- Key supplier
  - Vestas V90: 100 turbines à 3MW
  - Many contracts of different size
- The offshore work commenced in March 2009
- The wind farm covers an area of 35 square kilometres, enough to cover 4 000 football pitches
- **More than 3 600 people have worked on the project**
  - Vestas 100
  - Foundation contractors 200
  - Sub-station 165
  - Cable work 50
  - Heavy Lift 150
  - Support services 330
  - Various 2 550
- The TOW service centre will employ some 40 persons based in Ramsgate

## UK Round III



Vattenfall, together with Scottish Power Renewables, owned by Iberdrola of Spain, has been awarded an area offshore East Anglia on the UK west coast, zone 5 - Norfolk

### Key facts on zone 5 – Norfolk

- The total zone area is 6036.8 km<sup>2</sup>, which is approximately 10 per cent larger than the county of Norfolk itself
- 55.5 km distance to mainland
- Maximum depth is 70.1 m
- Minimum depth is 5 m
- This is the shallowest of all the Round III zones.

The plan is to build 12 wind farms, each with an installed capacity of 600 MW (7 200 MW).

The **green job creation** will be significant if the project is realized.



**Thank you for your attention!**



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