



APSE Scotland, Aberdeen, April 2014

Wind energy in Aberdeen and Aberdeenshire

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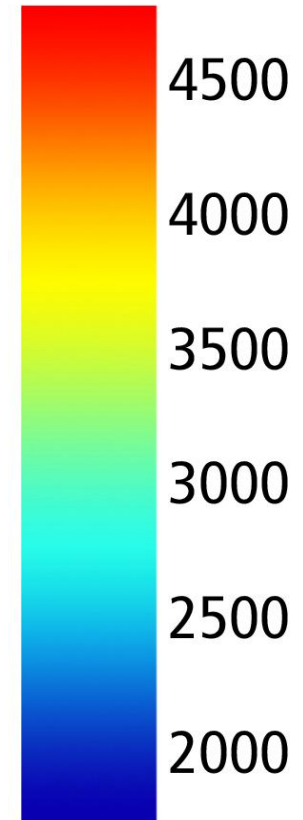
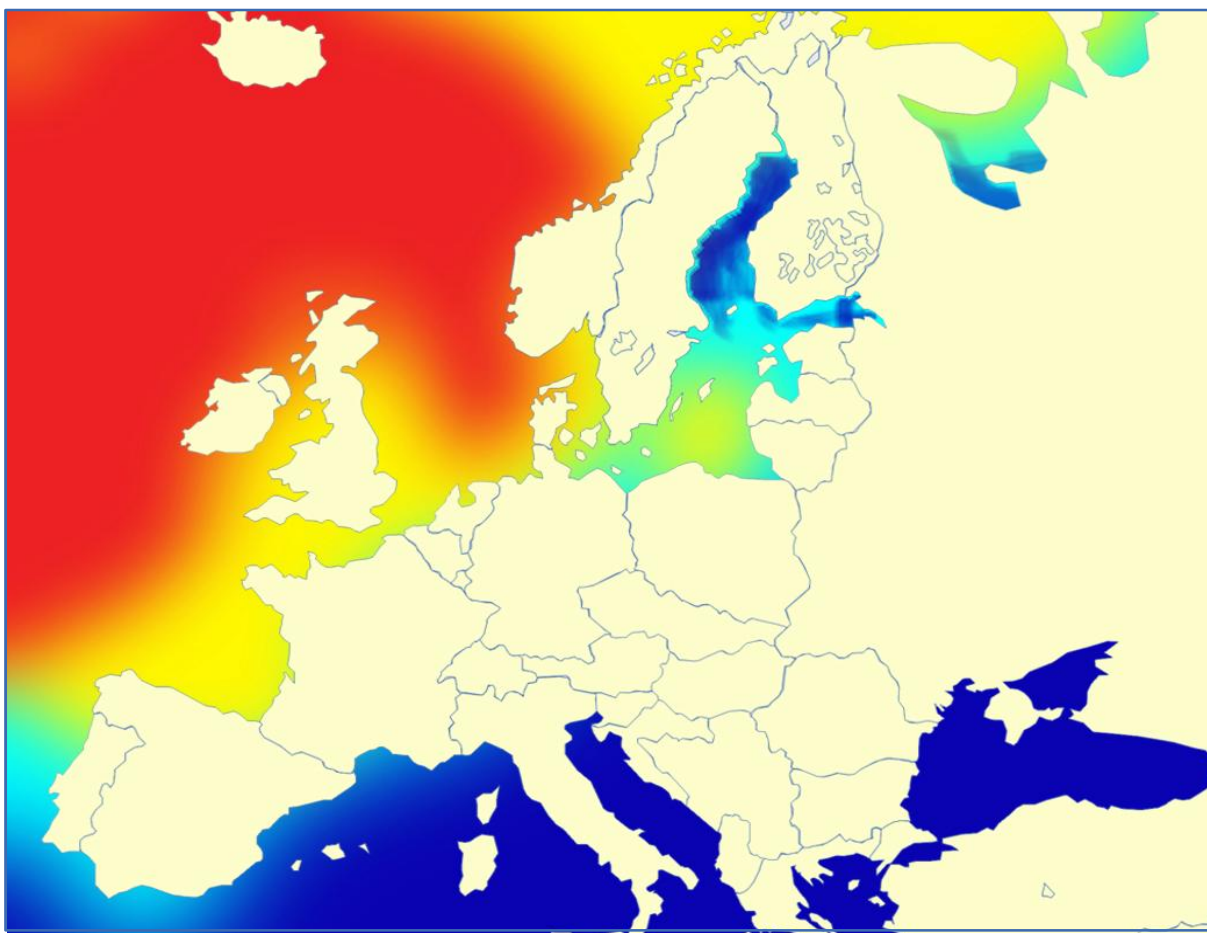


