Professor Cheong Hee Kiat, Deputy President and Dean, School of Civil and Environmental Engineering, NTU,

Faculty members and researchers from NTU, Stanford University and other Overseas Partner Universities,

Friends and partners from the Industry and Public sectors,

Ladies and Gentlemen,

Good morning.

It is always a pleasure for me to come back to NTU to see familiar faces and old friends. I look forward to catching up with some of my former colleagues today to find out more about the exciting developments and happenings on campus.

2 I am particularly proud to note that NTU has been continually advancing itself in the local and international realms, and that the School of Civil and Environmental Engineering, which I once was in, has played a key role in the process by developing environmental science and engineering into one of NTU’s core areas of excellence. Today’s NTU-Stanford Symposium, which brings together research scientists, engineers, students as well as industry partners to share and exchange environmental knowledge and innovative know-how, is a testimony to the School’s excellent achievements.
3 As with many other countries in the rapidly developing Asia Pacific region, Singapore faces the challenge of maintaining strong economic growth while preserving the environment. And if you look around at what we have achieved today, you will agree with me that Singapore has and is committed to sustainable growth, where maintenance of clean air, water and land for enhancing the quality of life goes hand-in-hand with economic development.

4 To be able to continue to tackle the challenges of attaining a sustainable environment in Singapore, I believe that research collaborations between research institutions like the NTU and environmental companies are vital in expanding our technology base and enhancing our capabilities. To this end, I am glad that both the statutory boards of MEWR, the National Environment Agency (NEA) and the PUB have MOUs with NTU on joint applied R&D projects which will enhance the state of our environment and water resources as well as their supporting infrastructure and facilities. To date, I understand that there are a total of 36 projects under both MOUs.

5 As Chairman of the National Energy Efficiency Committee, I am keenly aware that developing expertise in energy efficiency technologies and alternative energy is crucial for positioning ourselves to cushion the long term effects of climate change. As you may be aware, currently the harnessing of solar energy using photo-voltaic panels is limited by the high cost as well as the presence of extensive cloud cover in Singapore. I was told that a promising on-going project under the NEA-NTU MOU is currently looking into enhancing the efficiency of converting solar thermal energy to electrical energy using nano-technology. The benefits of a highly efficient solar energy conversion system will help bring down the cost of electrical energy generated. This can make the use of solar energy more economically viable in Singapore and may lead to a fundamental change in the way we use energy in the future.
6 PUB is also involved in the Clean Water Programme, which is an A*STAR funded initiative that has facilitated researchers from NTU, Stanford University and PUB in exploring and developing innovative technologies and ideas relating to water treatment and reclamation. With PUB keeping abreast of research on water treatment and water quality monitoring technologies, Singaporeans can be assured that they will continue to enjoy high quality water in the years ahead.

7 Not only are research collaborations between research institutions and environmental companies important in tackling the challenges of attaining sustainable development in Singapore, it is also critical for giving Singapore-based companies the competitive edge to export their expertise and compete regionally and internationally.

8 Indeed, several commercially viable technologies have sprouted from research collaborations between the universities, research institutions and private companies. One such example is NTU’s partnership with SembCorp, which I understand has resulted in a patent application for Aerobic Bio-granulation Technology for waste water treatment in 2002. Such treatment helps to reduce residual solids after the sludge is broken down. It also results in 20% higher production of biogas, which is a useful fuel for generating electricity. The NTU research team had in fact clinched the prestigious 2003 National Technology Award for their efforts, and I was also told that SembCorp is now proceeding with plans to commercialize this technology soon.

9 To facilitate the translation of R&D projects into industrial applications and commercialization, the NEA had launched the Innovation for Environmental Sustainability (IES) Fund in 2001 to assist Singapore-registered companies in undertaking innovative and test-bedding environmental projects. One of the companies which has benefited from this funding is Lionapex Engineering Pte Ltd, which had proposed the building of a 3-tonnes/day pilot-scale plant to recycle food waste into biogas and bio-fertilisers in Singapore. This is a step
towards the commercialisation of a newly developed integrated food waste conversion system. Another company, GPac Technology, had tapped on the IES fund to develop and test the production of pallets and corner boards using horticultural waste, and has already set up a commercial plant to do so. These are but just a few IES-funded projects, which have crossed over from academic research into commercially viable industrial applications. I am sure many of you would have read in the news today, that just yesterday, Minister Yaacob had visited several on-going test-bedding projects at the PUB’s Bedok Water Reclamation Plant. These are pilot waste water treatment projects which have the potential to be further developed and scaled up into bigger commercial plants.

10 My colleagues and I therefore strongly encourage more of such collaborations between the academia like the NTU, public and private sectors with innovative and vibrant ideas to make Singapore a centre of environmental excellence.

11 I should at this point acknowledge the Singapore Stanford Partnership (SSP in short), a strategic educational alliance which was started in 2003 between the School of Civil & Environmental Engineering of NTU and the Department of Civil & Environmental Engineering of Stanford University. The SSP now conducts one of the region’s better known postgraduate degree programmes in Environmental Science and Engineering and it is the main organiser of this Forum. The SSP, which is also under the Economic Development Board’s World Class University Programme, will greatly reinforce Singapore’s position as a regional centre of environmental research and education.

12 The research papers listed for today at this event span the diverse fields of water resources management, solid waste management, membrane technologies, environmental microbiology, clean energy, marine pollution and
ecosystems, and recycling technologies. These proposals are a result of NTU’s work with Stanford, their collaborations with the National Taiwan University and University of Hong Kong under the Asian Environmental Research Alliance Partnership, as well as with local organisations such as the NEA and PUB, the Institute of Environmental Science and Engineering and the Environmental Engineering Research Centre. The impressive range of research areas is a testimony to the drive and dedication of all involved.

13 I hope NTU’s foreign and local partners will find value in these joint efforts as I am sure NTU does with them. My colleagues and I would also like to urge our local industry, a number of which are here today, to make full use of the many exciting opportunities available as we work towards developing Singapore into an environmental technology hub. I wish everyone here a fruitful and successful Symposium.

Thank you.