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ScaleWind JIP

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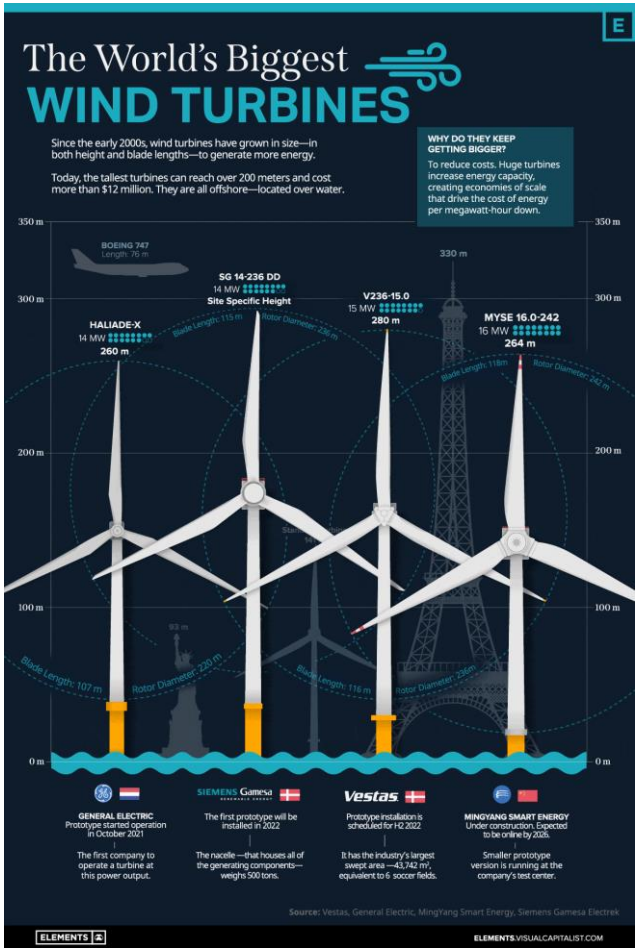
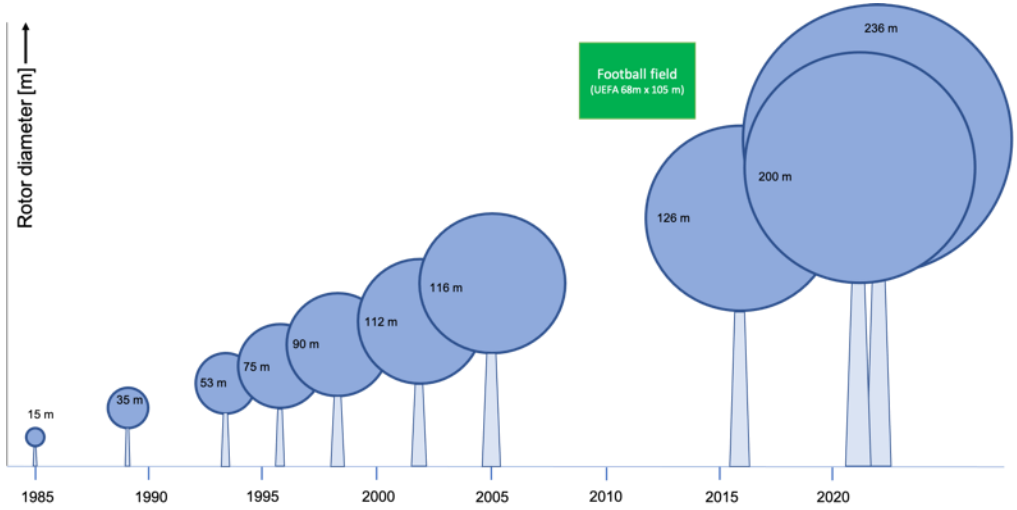
ScaleWind JIP Background

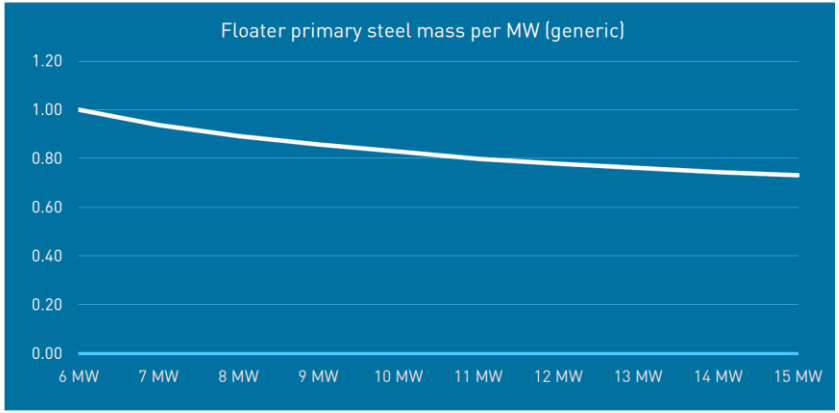




ScaleWind JIP Background

To reduce the LCOE, turbine sizes (FOWT) are increasing to 15 MW and larger 20/25MW???:

- Steel mass (and cost) per MW reduces
- Mooring cost per MW reduces
- Marine operation cost per MW reduces
- No technical limits to go bigger (yet)



Source: Carbon Trust / FLW JIP – Phase 2 summary report

ScaleWind JIP Background

This increase in turbine size comes with many challenges;

- Smaller floater Vs turbine, will result in more flexible response of the complete system (Floater, tower, blades, mooring system)
- This should be modelled accurately especially as a FOWT will be series build
- The risk of operational cost later in the design life needs to be balanced against the aim for lower LCOE.

