

# Speech by Deputy Prime Minister Teo Chee Hean at the National Climate Change Competition 2016 Prize Award Ceremony on 4 November 2016

*"Taking Action to Reduce Carbon Emissions, Adapting to Climate Change and Seizing Green Growth Opportunities"*

Distinguished guests,

Ladies and gentlemen,

Teachers and students,

Good Morning,

Climate change is a global problem that can be tackled effectively only if all countries take action. In December last year, 195 countries agreed on the Paris Climate Agreement to reduce global greenhouse gases. Negotiators then brought the Agreement back to their countries for their own national processes. 92 countries, including Singapore, which together account for about two-thirds<sup>1</sup> of global emissions, have completed these processes. I am glad that we now have critical mass for this important Agreement to come into effect.

Singapore is proud to have helped negotiate this complex international agreement, and bring it into force. International organisations looking after the aviation and maritime sectors have also agreed to reduce emissions from air travel and shipping. The fact that many countries are taking action reflects the urgency and our collective resolve to address climate change. There is much work to be done as we develop low-carbon societies. We must reduce our own carbon emissions and adapt to the impact of global warming. In doing so, there are also new economic opportunities for Singapore. Let me elaborate.

## **Taking Action to Reduce Carbon Emissions**

First, we must make good our international commitment. Even though Singapore accounts for only 0.12% of global emissions, we will have to do our part. Collectively, we can address climate change only if all countries make good their commitments. Singapore has pledged to reduce our emissions per GDP dollar – which means that as we grow our economy, we are more efficient in our use of energy – by 36% from 2005 levels by 2030, and to stabilise our absolute emissions and aim to peak our emissions around 2030.

The commitment we have made is an ambitious one given our resource constraints and limited options for renewable energy. Power generation is a key source of greenhouse gas emissions in Singapore. We have already switched over 95% of our power generation from fuel oil to natural gas. We are making big strides to use more clean energy sources such as solar energy, by installing panels on rooftops. HDB and EDB are pulling the demand from different agencies together. This way, instead of each school, polytechnic or government agency calling individual

tenders, we can achieve more by working together. By end 2016, we will have 900 HDB blocks with solar panels. This will increase to at least 5500 HDB blocks by 2020, which will provide enough electricity to power 55 000 4-room flats. <sup>2</sup> We are even piloting floating solar panels on our reservoirs. In a few years' time, our reservoirs will provide not only water, but also a source of renewable energy. If we put our hearts and minds together, we can stretch the possibilities.

The Singapore Government will also put in place incentives, capacity building programmes and regulations to encourage companies to reduce their energy usage. Many of these initiatives are outlined in the Climate Action Plan released in July this year.

The Government is further looking into areas where potential reductions in carbon emissions can be achieved. For example, we are planning to enhance the monitoring and reporting requirements for big industrial users of energy. We will be consulting these companies on ways to verify and check the data they have submitted, similar to what is practiced in other advanced economies. These will help our companies better monitor their energy efficiency performance. With more accurate data, companies can also incorporate energy and fuel efficiency considerations early in their decision-making processes and take action. This will help lower the use of electricity and fuels, and provide companies with cost savings.

As our companies tap into the Digital Economy, we are also mindful of the energy use by our data centres. A 2014 study <sup>3</sup> commissioned by the National Climate Change Secretariat and the National Research Foundation found that the 10 largest data centres in Singapore use as much energy annually as 130,000 4-room HDB households. The Info-comm and Media Development Authority (IMDA) and Buildings and Construction Authority (BCA) have already introduced initiatives to encourage energy efficiency in the design, operations and management of data centres. We are optimistic that on-going research on new cooling technologies can help reduce their operating costs and cut emissions at the same time.

As the government and the private sector look at measures to reduce emissions, consumers, individuals like yourselves have an important role to play. Buy the more efficient 4-tick refrigerators. Use fans. Replace old bulbs with LED lighting. Switch off appliances when not in use. Take public transport. Many of you have contributed good ideas in the videos submitted in this competition. Our students here can help encourage your friends and parents to pick up environmentally-friendly habits.

## **Adapting to the Impact of Climate Change**

Besides reducing our greenhouse gas emissions, Singapore is also preparing to adapt to the impact of climate change. As a low-lying city state, we will be particularly vulnerable if sea levels were to rise significantly.

The Second National Climate Change Study has projected that the average temperatures in Singapore may increase up to 4.6 degrees Celsius by the end of this century. Sea-levels could rise by up to 1 meter by 2100 if no actions are taken. The contrast between the wetter and drier months could be more pronounced. Warmer temperatures may also be more conducive to the breeding of mosquitoes, which are vectors of diseases such as dengue.

The Climate Action Plan gives a preview of our plans to protect Singapore and Singaporeans from

the adverse impact of climate change. For a start, we are developing a heat index which will help Singaporeans better plan their outdoor activities, a fire probability index to help our emergency response agencies to avoid bush fires during the dry seasons.

However, unless the global community reduce emissions significantly, it is not possible to completely negate the impact of climate change. Extreme weather events and droughts can strike in unpredictable ways. It is thus important for all of us to start thinking about how we can be better prepared to deal with climate change.

For instance, building owners can look at whether their premises are prepared against heavy downpours and heat waves. Businesses that rely on supplies from overseas also need to diversify their sources and plan for contingencies should their suppliers be affected by extreme weather events in their countries. Individually, all of us can help keep a look out for family members who may be prone to heat-related illnesses and seek help early.

### **Seizing Opportunities from Green Growth**

Third, there will be economic opportunities for Green Growth as we address the impact of climate change. Singapore is investing significantly in research and development on clean energy and environmental technologies. These solutions can be exported to other cities and countries. This will create new jobs and business opportunities for Singapore and Singaporeans. You can be part of this exciting new growth area and work on technology solutions especially if you decide to pursue a course in engineering, science, maths, computing or other relevant fields of study. There are also opportunities for those in accounting, legal, financing and business for instance to commercialise climate-friendly technologies and solutions.

### **Singapore 2030: A Climate-friendly City**

I hope that by participating in this year's competition, you have gained a better understanding of the challenges that Singapore will face due to global warming. You have taken the first step to help spread the message - Keep our energy consumption low in our schools, homes, offices and factories. Be ready, and work with your teachers and principals to reduce electricity usage in school, and with your friends and parents to do so at home.

Many of you would have got married and started your families by 2030. As we develop Singapore into a climate-friendly city, your choices today will have an impact on our future generations.

Reducing carbon emissions and adapting to the negative impact of global warming require a collective effort. Together with fellow Singaporeans, we can all work together to achieve our vision of a Climate-friendly and Sustainable Singapore.

Congratulations to all the participants and winners of the National Climate Change Competition 2016. Thank you.

<sup>1</sup> As of 1 Nov 2016, 92 Parties accounting for 65.82% of global emissions have ratified the Paris Agreement, UN Framework Convention on Climate Change, <http://www.unfccc.int/>, assessed 2 Nov 2016.

2 SolarNova Programme”, HDB, <http://www.hdb.gov.sg>, Oct 16 2016, assessed 2 Nov 2016.

3 Green Data Centre Technology Roadmap, 2014