Markedsutsikter innenfor offshore vind

Offshore Wind Energy – Science meets Industry
29. januar 2019, Kristiansand

Jon Dugstad, Director Wind & Solar
Norwegian Energy Partners
Eksponensiell vekst!
Future offshore wind will be cost competitive
120 GW i 2030

Global Offshore Wind Market Set to Grow Sixfold by 2030

IEA chief predicts potential 350-GW market for offshore wind
By 2030 the market will be truly global

Strong growth in established and new offshore wind power markets
Installed capacity, GW

Source: Bloomberg New Energy Finance (BNEF), 1H 2018 offshore wind market outlook

Globally
- Installed capacity by 2023: 61.3GW
  - from 18.5GW end 2017
- 19% growth annually
  - up from 16% to ‘22

Europe
- Installed capacity by 2023: 35.2GW
- Annual growth expectations doubled since 2017 report

Asia
- Installed capacity by 2023: 23.9GW

North America
- Installed capacity by 2023: 2.1GW
Nok til alle?

160 mrd EUR til 2023

Source: BVG Associates

Source: BVG Associates – NORWEP Annual global offshore wind market report 2018
Nok til alle?

5.440 mrd kroner

464 mrd EUR CAPEX til 2027

- 96% 2013
- 4% 2022

80 mrd EUR OPEX

Source: Douglas Westwood World - Offshore Wind Market Forecast 2018-2027
Hva kan vi levere?

“There will be huge demand for new innovative offshore solutions and expertise with a global reach as offshore wind is expanding into new markets.”

Stor global utbygger av havvindparker
Hva kan vi levere?

Source: BVG Associates

- Project development, 3%
- Rotor, 9%
- Drivetrain, 6%
- Electrical systems, 10%
- Auxiliary systems, 3%
- Assembly, 1%
- Tower, 4%
- Foundation, 14%
- Array cable, 2%
- Transmission, 10%
- Transmission, 5%
- Planned maintenance, 7%
- Unplanned service, 9%
- Other OPEX, 3%
- Transmission OPEX, 5%
- Array cable OPEX, 2%
- Transmission OPEX, 5%
- Other OPEX, 3%
- Planned maintenance OPEX, 7%
- Unplanned service OPEX, 9%
- Transmission OPEX, 5%

More information provided by Norwegian Energy Partners.
Industry structure

Industry participants and global reach

Development surveys and studies

Turbine tower supply

Foundation supply

Substation supply

Cable supply

Turbine and foundation installation

Turbine and foundation installation

Turbine and foundation installation

Cable installation

Offshore logistics

Cross cutting activities

Turbine maintenance

Structural inspect and repair

Wind farm operation

Source: BVG Associates
Flytende vind kommer...
Flytende vind kommer...

<table>
<thead>
<tr>
<th>Wind Farm Name</th>
<th>Country</th>
<th>Capacity (MW)</th>
<th>Commissioning date</th>
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<tr>
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<td>2017 (in operation)</td>
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<td>Portugal</td>
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<td>DemoSATH</td>
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Hvem selger vi til?

Source: WindEurope
Vi kan skape en stor norsk havvindindustri!

- Norsk markedsandel fra 5 til 10% i 2030
- Internasjonal omsetning 3-doblet neste 10 år
- Omsetning nærmer seg 50 milliarder i 2030
Hva skal til?

Konkurransedyktige på kvalitet og pris
Endringsvilje og - evne
Innovative
Industrialiseringsevne
Kremmerinnstilling
Tilstedeværelse
With a little help from your friends...

Denmark assists China taking a quantum leap in offshore wind

Danke and the U.S. Agree to Strengthen Cooperation on Offshore Wind

What's New

MOEA welcomes Taiwan-U.K. offshore wind power cooperation

Minister of Economic Affairs Jung-Chih Shieh and U.K. Minister for Investment at the Department for International Trade Graham Stuart witnessed the signing of a memorandum of understanding on cooperation in the field of offshore wind farm development between the British Office Taipei and the Taiwan Offshore Wind Turbine Foundation and Marine Engineering Association (T-Wind Marine Association) at the Taipei Fullerton Hotel on April 9, 2018.
Mulighetene er enorme, bare begrenset av vår egn evne til å utnytte dem!

Jon Dugstad
Director Wind & Solar

jon.dugstad@norwep.com
@jondugstad
www.norwep.com