



**KEYNOTE ADDRESS BY MR KOW JUAN TIANG,
GROUP DIRECTOR FOR ENVIRONMENT & INFRASTRUCTURE SOLUTIONS,
INTERNATIONAL ENTERPRISE SINGAPORE,
AT THE OFFSHORE RENEWABLE ENERGY CONFERENCE, 24 OCT 2012,
0905HRS**

Professor Boey - Provost and Deputy President of NTU,
Distinguished Guests,
Ladies and Gentlemen,
Good morning.

1. It is my pleasure to join you at the Offshore Renewable Energy Conference organised by the Energy Research Institute @ NTU. To those who have flown in from overseas, a very warm welcome to Singapore.

The growing renewable energy landscape

2. International Enterprise Singapore, or IE Singapore in short, is the government agency responsible for driving Singapore's external economy. We promote international trade and spearhead the overseas growth of Singapore-based companies.
3. Given our small domestic demand and market size, Singapore companies have to look for overseas growth opportunities. This is why we constantly explore new markets and new sectors of opportunities where Singapore companies can contribute to. Offshore renewable energy is one such area. Professor Boey mentioned earlier that there are many partnerships between the private sector and public sector. The conference today is one such example – it is a good platform where academics, companies and the government can exchange ideas and develop the offshore renewable energy sector in Singapore.
4. Today, renewable energy is fast becoming a significant part of the world's energy mix. In 2010, renewable energy sources supplied an estimated 16.7% of global

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final energy consumption¹. Last year, global investments in renewable energy increased 17% to reach US\$257 billion, translating to 390GW of installed capacity (excluding hydro)².

5. There are many reasons for this trend, including the need to mitigate climate change, manage rising fuel costs, diversify energy mix and reduce dependency on fuel imports. The EU has set ambitious 20-20 renewable energy targets to be achieved by 2020. Japan, under the June 2010 Basic Energy Plan, is targeting renewable energy and in particular, it plans to increase solar power from 9% to 20% for its energy mix by 2030³.

Translating Singapore's strengths in oil & gas to the offshore wind industry

6. Amid the different sources of renewable energy, IE Singapore recognises that offshore renewables is an area that Singapore can add value, and in particular, offshore wind. We examine and address this potential in our Offshore Wind IE Insights, a market paper published this week.
7. The offshore wind market has tremendous growth potential. Annual investments in offshore wind power are expected to increase from US\$3.7 billion (€2.8 billion) in 2011 to US\$13.6 billion (€10.4 billion) in 2020⁴. European countries like the UK and Germany are currently the dominant players. Asia too, is starting to embrace offshore renewables. China has set an ambitious target of 5GW to be built by 2015 under its 12th Year Plan⁵. In Japan, Maeda Corp, a civil engineering company, recently announced plans to develop a 60MW offshore wind farm in south western Japan⁶.
8. In the industry, it is widely acknowledged that offshore wind can learn from the oil and gas industry, given the similarity in installation techniques and infrastructures. Singapore is established in the offshore oil and gas industry, accounting for over 70% of the global market share for offshore jack-up rigs and over 20% market share for offshore installation vehicles. This has equipped Singapore companies with strong track records in engineering, and we can translate these capabilities from one industry to an adjacent industry - the offshore wind industry.

¹ Source: REN21. 2012. Renewables 2012 Global Status Report (Paris: REN21 Secretariat)

² Source: REN21. 2012. Renewables 2012 Global Status Report (Paris: REN21 Secretariat)

³ Source:

http://www.brookings.edu/~media/research/files/papers/2011/9/07%20after%20fukushima%20meltzer/110907_japaneseenergypolicy_final.pdf

⁴ Source: European Wind Energy Association (EWEA)

⁵ Source:

<http://www.windpowermonthly.com/go/asiaPacific/news/1134077/Major-turbine-makers-start-building-big/>

⁶Source:

<http://www.bloomberg.com/news/2012-10-11/maeda-to-develop-60-megawatt-offshore-wind-farm-in-japan.html>

The Singapore advantage

9. Currently, offshore wind energy investments are very capital intensive and rely heavily on government subsidies. The estimated CAPEX of a 400MW windfarm is around US\$1.76 billion (€1.35 billion). In comparison, the CAPEX for a gas-fired power plant more than twice this capacity is US\$960 million (£600 million)⁷, about 1.8 times lower. Cost is clearly an issue. If Singapore can translate the efficiencies we have built up in the oil and gas industry, and transfer this knowledge to the offshore wind industry, we will be able to contribute and create value in the offshore renewable energy industry.
10. With experience in oil and gas, Singapore companies can offer efficiencies that help reduce costs for offshore wind. Many have proven experience in marine contracting, installation and fabrication, as well as own and charter vessels for the offshore environment. One good example is Keppel, who built a new-generation wind turbine installation vessel, Seafox 5, using their proprietary Multi-Purpose Self-Elevating Platform design. Seafox 5 is built to withstand harsh conditions in the deeper waters of the North Sea and will soon be deployed to work on the Dan Tysk offshore wind project.
11. We hope to encourage more partnerships between Singapore companies and key stakeholders like project developers, turbine manufacturers and installation companies. Through platforms like today's conference, we hope to bring more players together and look at the opportunities in this area.

Conclusion

12. Offshore renewable energy is an exciting industry that requires companies and academics to come together to discuss growth trends, and new, practical solutions. The industry needs to build capabilities. We need to enhance existing capabilities through greater research, innovation, and increased productivity. This conference is a useful platform that allows us to learn from one another and share best practices.

13. I hope all of us present today can take the opportunity to make new contacts and kick start new conversations. I wish you a fruitful conference and to our foreign delegates, enjoy your stay in Singapore. Thank you.

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⁷ Source: <http://www.carringtonpower.co.uk/faq/>

For media enquiries, please contact:

Ms CHENG Kiat Loon

Divisional Director (Media), Corporate Communications Group

DID : + 65 6433 4465

Hp : + 65 9799 0904

Email : cheng_kiat_loon@iesingapore.gov.sg

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IE Singapore attracts global commodities traders to establish their home base in Singapore. Today, Singapore is a thriving trading hub for the energy, agri-commodities and metals & minerals trading clusters.

Through our Global Company Partnership, we work with Singapore-based companies to customise total solutions in capability building, market access and financing for their internationalisation.

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