

Creating a floating offshore wind industry in Ireland

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Review of Irish experience to date

- First offshore installation in the world and nothing since
- Onshore wind yielded very few Irish jobs
- Our supply chain saw very little activity
- Developments must be socially acceptable
- We are all paying a levy to subsidize onshore

BluWind strategy for the future

- Irish production plant essential for Irish jobs and supply chain
- Business must be sustainable without subsidies
- Devices must not be seen or heard from the shore
- As Ireland has no wind technology, then we must license it
- Combine wind and wave

Floating offshore wind is the future!

- Ireland has 30% of all wind in Europe
- 80% of offshore wind requires floating solutions
- Ireland can replace €6 billion of fuel imports and export €20 billion
- Wind energy can become Ireland's largest indigenous industry
- A market exists in Europe for all our surplus energy
- As an island nation, we need a secure source of energy

- The technology to capture the energy is now being tested

Route to Market

- Replace coal and peat burning
- Additional 500MW pa required by Irish economy to 2030
- Export devices to Europe
- Export electricity into Europe

Business plan

- Commercialise novel German offshore floating technology - NEZZY²
- Build a serial production plant in Foynes
- BW itself will become a sales and marketing company
- BW consortium will contract the supply of all sections
- BW will provide turnkey devices for utilities
- BW will provide warranties to developers

- BW will access capital and technology from FDI

Single turbine device being tested in Japan

 1:10 SCALED WIND TURBINE



- Semi-submersible concrete foundation
- Two-bladed turbine
- Operates in downwind position
- Self-aligns downwind by means of a turret mooring system
- Floaters at each corner of Y-shaped foundation
- Built on quayside and transported using tugs
- 1:10 scale of 6MW survived 3 typhoons with no damage

Twin turbine device - NEZZY²

Going higher may not reduce LCoE



- Two 7.5MW turbines on one platform
- Counter rotating blades
- 87 metres hub height
- Self aligning downwind
- Low centre of gravity makes it very stable
- Electricity from Nezy² is 30% cheaper than from a single 6MW
- Cost will be competitive with fossil fuels without subsidy

LCoE comparison of single 6MW v 2*7.5MW

Mean wind speed	SCDnezzy 6.0MW		SCDnezzy ² 2x 7.5MW	
[m/s]	High [€/MWh]	Low [€/MWh]	High [€/MWh]	Low [€/MWh]
8.5	118	107	82	76
9.0	109	99	76	70
9.5	103	93	71	65
10.0	98	89	66	62
10.5	94	85	63	59
11.0	90	82	61	56

Commercialising NEZZY² in Ireland

- 1:36 scale test in LIR tank in Cork successfully completed
- 1:10 scale sea test at Smartbay Galway is essential
- Full scale unit to be tested in Irish Sea 2023 for 3 years
- Planning application for serial production plant starting 2023
- Subsidies for testing only are essential

Critical action to achieve an offshore industry

- Ireland must take risks and must invest in floating technology
- Strategic Irish companies should review their investment criteria
- Must start with licensed technology. IP gained will be shared
- R&D and learning will result in new products etc
- Does it make sense to pay millions in fines when a long term solution is available but in need of support?

Suggestions that may help

- Single agency co-ordinating all aspects of offshore energy, properly funded, should be set up
- Fully fund the testing of offshore floating technology
- Get EU to fund grid connections to Europe
- Invest in R&D to make hydrogen from salt water

BluWind - a small company with big ideas!!

- We have strong and consistent winds
- We have the best technology for water depths 50 – 200M+
- We have the market, supply chain and consortium partners

- Ireland needs solution to emissions
- Ireland needs a new indigenous industry and new tax stream

- Yes together we can make Ireland a centre of excellence

Critical message for Ireland Inc

If we fail to build our own production plant:

We will not generate jobs in Ireland

Our supply chain will have no gain

We will not gain any IP

Large loss of revenue

We will develop our natural resources but the gain will go to other countries

Questions?

For further information

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