



Energy for  
generations



# Ocean Energy in Ireland:

## ESB WestWave Project

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Project Manager

ESB Innovation.

26<sup>th</sup> March 2015



**Established 1927**

**Owned by State with total assets €12.8 billion**

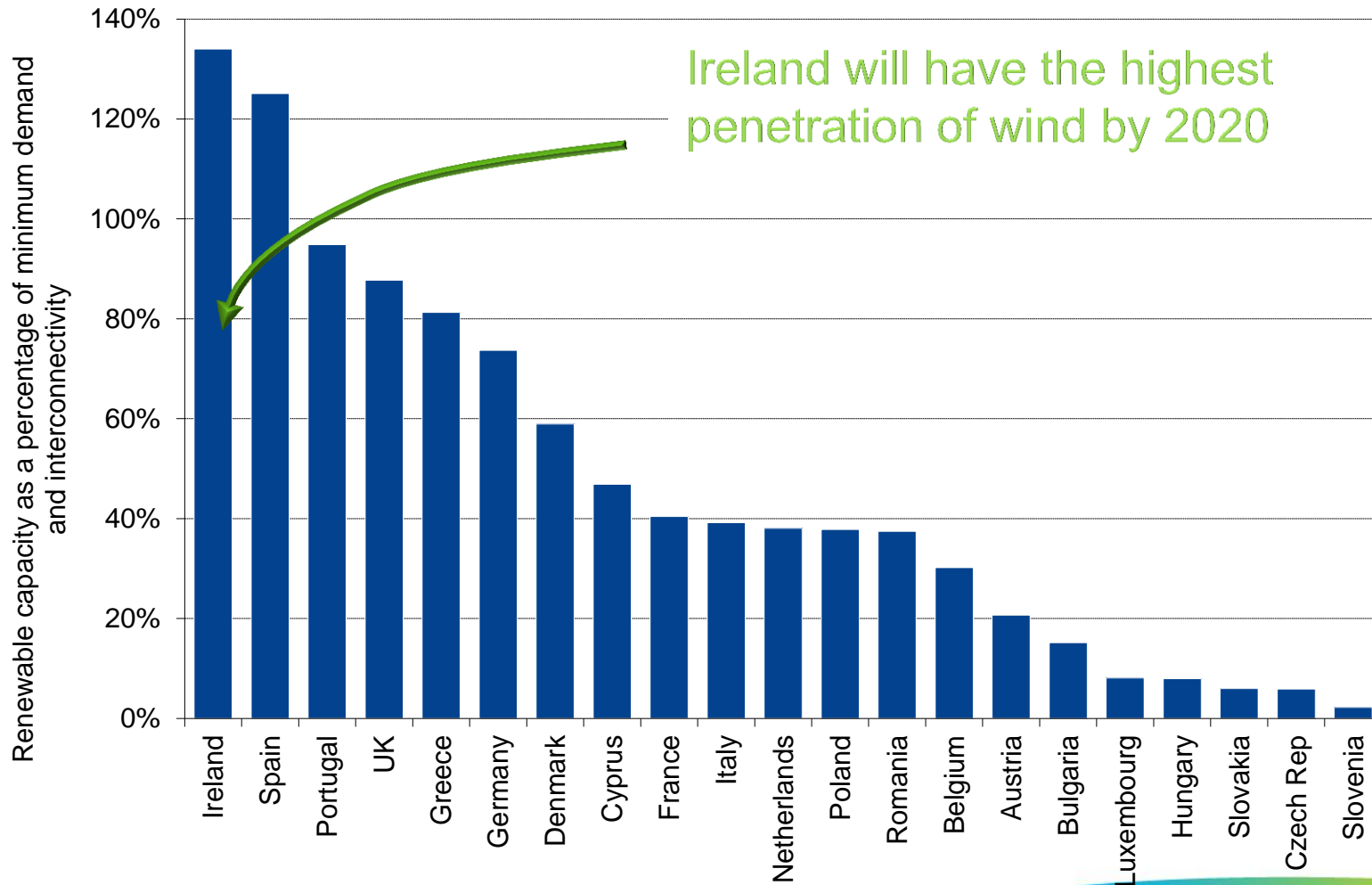
**Transmission & Distribution in ROI & NI**