European Directive 2008

- 20/20/20
- 20% reduction in CO₂ by 2020
- 20% reduction in energy consumption
- 20% of all energy to be renewable



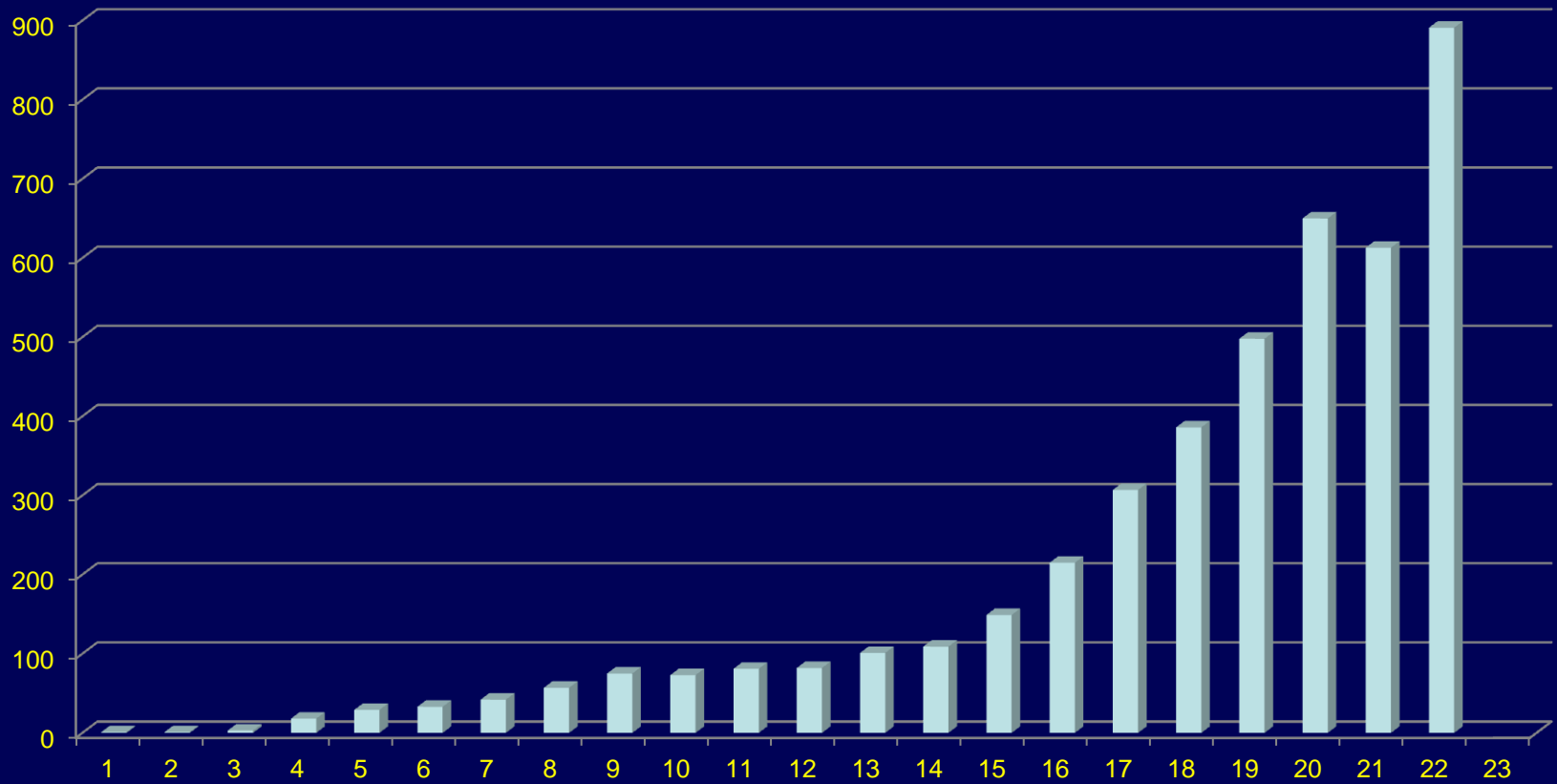
European wind resource



**Full Load
Hours/Year**



Onshore wind 1990-2011





Aberdeenshire

- 70 farms
- 100 MW



Aberdeenshire

- 70 farms
- 100 MW
- Cairngorms National Park



Offshore wind 1990-2011





North Sea experience





Beatrice



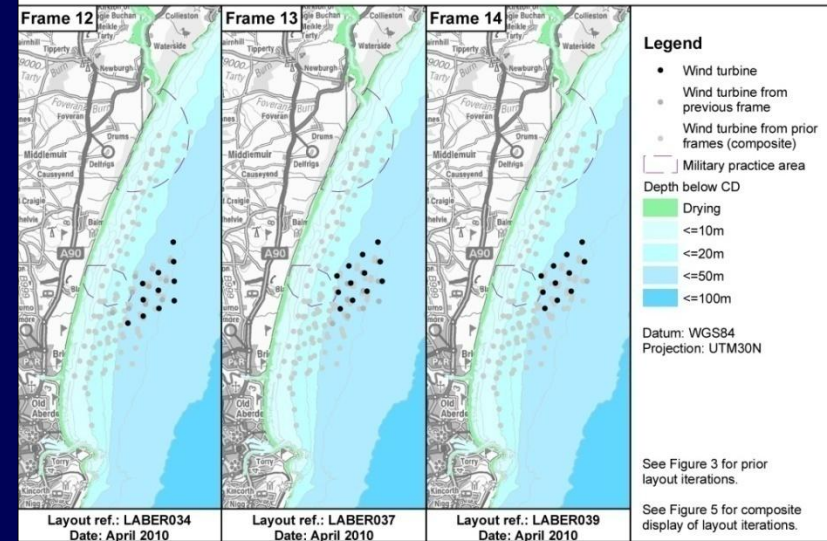
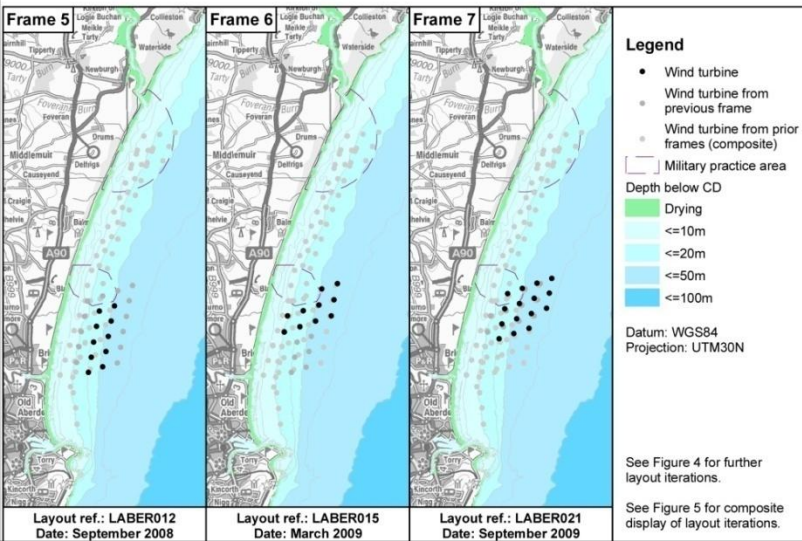
