Bringing competitive clean offshore wind energy to Japan

Tokyo, 2 November 2012
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Who we are and what we do

Bonheur (Listed OSE) ↔ Ganger Rolf (Listed OSE)

58% ↔ 21%

Renewable Energy
- Fred. Olsen Renewables
- Fred. Olsen United
- Universal Foundation
- Fred. Olsen Windcarrier
- Global Wind Service

Energy Services
- Fred. Olsen Production (Listed OSE)
- Fred. Olsen Energy (Listed OSE)

Shipping
- Fred. Olsen Cruise Line
- Knock Tankers
- Harland and Wolff

20 years
- 40 years
- 164 years
Current energy situation in Japan

- Prior to tsunami in 2011, 30% of all electricity was generated from 54 nuclear reactors, with goals to increase to 40%
  - Currently, only two reactors are running
  - Plan to discontinue nuclear by 2030
- Increasing importation of expensive LNG
- Political aim to triple share of renewable energy to 30%
- No shale gas

We believe there is an excellent potential for wind as a new major source of energy in Japan
“Simplistically the world can be divided up into have-shales and have-nots, and then the relative attractions over time of wind and solar in those regions can be assessed. Countries such as the US are obvious beneficiaries of shale, while countries such as Japan seem to be disadvantaged with limited resources and high imported gas prices. This would suggest a stronger push down the renewables route is likely for the latter…”

About Japan:
“...On our analysis, wind power is likely already cheaper than gas-fired power.”

Citi Research report 12 Sept. 2012:
*Shales and renewables – a symbiotic relationship.*
Good wind resources and abundance of shallow water areas
The Law for Feed-In Tariff (FIT) was approved on August 26, 2011.

The recommended rate of FIT has been announced by the special committee.

The Law for FIT became effective from July 1, 2012.

The decision by General Marine Policy Head Quarter for “the promotion of marine renewable energy” was announced on May 25, 2012.

1) Equates to approx. NOK 1.60 or EUR 0.22/kWh
Wind Power in Japan

Around 2.5 GW installed power (onshore)

Kamisu Wind Farm (14 MW) is the only operational wind farm “offshore”

Three turbine manufacturers in Japan:

- JSW The Japan Steel Works, LTD.
- MITSUBISHI HEAVY INDUSTRIES, LTD.
- HITACHI Inspire the Next
How can Fred. Olsen United contribute to developing Japan’s offshore wind resources?

We see a role for Fred. Olsen within:

- Foundation design
- Logistics, marine operations and installation
- Project management
Proprietary Suction Bucket design technology – ideal for Japanese waters

- Relatively light steel construction
- Well documented for a large range of soil conditions
- Capable of large turbines and deep waters
- Efficient and quiet installation
- Earthquake resistant
- Low lifecycle costs and easy removal
Building on 164 years experience from logistics, marine operations and installation

Brave Tern, dedicated turbine installation vessel, soon to be followed by Bold Tern

Four off Bayard-class crew/service vessels delivered, three to go
Project management capabilities taken from the oil & gas industry
Our value chain in Europe

Legend: Fred. Olsen Partners
Proposed business model in Japan

Legend:
- Fred. Olsen
- Japanese partners
Summary

- We have great belief in the fundamentals for offshore wind as a new, cost efficient and sustainable energy source to Japan.
- Large areas of shallow water call for exploiting the low hanging fruits first.
- Need for exchange of technology and experience to help build a strong domestic industry.
- We are in the process of discussing with solid, long term partner candidates.