Offshore Wind in Ireland
Noel Cunniffe, CEO, Wind Energy Ireland
EUFORES Workshop - The European Green Deal and the National Energy and Climate Plan in Ireland

June 2021
WEI represents over 150 members covering all aspects of Onshore and Offshore Wind

Members across existing assets, development & supply chain for onshore & offshore:

• Wind farm developers
• Turbine manufacturers
• Construction companies
• Supply companies
• Accountants
• Insurance
• Consultancy
• Legal firms
• Banks
• Small local businesses
Wind Energy Ireland's Offshore Wind Pipeline Survey – Q1 2021

Note: Results are post-Foreshore License filter. Capacity when overlapping sites are accounted for is displayed in brackets.

<table>
<thead>
<tr>
<th>Projects</th>
<th>Capacity (GW)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>Over 22 (~ 15)</td>
<td>Total</td>
</tr>
<tr>
<td>8</td>
<td>10.5 (~8)</td>
<td>East coast</td>
</tr>
<tr>
<td>13</td>
<td>6.5 (~ 4)</td>
<td>South coast</td>
</tr>
<tr>
<td>6</td>
<td>6 (~3)</td>
<td>West coast</td>
</tr>
</tbody>
</table>

27 projects in the Irish offshore wind pipeline

An average project capacity of 900 MW

Over 22 (~ 15) GW of capacity in total

8 commercial scale floating offshore wind projects

13 projects planned for the East coast

8 projects for the South coast

6 projects for the West coast

Over 22 (~ 15) GW of capacity in total
Wind Energy Ireland’s Building Offshore Wind Report

• WEI produced the 70by30 Implementation Plan in 2020
• **Building Offshore Wind** report launched in December 2020 sets out how to deliver 5 GW of offshore wind by 2030
• Analysed pipeline of offshore wind projects in two scenarios - Business-as-Usual and 2030 Target Delivered

**Key Takeaway:**

To account for potential project attrition and to still achieve 5GW by 2030 we forecast that a pipeline multiple times larger than 5GW will be required to deliver 2030 targets.
Baseline Scenario results show that only 674 MW of offshore capacity will deliver by 2030 unless we see Policy Improvements across:

- Planning
- Grid Connections
- Route-to-Market and
- Grid Capacity

Critical that Government & State Bodies are appropriately resourced to deliver these.
The key messages are:

- **Costs are falling rapidly** and **floating offshore wind can deliver for 2030**
- **First-mover advantage** is there for the taking and is an **economic opportunity** as well as **critical for climate action**
- **Immediate policy change is required** to unlock Ireland’s FLOW potential:
  - Policymakers must seize the advantage of early-mover status for Ireland, by **paving the way for FLOW projects to energise from 2030**
  - In order to facilitate FLOW’s take off in the Irish electricity market **grid upgrades are required for the south and west coasts**
  - A “**floating wind pot**” or new Floating-RESS in 2025 to support early commercial scale projects for Celtic Sea and Atlantic production zones
We demonstrate a path to zero carbon in the Irish electricity sector using known technologies, keeping the lights on and at minimal cost to consumers.

### Power Sector CO₂ Emission Savings in Ireland

<table>
<thead>
<tr>
<th>Technology</th>
<th>100% Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onshore Wind</td>
<td>8.2 GW</td>
</tr>
<tr>
<td>Offshore Wind</td>
<td>5 GW</td>
</tr>
<tr>
<td>Solar PV</td>
<td>5 GW</td>
</tr>
</tbody>
</table>

**Graphical Representation**

Zero carbon system services = allowing 100% renewables, 0 MW Fossil Generation. It also saves end consumers over €180m per annum.

- Building more renewable capacity reduces CO₂ emissions further, but needs complementary solutions to minimise wasted renewable energy.
- A high carbon price (100 €/tCO₂), aligned with our neighbours, makes better use of interconnectors.
- 800 MW of storage and 1,200 MW of hydrogen are considered individually, and when combined can utilise the wind that would otherwise be curtailed. RES-E decreases due to added electrolyser demand.

**Table Summary**

<table>
<thead>
<tr>
<th>70 by 30 (3.3 MtCO₂)</th>
<th>Less than 2 MtCO₂</th>
<th>80% of PfG Capacities</th>
<th>Same CO₂ price as non-ETS</th>
<th>Long-Duration Storage</th>
<th>Green Hydrogen</th>
<th>Storage &amp; Hydrogen</th>
<th>Zero Carbon (100% of PfG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RES-E</td>
<td>70%</td>
<td>85%</td>
<td>94%</td>
<td>94%</td>
<td>97%</td>
<td>89%</td>
<td>90%</td>
</tr>
<tr>
<td>PfG Capacity</td>
<td>50%</td>
<td>67%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>Residual CO₂</td>
<td>3.31 Mt</td>
<td>1.62 Mt</td>
<td>1.31 Mt</td>
<td>0.97 Mt</td>
<td>0.68 Mt</td>
<td>0.48 Mt</td>
<td>0.28 Mt</td>
</tr>
</tbody>
</table>