

The major breakthrough for standardization is imminent

Wind Energy Denmark 2018

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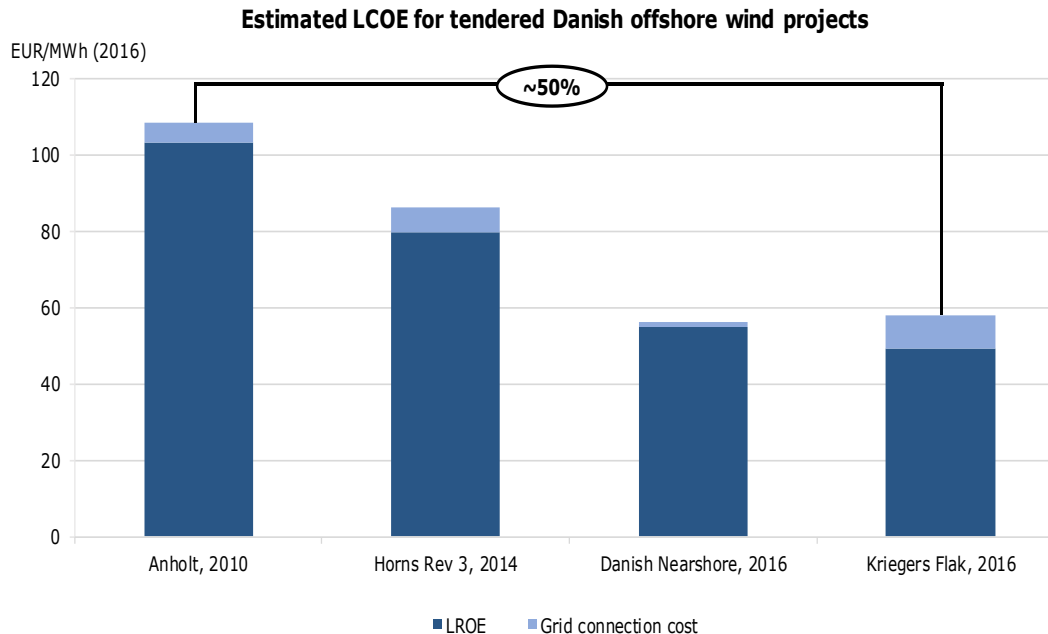
Before
Now
After

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UDDANNELSE <<>> FORSKNING <<>> DEMONSTRATION

Why reduce cost in the value chain through standardisation

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Source: Danish Wind Industry Association

Notes: Projects by auctioning year. LCOE estimated by using LROE as proxy. Levelized revenue of electricity (LROE) = Revenue estimate at final investment decision using winning CfD strike prices, contract duration and a power price assumption. Grid connection cost reflect the levelized cost covered by the TSO outside the scope of the tender.

- LCoE reduced by 50% within few years
- Subsidy free project bids
- Supplier and WTG manufacturer request
- How to proceed and cooperate?

Major breakthrough for standardisation is imminent

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- Why a “hot” and “not” list?
 - Wind turbine generator
 - Balance of Plant
 - Operation & Maintenance

Wind turbine generator including balance of plant

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Hot list:

- Common Foundation interface
- Common Boat Landing system
- Common Local Sourcing
- Casted Components:
- Tower welding
- Common Steel sourcing and Flange sourcing
- 33/66kV
- Tower diameter production capability:
- Foundation design
- Array Cable
- Substation

Wind turbine generator including balance of plant

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Not list:

- Blades
- Hub
- Nacelle
- Controls and controller software
- Installation above tower top flange

Operation & maintenance

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Hot list

- Installation / transport:
- O&M standardisation:
- Health Safety Environment related sourcing
- De-commissioning

Not list

- Scheduled and unscheduled service
- Transport and installation, only when turbines are installed will there be O&M

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- All can participate
- All can come with new ideas
- Energy Innovation Cluster (EIC)
- VMI

Cooperation - Coordination -

Collaboration