Looking back, looking forward – A UK perspective

“The secret to getting ahead is getting started”

Mark Twain
### Beauty in numbers

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>40</td>
<td>A turbine was installed offshore on average every 40 hours since June 2010</td>
</tr>
<tr>
<td>0.1%</td>
<td>The percent of UK’s Exclusive Economic Zone taken up by offshore wind farms</td>
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<tr>
<td>1,452</td>
<td>As of June 2015 number of fully operational offshore wind turbines in UK waters</td>
</tr>
<tr>
<td>13,000</td>
<td>Number of direct and indirect employees in the UK’s offshore wind sector</td>
</tr>
<tr>
<td>10%</td>
<td>Estimated contribution of offshore wind to UK’s electricity supply by 2020</td>
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<tr>
<td>5%</td>
<td>Current contribution of offshore wind to UK electricity</td>
</tr>
<tr>
<td>56%</td>
<td>UK’s share of European offshore wind installed capacity</td>
</tr>
<tr>
<td>3.5</td>
<td>In megawatts, the average capacity of an offshore wind turbine, compared to 2MW in 2005</td>
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</tbody>
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Risk v cost efficiencies
Lessons learnt

- Costs
- Subsidy
- Grid parity
The big debate

versus
Risk v cost efficiencies
When it doesn’t go according to plan
Risk v cost efficiencies
83.2% Share of total claims costs
- Over GBP 200,000,000 paid in claims since 2009
- Average claim cost GBP 1,850,000
- Since 2009, out of 60 projects all but three have experienced cable claims
- Most expensive cable claim exceeds GBP 20,000,000 +
- Vessel costs a major contributor i.e. GBP 150,000 + p/day for a CLB or DP vessel

Why are claims so common
- Poor workmanship
- Sub-contractor inexperience
- Recklessness due to tight deadlines
- Use of wrong vessel or equipment for the task
- Insufficient time allocated for sub-contractors due to high vessel costs – sometimes shortened due to poor weather conditions
- Cable laying is a complicated task i.e. busy shipping lanes, poor weather and tidal effects etc.

Source: Offshoring Cable – Insurance & Loss Adjustment, Lloyd Warwick International
Main causes of cable damage

Damage to submarine cable is mainly caused by human activities, < 10% due to natural hazards

Causes of Submarine Cable Damage (CIGRE 2009)

- Fishing 63%
- Others 22%
- Suspensions 6%
- Dredging / Drilling 1%
- Cables ship activities 1%
- Earthquakes 4%
- Fish bite 3%

Source: Offshoring Cable – Insurance & Loss Adjustment, Lloyd Warwick International
Health & Safety Statistics 2014

■ Key Facts
  − 959 reported incidents
  − 0 fatalities
  − 44 total lost work days

■ Work Process
  − 228 incidents during marine operations*
  − 140 lifting operations incidents
  − 134 incidents occurred when operating plant and machinery

■ Incident Area
  Incident area
  − 369 incidents occurred in the turbine region
  − 315 incidents occurred onshore
  − 243 incidents occurred on vessels

Source: 2014 Incident data report, G9 Offshore wind health and safety association
A new exposure to OWF
Key ingredients to ensuring success

- Experience
- Expertise
- Insight
