

Summary of Singapore's Domestically Driven Climate Actions

Singapore has taken domestic measures to move towards a low carbon pathway. The National Climate Change Strategy published in 2012 outlines our whole-of-government strategy to address climate change. These efforts are aimed at preparing Singapore for the uncertainties and impact of climate change, seizing opportunities and supporting Singapore's transition to a lower emission economy. We will also be publishing an updated Sustainable Singapore Blueprint later this year.

Given Singapore's limited alternative energy options, energy efficiency is one of our key strategies for carbon emissions reduction. Our geographical constraints prevent access to options such as nuclear, wind, wave or geothermal energy. We therefore encourage building owners and companies to adopt energy efficient building designs, equipment and processes by offering incentives and grants. Presently, more than 20% of Singapore's buildings have attained Green Mark certification by our Building and Construction Authority. Earlier this month, we unveiled our 3rd Green Building Master Plan which maps a holistic strategy to accelerate the 'greening' of existing buildings and to bring us closer to our target of 80% green buildings by 2030.

We have also invested heavily in public transport infrastructure and restrained our vehicular growth and usage since 1990. We also introduced a Carbon Emissions-Based Vehicle Scheme (CEVS) which imposes a surcharge or rebate for registration fees depending on the emissions levels of the car being purchased and have set a target for a 75-25% modal split for public-private transport by 2020.

The Energy Conservation Act was passed in April 2013 to mandate large users of energy to monitor and report their energy use and greenhouse gas emissions, and submit plans for energy efficiency improvement. For the household sector, we have schemes to keep consumers informed of the energy efficiency of appliances, and ensure that all models of refrigerators, air-conditioners and clothes dryers sold in Singapore meet a basic level of energy efficiency.

We use natural gas - the cleanest form of fossil fuel – for over 90% of our electricity generation, among the highest in the world. We price energy at market cost without any subsidy so that households and businesses use energy judiciously.

Looking ahead, we plan to increase our solar deployment from around 15 megawatt-peak (MWp) today to 350MWp by 2020, which will meet 5% of our projected peak electricity demand. Solar panels will be installed on the rooftops

of public housing, government buildings, military camps and schools. Given the amount of cloud cover and limited surface area on which solar panels can be installed, this is still a challenge. We thus also fund a National Innovation Challenge on “Energy Resilience for Sustainable Growth” to catalyse research, development and demonstration to increase our energy options, improve energy efficiency and reduce carbon emissions.

We are also studying how our economic strategies and industrial structure can best respond to, and take advantage of, a low-carbon future and to stabilise our emissions over the long term. This includes research, development and deployment of low-carbon technology and urban systems. Given our constraints, and the fact that all our actions are voluntary and domestically funded, it should be recognised that these efforts are made at considerable economic and social opportunity costs.

Through these efforts, Singapore generates relatively low levels of carbon emissions per GDP dollar in the world, ranking 96th out of 142 countries. Singapore’s emissions grew at an average annual rate of 2.0% in the last decade, compared to 2.2% globally. During this period, Singapore’s GDP grew by 76%, compared to a 22% increase in emissions and a 34% increase in energy use. This reflects our improved energy and carbon efficiency. Over the same period, our carbon intensity decreased by 3.6% per annum, which compares favourably with the global average decrease of 0.01% per annum.

As a low-lying island, Singapore is vulnerable to climate change, such as rising sea levels, intense rainfall, dry spells and other extreme weather events. As such, adapting to the effects of climate change is a national priority. For example, since 2011, we have increased the minimum platform level by 1.0m for newly reclaimed land, to 2.25m above the highest ever recorded tide level. We are enhancing drainage infrastructure and flood management systems. We are investing in new capabilities in climate science to achieve a deeper understanding of our vulnerabilities and develop appropriate adaptation solutions against the risks posed by climate change. Last year, we set up the Centre for Climate Research – Singapore (CCRS), the world’s first research centre dedicated to tropical climate and weather of Singapore and the wider Southeast Asia region.

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