Speech by Deputy Prime Minister and Coordinating Minister for National Security and Minister for Home Affairs, Mr Teo Chee Hean, on Climate Change 2015 and National Engineers Day (NED) at the Joint Opening of the World Engineers Summit (WES)

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Distinguished Guests

Ladies and gentlemen

Good morning. First, let me welcome some 800 engineers and climate change professionals from more than 35 countries to this year's World Engineers Summit on Climate Change 2015. We also have school principals and students with us today, as we launch National Engineers Day 2015, an annual engineering festival for our youth.]

Tackling Climate Change – Singapore's pledge

The theme for this year's World Engineers Summit is "Sustainable Urban Development for Global Climate Resilience". Indeed, climate change is a global challenge that cannot be solved by individual countries alone, but requires a global effort by all countries so that the whole world benefits.

According to a 2014 report by the Intergovernmental Panel on Climate Change (IPCC), there is greater certainty that human activities have been the dominant cause of global warming. As a small, low-lying island, Singapore is vulnerable to the impact of climate change. We have already seen changes in our rainfall patterns and temperature: prolonged dry spells, more severe storms, and even hail.

Although Singapore contributes only 0.11% of global emissions, we have been an early-adopter of green policies and technology, doing our part as a responsible member of the international community to manage our greenhouse gas emissions. For example, even though we have serious difficulties in pursuing alternative energy options, we had switched from fuel oil to natural gas, the cleanest form of fossil fuel, for electricity generation early on, in spite of the higher cost. Today, over 90% of our electricity is generated from natural gas. We are also significantly increasing the deployment of solar photovoltaic systems to harness solar energy.

Singapore is among the best 20% of countries in terms of our emissions intensity – we ranked 113th out of 140 countries globally in terms of greenhouse gas emitted per dollar GDP.[1] Earlier this month, Singapore submitted our pledge (or Intended Nationally Determined Contribution, INDC for short) to the United Nations Framework Convention on Climate Change for the post-2020 global climate agreement which is expected to be concluded at the end of this year. We intend to reduce our emissions intensity by 36% from 2005 levels by 2030, and to stabilise emissions with the aim of peaking around 2030. This is a significant commitment for a small country with limited alternative energy options. This requires serious efforts by everyone – individuals, households and businesses alike – to be more energy and carbon efficient.

Because of Singapore's small size and urban environment, we can play a useful role as a living laboratory to test-bed and pilot innovative urban solutions. We can also tap on our strengths in science and technology, R&D, as well as in policy innovation and systems integration. Through these efforts, we hope to develop holistic urban solutions, not only for Singapore, but which can help other global cities that are also grappling with the challenges of climate change.

Climate Change and Engineers

Engineers like you play an important role in addressing our climate challenges, both in mitigating the emission of greenhouse gases, as well as in enhancing our resilience and adaptation to climate change impacts. Solutions developed by engineers are particularly effective and cost-competitive when they are developed through multi-disciplinary efforts. For example, materials, mechanical, electrical and manufacturing engineers can collaborate to reduce the cost and enhance the performance of solar photovoltaic and other renewable energy technologies for deployment. Or, engineers can work with economists and policy analysts to introduce technology innovation, policy measures as well as behavioural change programmes to promote energy efficiency and conservation. Civil and environmental engineers, collaborating with experts in climate science, data analytics, and infocomm technology can design and build infrastructure projects to enhance our resilience and adaptation to climate change.

Platforms such as the World Engineers Summit help facilitate the exchange of knowledge and best practices between engineers, business leaders, policy makers, and other professionals. This not only raises local awareness about climate change, but also promotes international collaboration so that engineers can continue to help build a better future for all of us.

Engineering and Singapore: Building on our strong foundation, creating better lives for the future

In Singapore, the work of engineers can be seen everywhere: green buildings, water treatment and incineration plants, the creation of new land from the sea, transportation networks, high-tech industries, entertainment facilities, and much much more. The Institution of Engineers, Singapore is launching a nationwide search today, for 50 engineering achievements that Singaporeans regard as making the greatest impact in our nation-building. This initiative is timely as Singapore celebrates its Golden Jubilee this year and IES will mark its 50th birthday next year.

Besides recognising what engineers have done to help build the Singapore of today, we should look to the future. Engineers will continue to play a crucial role at the heart of our transformation, to continually improve the lives of Singaporeans. We need engineers to make Singapore a Smart Nation to support more convenient and integrated living. We need engineers to create sustainable

technologies and new products, that will raise the quality of life of our citizens, improve the productivity of our workforce, and create jobs and generate economic growth for Singapore and Singaporeans.

The Public Service is making a concerted effort to build its engineering capabilities, by establishing career paths to attract and retain good engineers, and providing exciting and meaningful work to sustain their interest and deepen their expertise. We hope to attract many more good engineers who will make a tangible, positive difference to the lives of Singaporeans.

Grooming Future Generations of Engineers

To groom future generations of engineers who are well-equipped to seize emerging opportunities and tackle future challenges, Singapore will continue to place emphasis on Science, Technology, Engineering and Mathematics, in our education system.

Beyond giving our students a strong grounding, we also want to expose them to the exciting work done by engineers. With the National Engineers Day 2015 being held concurrently with the World Engineers Summit, our students can interact with engineers, and learn about climate change related solutions through talks and workshops. The inaugural Energy Innovation Challenge also gives students an opportunity to explore and create alternative energy solutions, under the guidance of engineering and business mentors.

I hope that the experience will inspire more young people to choose engineering as a course of study, and eventually as your career. As an engineer, you can play an important part to develop solutions for a better Singapore, and a better world.

I wish all participants a rewarding and inspiring Summit in Singapore. Take the opportunity to network, exchange ideas and make friends. To our international participants, please enjoy your stay in Singapore.

Thank you.

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1 Source: IEA Key World Energy Statistics, 2014. Comparisons based on available carbon emissions per US$GDP data