

Professor Heng Chye Kiang, Dean for School of Design and Environment, NUS
Distinguished Guests
Ladies and gentlemen

INTRODUCTION

A very good evening to all of you. I thank Professor Heng and the School of Design and Environment for inviting me. It is a great honour to have this opportunity to speak with you.

2 First of all, let me just join Professor Heng to congratulate every student seated here in this hall for participating so enthusiastically in this programme. You have put your skills, creativity and imagination into designs for a model home for the people of Xinxing Harbour Village. Your designs have considered how best to merge the village with its surrounding natural environment. This is very important because genuinely sustainable homes of the future have to be homes that are connected to and are mutually supportive of nature and the broader environment in which it resides.

3 The environment we operate in today, and certainly the one that we will face tomorrow, is very different and far more complex from that of the past. Cities today still face the challenges of increasing resource-constraints coupled with rising population density. These cities also have to contend with the added complexity of global climate change. After many decades of debates, scientists now agree that climate change is a reality that will affect all cities in the world – the only difference is to what degree they will be affected. The most recent report of the Intergovernmental Panel on Climate Change (IPCC) projected that temperatures are set to increase by up to 4.8°C by the end of the century if carbon emissions are left unchecked.

4 Sea levels are also expected to rise and extreme rainfall events are expected to become more frequent and more intense. In Singapore, like in many other parts of the world, we are already experiencing increases in the frequency of heavy rain and also higher mean temperatures. Over the last 60 years, we have observed a rate of warming of 0.25°C per decade.

5 If you think back, I believe most if not all of you, wherever you may come from, would have experienced similar changes to some extent over your life time. Going forward, cities must prepare themselves adequately to deal with the growing impact of these changes. This is where your creativity and imagination as designers and architects can play a big part. Each of you will one day be drawing up blueprints and executing plans to build a house, a block, a town, or even a city – be it in Singapore or elsewhere. These blueprints will determine whether the people who live in them in future can thrive in the midst of these challenges. You will have to anticipate a whole range of futures because there is uncertainty; you have to be sensitive to how human activities and infrastructure can affect the environment, and ensure that the city you plan for is one where people can live in harmony with the earth.

THE SUSTAINABLE SINGAPORE BLUEPRINT

6 In Singapore, we have been trying to be sustainable for the last 50 years. We do not have access to vast tracts of land, or mountains and lakes, and valleys and plains that many of you may have experienced and access back home. It has been our destiny to have a dense ecosystem with very limited natural resources and precious small amount of land. Yet, I believe we have as a country functioned pretty well over the last 50 years and made significant advances in sustainability. We are like a small yacht in a vast ocean – small and compact but fully functional on its own, riding rough seas and making use of favourable winds whenever opportunities arise.

7 Today's Singapore – a clean, green and modern society – is the legacy of our founding Prime Minister Lee Kuan Yew, who had a vision, but credit must also go to the past architects and engineers who

have dreamt big and gone on to design and build their dreams. One example is the Marina Bay, which was created by the construction of the Marina Barrage across the mouth of the Singapore River. This not only created a lovely backdrop for the city, it also became a fresh water reservoir that contributes to our water supply. This was the result of a collaborative vision which Mr Lee and our early city planners had made into reality by monumental efforts to clean up the Singapore River over ten years from 1970s to 1980s. Today's city skyline would have been unimaginable to those who lived in Singapore when we first became independent in 1965.

8 But looking ahead, how do we build on this legacy? What must we do to safeguard our city against our vulnerability to climate change and put in place plans that can serve as a long-term insurance policy for Singapore? Can we create a more liveable and sustainable Singapore in the face of these new uncertainties and risks?

9 We've tried to answer these questions through the Sustainable Singapore Blueprint. This national blueprint helps us realise the future of Singapore as a sustainable city with clean fresh air and water, lush greenery everywhere that we can see; nature reserves and parks within easy reach. In drawing up the blueprint, we tried to answer the following questions:

1. What must we do to be able to live, work and play in our own neighbourhood?
2. What must we do to enable businesses thrive even when they care for the earth?
3. What must we do to make looking after the environment second nature to everyone?

10 Our answer was to design a Liveable and Endearing Home for all Singaporeans, to build a Vibrant and Sustainable City for businesses, and also to promote an Active and Gracious community that has everyone playing a part for environmental sustainability.

DESIGNING TO INFLUENCE BEHAVIOUR

11 Let me say a few words about the last part on an Active and Gracious society and how it can apply to designers and architects. We can always design and create green architectural marvels, but what makes these buildings holistically green is the people living and working in them. By taking into account how design can encourage green behaviour in people, it offers possibilities to reduce our resource impact while improving the aesthetics of our city.

12 Our Building and Construction Authority is a big green advocate for our private sector developments here in Singapore. They have introduced the inaugural Green Mark Pearl and Green Mark Pearl Prestige Awards to spur building owners to have greater engagement with occupants as they contribute up to half of a building's total energy consumption. In future, we hope more of our offices, retail outlets and restaurants will adopt eco-friendly outfits and practices as part of their way of doing businesses.

13 We are also aiming to create "Eco-Smart" Endearing Towns in which we encourage people to lead sustainable lifestyles, to do their part in fighting climate change by incorporating smart technology and features into public housing developments. At the root of this is the concept of designing townships with people in mind – to make it easy for people to be green. For example, by modelling town-level micro-climatic conditions during its planning process, we optimise variables such as wind flow, sunlight, heat and shading. This reduces urban heat and also lessens the need for air conditioning. New public housing flats will also come with recycling infrastructure that will help the residents keep the environment sustainable and clean.

14 Another way in which we have been cultivating ownership for the environment is through our Active, Beautiful, and Clean (or ABC) Waters Programme. Using creative design, we are transforming utilitarian canals and reservoirs into beautiful rivers and lakes with waterfront community spaces for the

public to enjoy. ABC Waters features, such as rain gardens and bio-retention swales, are implemented to slow down the flow of stormwater into canals and also to filter the water at the same time. These features provide pleasing greenery in an increasingly urbanised landscape. Because the community really loves the ABC Waters projects very much, they grow in their appreciation of water and, as a result, actually many have volunteered to help us look after the waterways.

15 I would encourage everyone here to think about motivating green behaviour when drawing up your future blueprints. Buildings on their own are only the hardware and can only do so much. The software which influences the people living and working in them have an equally big impact on climate resilience as well. I hope that you will also give attention to these areas in your future buildings.

CONCLUSION

16 To conclude, I hope you have gained some skills and knowledge, special insights during this two-day symposium and will find occasion to apply them to create a home or a city that you and your future generations can enjoy. Such a contribution will be a lasting legacy that is worth spending your life's work on. I sincerely wish each one of you every success in such endeavours. Thank you.

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