

**SPEECH BY DR JOHN KEUNG, CEO BCA AT SOLAR PIONEER AWARDS
CEREMONY 2014 AT SANDS EXPO AND CONVENTION CENTRE ON 28
OCTOBER 2014, 1405 HRS**

Distinguished guests

Ladies and Gentlemen

Good afternoon

Introduction

1. I am pleased to join you at this year's Solar Pioneer Awards Ceremony which marks another key milestone in Singapore's exciting journey to ramp up solar adoption.

Global Renewable Energy Market Outlook

2. In 2013, global renewable energy generation capacity expanded at its fastest pace to date¹. The quantity of renewable energy generated around the world is now estimated to be on par with the energy generated from natural gas, and is expected to rise by another 45%, thereby contributing nearly 26% of global energy generation by 2020.²

3. Among the various renewable energy sources, solar energy is deemed as the most promising, especially with the sharp reduction in the cost of solar technology. The average cost of solar panels has plummeted by about 60% in the last three to four years³. This is driven by new developments in solar technology and manufacturing processes, economies of scale as well as new financing models. Such cost reduction means that many solar projects around the world are now considered sound investments, often without the need for any government subsidies.

4. Globally, the centre of gravity for market development has shifted from the West to Asia which is now the largest solar market in the world. Consequently, we are seeing many global solar companies increasing their focus on Asia, which includes the growth markets in China, Japan, India and Southeast Asia.

Solar Adoption Gaining Strong Momentum in Singapore

5. In Singapore, the solar adoption movement is gaining strong momentum, driven by competitive costs of solar energy and pervasive sustainability practices. The growth has been led by the pioneering efforts of public sector adopters such as HDB, PUB and JTC, as well as private sector adopters, including Sheng Siong Supermarkets, Pratt & Whitney and the Singapore American School. One good example is the 707kWp (kilowatt-peak) PV system installed at Singapore Sports Hub which enabled it to actively reduce its carbon footprint. These private sector pioneers were recognised for their efforts over past years with the Solar Pioneer Award.

6. Earlier this year, the Government announced the plan to raise our solar adoption of solar power to 350MWp (megawatt-peak) by 2020. One major initiative to

¹ International Energy Agency

<http://www.iea.org/Textbase/npsum/MTrenew2014sum.pdf>

² Clean Technica, "Renewable Energy Growth Set to Slow Amidst Political Uncertainty"
<http://cleantechnica.com/2014/08/29/renewable-energy-growth-set-slow-amidst-political-uncertainty/>

³ Computerworld, "Solar power installation costs fall through the floor"

<http://www.computerworld.com/article/2486908/emerging-technology/solar-power-installation-costs-fall-through-the-floor.html>

achieve this is through the SolarNova programme, where EDB will coordinate and aggregate the lead demand by government agencies. We believe that the government-led demand will build the capabilities and track record for the private sector to do likewise.

7. The solar revolution in Singapore is indeed speeding up and we are very excited about the opportunities ahead. Compared to past Solar Pioneer Awards where the system size of awarded projects were in the range of 1MWp (megawatt-peak), we are now looking at much larger system sizes from the award winners this year. Another example is the Housing and Development Board (HDB)'s on-going solar leasing tenders, the latest one also being its largest to date at 20MWp (megawatt-peak), which will be installed on the rooftops of 500 HDB blocks in Singapore. This 20MWp (megawatt-peak) tender affirms that solar leasing companies are able to sell energy at a price level lower than conventional power, and Town Councils can now enjoy energy savings without government subsidies. From now till end 2015, we expect Singapore to install 80 to 100MWp (megawatt-peak) of PV systems across the nation.

8. Today, let us put our hands together to honour the latest batch of Solar Pioneer Award winners. They are:

- **Cambridge Industrial Trust**
- **Katoen Natie Singapore (Jurong) Pte Ltd**
- **Tech-Link Storage Engineering Pte Ltd**
- **United Technologies Corporation**
- And with special mention going to **Mr George Lim**

Mr Lim has pioneered the adoption of residential solar PV at 6 private houses. Congratulations to all the winners.

9. The Solar Pioneer Award winners today reflect another trend in Singapore, that is, many building owners have progressed from installing solar PV systems on individual buildings to installing PV systems on numerous buildings at the same time, to achieve economies of scale. Overall, if a building in Singapore has a sufficiently large roof space, it now makes commercial sense to install solar systems to help generate clean energy to power the building. I would like to strongly encourage building owners of industrial facilities, warehouses, data centres and commercial buildings, to look at solar energy more seriously, if you have not already done so.

10. With the falling cost of solar electricity, innovative business models have emerged to help building owners defray the high upfront costs of owning solar assets. Other than direct ownership of solar systems, the solar leasing business model has quickly gained ground in Singapore where building owners will pay for the solar electricity rather than the system. Over the past year, many companies such as **LYS Energy, Solareo, Solar Horizon** and **PV Exchange** have established their global homes in Singapore to serve this market. Moreover, Singapore has also attracted companies such as **Upsolar, Belectric** and **Blue Circle** to use Singapore as their hub to drive their business growth in the region.

Solar Energy contributing to Singapore's Green Building Push

11. The Building and Construction Authority (BCA) recently unveiled the third Green Building Masterplan which will position Singapore as the leader in green buildings in the tropics and sub-tropics. This ongoing solar revolution is expected to make a meaningful contribution to Singapore's target of having 80% of all buildings, island-wide certified with Green Mark by 2030. Currently, there are already close to 2,200 Green

Mark building projects in Singapore, which is about 26% of our total building stock, and there is a growing uptake of the Green Mark certification not only in Singapore, but also regionally. Solar energy, when integrated into a building with energy efficient systems, can reduce carbon emissions, reduce reliance on conventional energy, enhance the overall value of the building, and more importantly, result in cost savings in the long run.

12. BCA's Zero Energy Building (or ZEB in short), which turns five this October, is a fully energy self-sufficient building that generates its own energy through the use of Solar PV. I'm proud to share that to date, it has continued to achieve not just net zero but net positive with surplus energy. The solar PV at ZEB covers an Olympic-sized swimming pool, and is able to generate a net surplus of 62 MWh (megawatt-hour) of electricity so far, which is enough to power 162 flats of about 100 square meters each, for a month. Through this living laboratory, BCA hopes to inspire developers and building owners to consider adopting solar energy as a form of clean and renewable energy to power their buildings.

Conclusion

13. Solar energy is now becoming an integral component of our drive towards more green buildings in Singapore, and it would make strong commercial sense for building owners to consider this viable mean of clean energy to ease operating costs and do their part for environmental sustainability. On this note, I would like to congratulate the Solar Pioneer Award winners for their efforts in solar adoption and in setting a positive example for more companies and building owners to follow suit.

14. Thank you and have a good day ahead.