**3.1 million customers (1.5 m Electric Ireland)**

**6 GW generation capacity and 7,490 staff**

**International consultancy (projects in 115 countries)**

# EU wind penetration by 2020



# Future Renewables: Diversity



## Future Options:

 UK O/Wind Options to R3

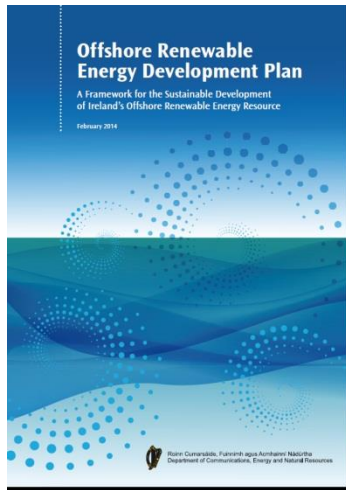
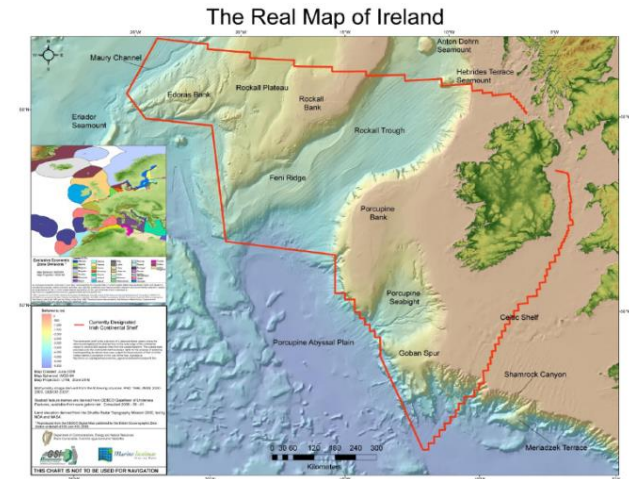
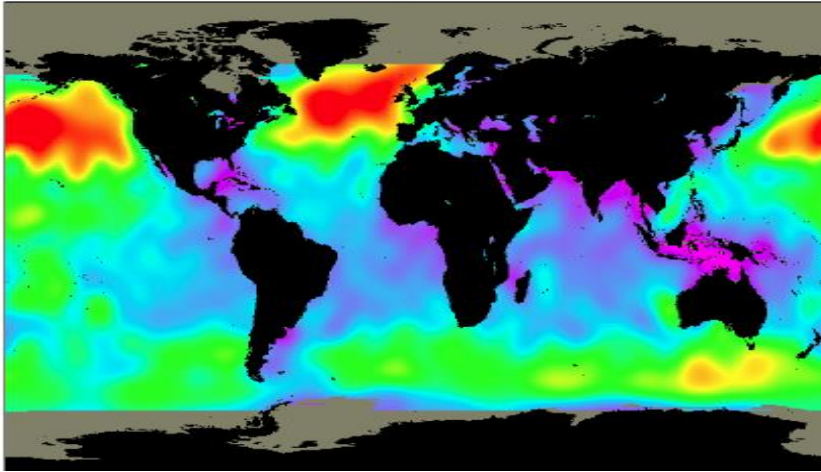
 Wave Resource Regions

 Tidal Resource Regions

 Solar PV – Distributed

**Significant benefits to diversifying the Renewable portfolio**

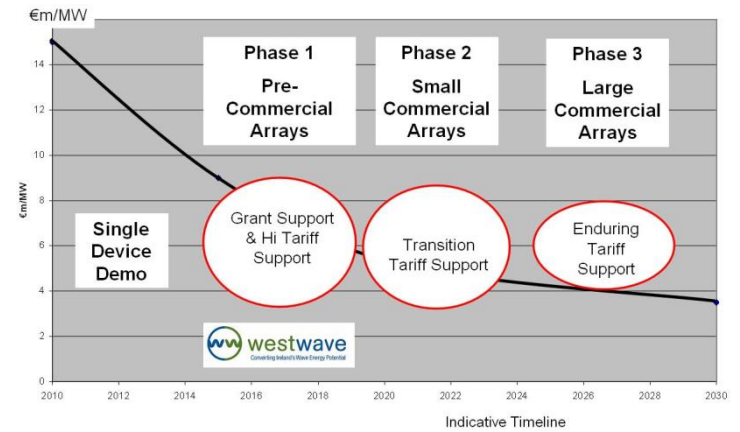
# Ocean Energy and Ireland



- R&DD support
- Collaboration
- Governance
- Environment



Indicative Wave Energy Cost Trajectories (€/MW installed)