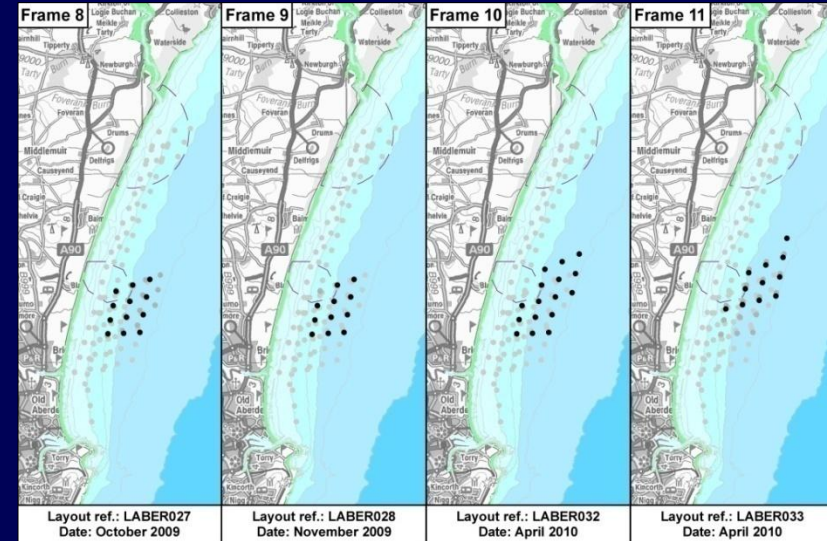
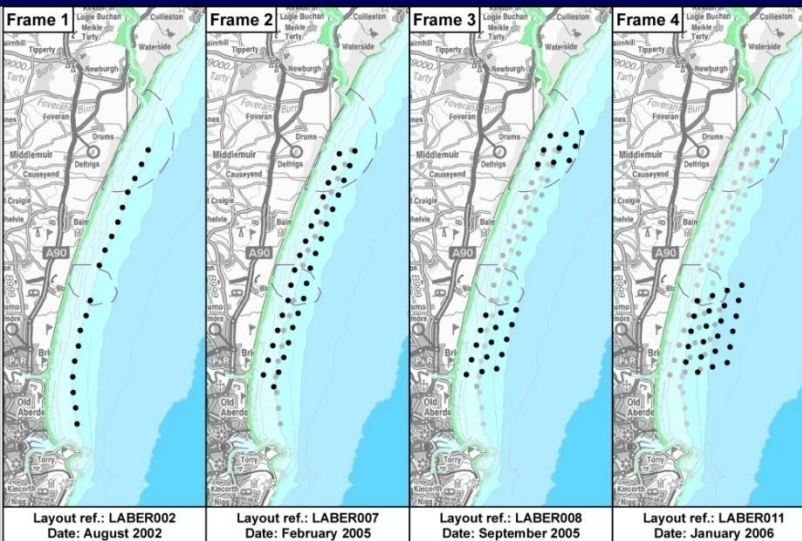


Beatrice





Layout evolution





Innovation agenda

- Innovation can be any improvements over current practice within offshore wind on any component eg:
 - More efficient or lower cost/MW turbines
 - More robust turbine/foundation connection systems
 - More efficient construction, installation and commissioning techniques
 - New materials
 - Novel cable installation or burial techniques
 - Improved access methods
 - Possible ocean laboratory and onshore research facilities



Legal challenge





The future (1)

- Beatrice Round 3
- Moray Firth
- 750 MW
- £3 billion
- Completed early 2016



The future (2)

- Floating wind turbines
- Statoil Hywind project
- 5 turbines off Peterhead
- Japan



The future (3)

- Supergrid
- West and East Coast bootstraps
- Peterhead
- Link to Norway



The future (4)

- 2030 target
- Westminster vote last year



Electrification of transport





Electrification of transport





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