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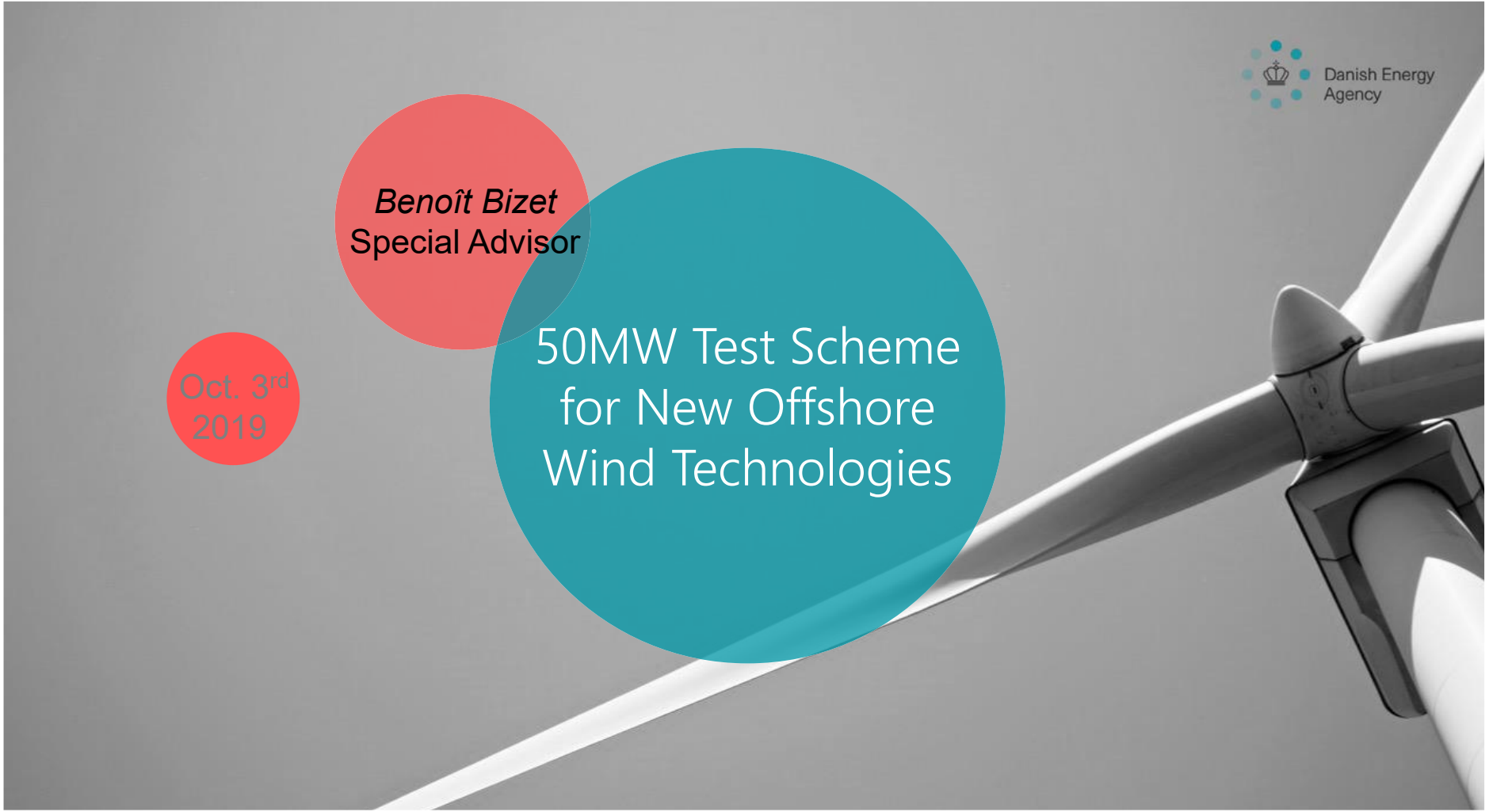
Danish Energy Agency
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50MW Test Scheme for New Offshore Wind Technologies

Introduction
A Political Framework

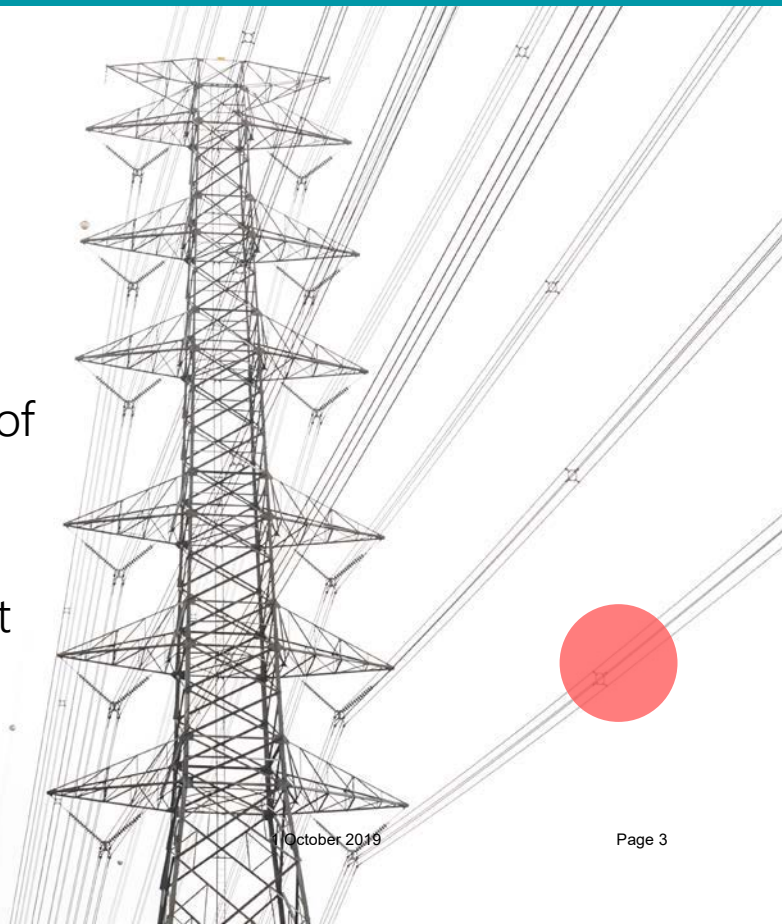
Part of the political agreement from 2012 committing to ta pipeline of 1,400 MW of offshore wind power to be deployed by 2020

