

**SPEECH BY MR DESMOND LEE, SENIOR MINISTER OF STATE FOR HOME AFFAIRS AND NATIONAL DEVELOPMENT, AT THE GROUNDBREAKING CEREMONY FOR THE NET-ZERO ENERGY BUILDING, ON 7 NOV 2016, 10.10 AM, AT EXHIBITION HALL, SCHOOL OF DESIGN AND ENVIRONMENT, NUS**

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Industry and Research Partners

Friends

Ladies and gentlemen

1 A very good morning to all of you. We saw the Paris Agreement on Climate Change come into force just three days ago. The Agreement is historic in many ways.

2 It is the first universal climate change agreement. It signals the will of every country to manage emissions and safeguard the planet for future generations.

3 Singapore will play our part in this important collective effort. We have committed to reduce our emissions intensity by 36% below 2005 levels by 2030. We also target to peak our emissions by then.

4 This means that we are aiming to reduce the amount of greenhouse gases emitted for every dollar of our GDP by more than one-third.

5 This is an ambitious target for Singapore.

6 Our small size and urban landscape does impose a natural limit on our ability to tap renewable energy. Sea space is limited, so wave and tidal power are difficult to scale. Even for solar power, which has the best potential, it is challenging due to limited roof space.

7 But this does not mean that we cannot think out of the box and push the frontier to find solutions that work, that help us meet the targets that we have set and to play our part to tackle climate change.

8 For example, we announced the launch of the world's largest floating solar photovoltaic system at Tengah Reservoir last month. If successful, it will help overcome our roof space constraints and accelerate solar deployment.

9 In tandem, we also need to do more with less.

10 Energy efficiency is a key strategy in making every bit of energy count and every bit of energy do more. This way, we can continue to grow while managing emissions and protecting our living environment.

11 Singapore is an island. I was at the UN Habitat a couple of weeks ago. Countries, big and small, talked about sustainable housing and sustainable living environment. I made the point over and over again at different sessions that we take climate change seriously because we are an island-nation, and because climate change and sea level rise will have a visible impact on Singapore.

12 Buildings play a big part in this overall story. About a quarter of our emissions and a third of our electricity consumption comes from our buildings. If we can make our buildings more energy efficient, this would be a needle mover.

13 In fact, we target to green 80% of all buildings in Singapore by 2030.

14 We aspire to have new low-rise buildings become net energy producers through the use of solar panels. For taller buildings, it will be harder but even then, we hope to make them super low energy, if not at least energy neutral.

15 The Government will help to create the conditions to make this happen.

16 There are grants and incentives for building owners to retrofit their buildings to make them more energy efficient.

17 There are test-bedding and research opportunities for smart and green building technologies. BCA just awarded \$8.4 million of research grants for smart and sustainable building technologies.

18 One of the projects is a "personality-based" energy management system. This will learn about the "personalities" of building users so that the building's energy use pattern can be optimised based on them. This is important. The usage of energy in the building is very much dependent on the habits of the tenants.

19 While technology can help us to learn the habits and adjust accordingly, equally important is the national drive to make every person in every building exercise responsibility in helping to make a difference to save emissions.

20 Recently, we also launched the BCA Skylab in July to test-bed tropical green building technologies. We are looking forward to seeing that come into fruition, and together with this project, help to bring academic research and translate it into usable and important ideas that the industry can implement.

21 The Government can do these things but it needs partners such as NUS.

22 In 2009, NUS collaborated with BCA to build Southeast Asia's first Zero Energy Building at the BCA Academy – one of the first buildings I visited when I joined MND.

23 Today, the Net-Zero Energy Building that we are groundbreaking at SDE uses the latest green technologies. It will have a rooftop solar panel that can generate enough energy to offset the entire building's needs. It also incorporates an innovative, efficient cooling system to reduce the energy needs of the building while still keeping occupants comfortable.

24 The Net-Zero Energy Building will be a living laboratory for green technology.

25 Our future architects, designers, project and facilities managers, and real estate professionals will use the design studios, laboratories, workshops, and spaces for collaborative learning, in a way that mirrors the important collaboration that we need to see in the Built Environment sector in Singapore, using technology to help partnership work upstream.

26 Our researchers and industry partners will use this important space to collaborate on green technologies that are designed for our tropical climate. Even visitors can spend time at an "energy cockpit", which will show the building's energy information in real time.

## Conclusion

27 I encourage more research institutes and industry leaders to follow NUS' lead in looking at energy efficiency. This is a strategic push that can have hugely beneficial impacts on Singapore.

28 Altogether, we can help create a sustainable and climate-friendly future for all of us. On that account, I would like to congratulate NUS and all the donors and partners for this very important project. I look forward to seeing it come to fruition soon.

29 Thank you.