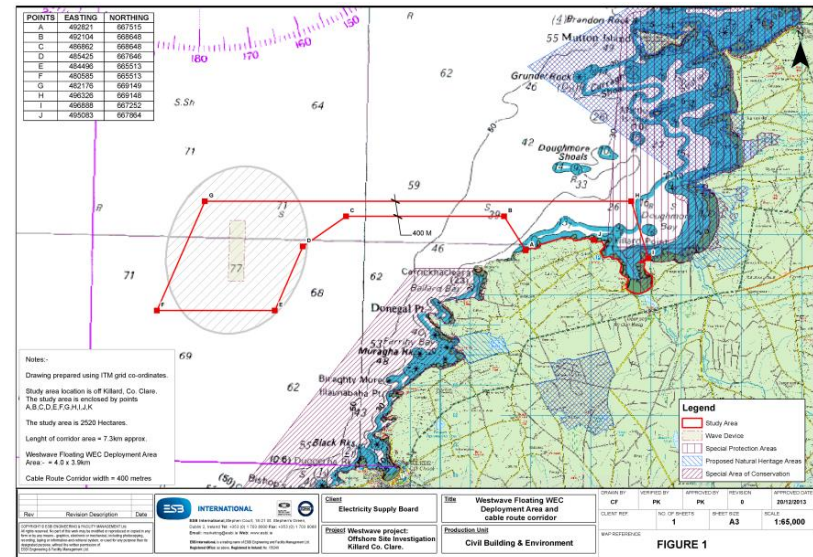


First wave array in Ireland: 5 MW

2018 target operational date

Critical project in ocean energy development roadmap

- demonstrate technology readiness
- develop capability and supply-chain
- gain public acceptance
- disseminate learnings
- prove opportunities in Ireland



Innovation and collaboration is key

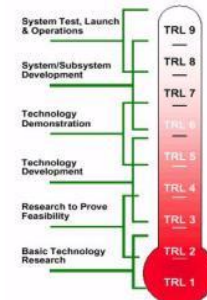


**Initial stage**

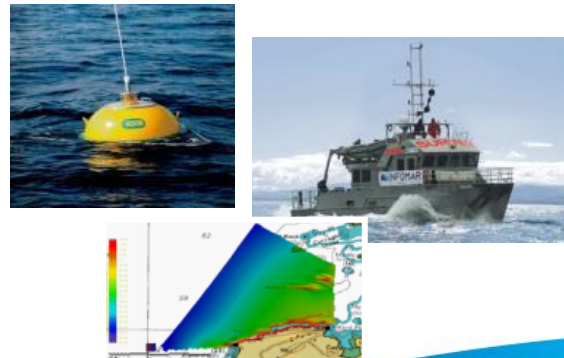


**Feasibility**

**Technology standards**



**Site Selection**



**Dissemination**

**Consent work**





**Policy**



**Procurement**



**Partnerships & Dissemination**

**Technology, R&D Support**

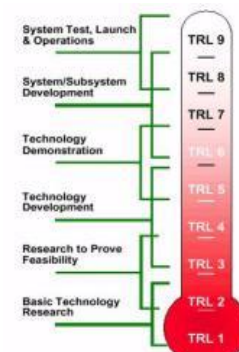
**Communications And Consenting**



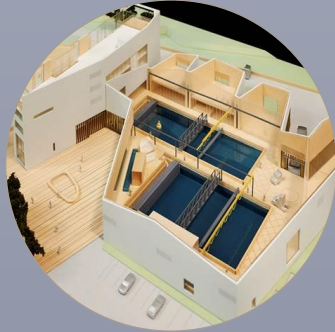
NER300



EUROPEAN COMMISSION



# Wave Energy Eco-system – Role for Ireland?



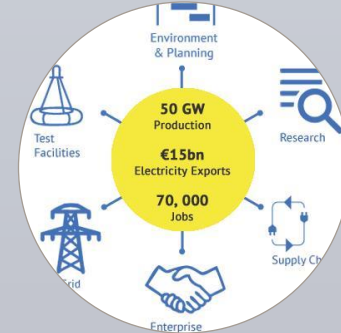
## Concept Development

- Academic Excellence
- New Concepts
- Standards



## Ocean Testing

- Component Validation
- Supply Chain Experience
- Confidence



## Market Deployment

- First Arrays
- Revenue Incentives
- Marine Leases

Co-ordination & International Collaboration

# In Summary.....



- Changing landscape : ESB Strategic alignment
- Critical to OE Development Roadmap
- Stage 1 completed successfully
- Stage 2 Planned and Underway
- Key Challenges: Collaborate & Innovate
- Operation planned for 2018