- Horns Reef 3 (400 MW) – In operation
- Kriegers Flak (600 MW) – In development
- Vesterhav Nord & South (170 & 80 MW) – In development
- Test Scheme (50 MW) – 28 MW in operation

About the Scheme

The Overall Set-up

- The main purpose of the scheme was to contribute to reducing production costs of electricity produced from offshore wind
- Anyone meeting the requirements/objective of the scheme could apply
- Applicants must document an incentive effect



About the Scheme

The Subsidy Set-up

- *Selected project are supported with a Contract for Difference of approximately USD 100 / MWh*
- *The subsidy is provided for a production corresponding to 48,794 full-load-hours (about 12 years)*
- *The exact number of supported full-load hours is calculated based on the wind turbine type with a weighting of respectively 70 and 30% on the rotor and the generator of the turbine corresponding to 48,794 for a SWT 7.0-154*
- *No aid granted for negative prices*

Minimum Criteria

- To ensure that the commitment is only granted to applicants that will be able to commission, maintain and de-commission the project(s)

- Applicants must document technical, economical and financial capacity to receive the licences necessary pursuant to the Promotion of Renewable Energy Act:
  - Licence for preliminary investigations
  - Licence for construction
  - Electricity production licence

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Assessment Criteria - I

- To ensure the potential for development and the commercial perspective of the project(s)
- Emphasis on the significant potential to reduce production costs for offshore wind turbines. Hence the project(s) must:
  - Contain innovative technological development
  - Be technically feasible
  - Be in full scale

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Assessment Criteria - II

- Emphasis on the significant commercial perspective. Hence the project(s) must:
  - Meet the demand in the market
  - Enable certification/standardization
  - Have a diversity in the test elements. The more technologies, the more the project will promote the long-term commercial perspective

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Evaluation and Granting of the Aid

The Subsidy Set-up

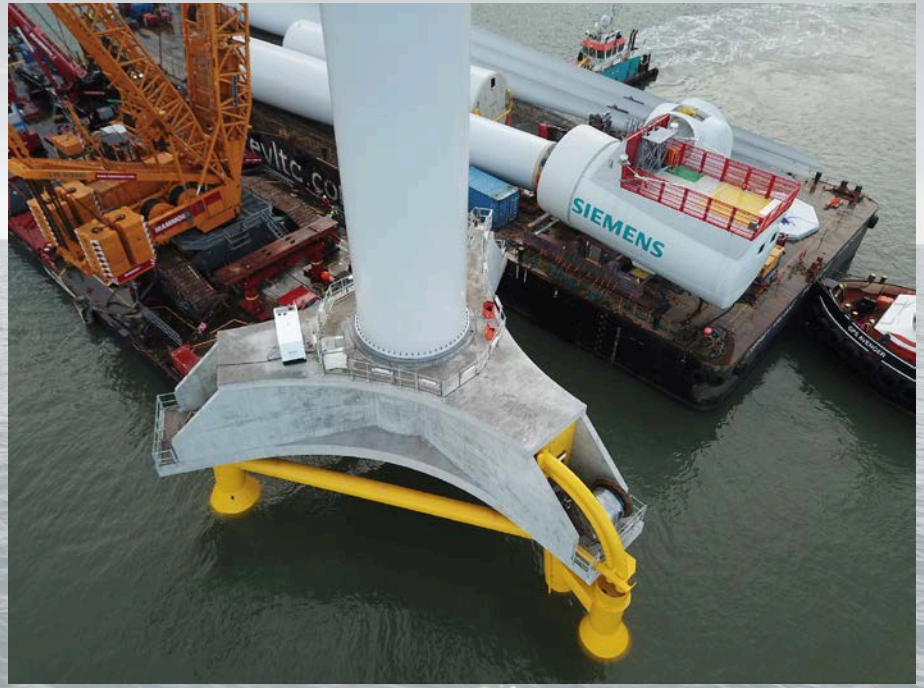
- *Assessment by the DEA and selected external evaluators based on the specific criteria, agreed on granting aid to I/S Nissum Bredning Vind*
- *Potential saving of the project of about 12.5% on both CAPEX and OPEX*
- *Main contributors: cable types and installation method, jacket foundation concept, slender tower and turbines sensors & algorithm*

I/S Nissum Bredning Vind

A 28 MW Project: "Testbed for New Technologies and Integrated Design"

Main test elements:

- SWP gravity jacket
- concrete transition piece
- slender tower
- 66 kV solution
- turbine sensors & algorithm



Conclusions / Looking Ahead

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- With this test pilot project in Nissum broad, Denmark became an exposition window to the global wind industry
- Inter-governmental forum to discuss the possibilities to coordinate test projects in Europe in order to avoid simultaneous tests of similar elements


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Thanks!