ScaleWind JIP Objective

Is to develop a widely accepted floating wind turbine design assessment methodology that leads to efficient design convergence and reduced operational uncertainties for large scale floating wind

ScaleWind JIP structure

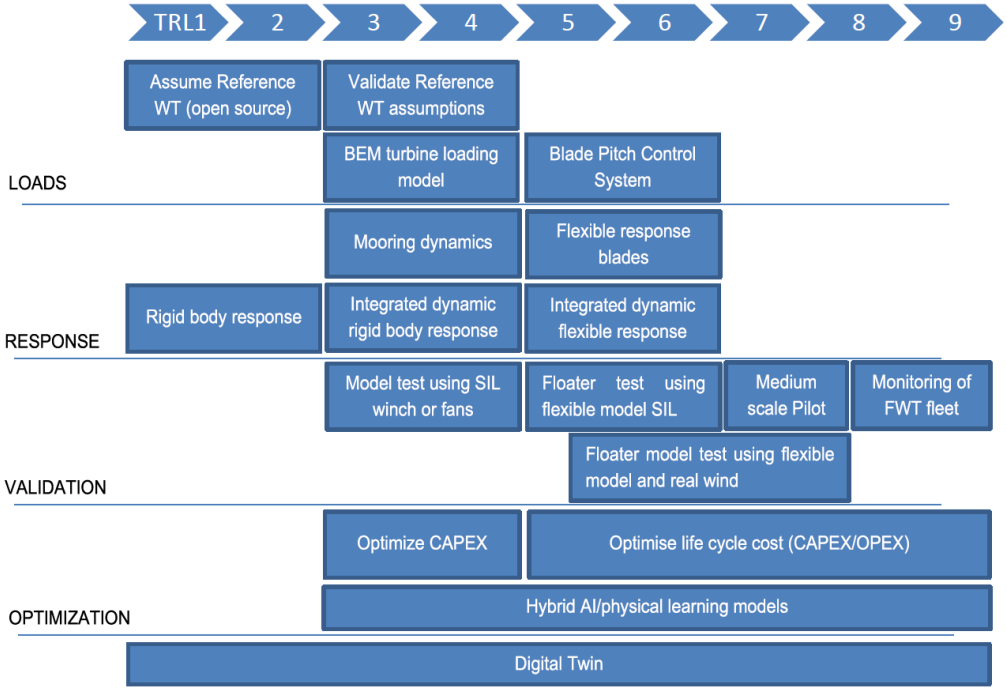
WP1 Overall evaluation of current design practices and standards

WP2 Review of turbine design parameters

WP3 Step by step numerical methodology of FWT response

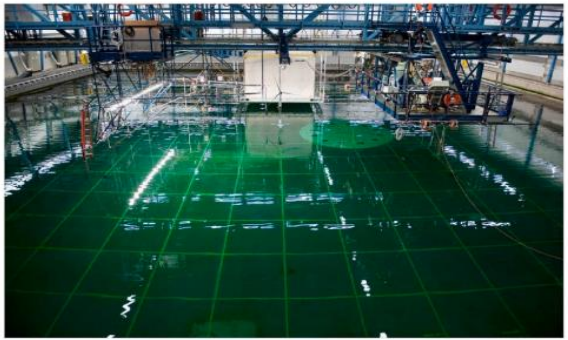
WP4 Stepwise validation of flexible response

WP5 Identification of design challenges for larger scale FWT



Project Outcomes

- Step by step design approach across TRL levels
- Implicit validation of open source wind turbine designs with manufacturers
- Step by step validation method for integrated flexible response of tower, floater and mooring
- Dataset with example of results for a generic floater and tower design



JIP Partner involvement

- We encourage JIP partners to actively participate in this JIP!
- The aim is to discuss a methodology and apply this method to generic floater design, thereby avoiding specific FWT design details.
- The focus is on an industry wide design methodology that helps designer and end-users to assess large scale floating wind turbines in a pragmatic manner

Budget and Next steps

- Project budget 1.2m Euro
- Participation fee between 30 and 60k Euro (or party in-kind)
- The project will also apply for funding in US, EU and the Netherlands

If you have feedback on this proposal or if you want to discuss, please contact us!

Thank you very much!

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