

Dear NCCS,

During the National Day Rally this year, Prime Minister Lee committed \$100 billion to adaptation measures over the next 100 years. However, adaptation without mitigation is futile, and the climate crisis is not a 50- to 100-year problem that Singapore will have to prepare itself to meet—it is already here. My submission will be framed around the urgency of the issue and the need for commensurate mitigative action in the short and long haul. As highlighted by the Intergovernmental Panel on Climate Change (IPCC), delaying mitigative efforts today only serves to increase the cost of the transition to low emissions in the future and to narrow the range of options consistent with the Paris pledges. There is no better, or more economically ripe, time to act.

Encouraging collective climate action: I will speak first on the great need to raise the level of discourse relating to the climate crisis—not only among the general populace but, more importantly, among our policymakers. Leaders need to stop framing Singapore’s contribution to global emissions as a non-issue. The figure of “0.11% of total global emissions” often cited by our policymakers shrouds the fact that Singapore’s carbon footprint extends beyond our immediate activities. According to the Global Carbon Atlas, when trade flows are taken into account, we rank 6th in the world for consumption emissions per capita, which registers at a staggering 22 tCO₂ per capita—more than twice the estimate quoted by the International Energy Agency. This effectively means that we outsource the majority of our carbon emissions to other manufacturing countries, which in turn bears disproportionately on developing nations. Given that many Singaporeans take cues from our country’s leaders, it is crucial for our leadership to speak openly about the scale and scope of the climate emergency, as well as Singapore’s culpability. Prime Minister Lee has already referenced the climate crisis as an ‘existential threat’ to Singapore and affirmed his solidarity with those deeply concerned about the issue—now, we must publicly acknowledge our responsibility to act.

Secondly, I appeal to the Singapore Government to conduct a nation-wide survey on the level of knowledge Singaporeans have on climate effects and action, and to address the knowledge gaps that are identified. Public discourse is presently focused on the elimination of single-use plastics as the be-all-and-end-all environmental solution, but while plastics and other forms of waste do indeed have a carbon footprint, the climate threat is much larger and more far-

reaching than the problems that the 3Rs can address. Waste, after all, constitutes less than 1% of our total emissions. To empower collective action, we must first be able to comprehend what the true nature of the problem is.

This brings me to the final point of this section: that the Singapore Government must democratise all data relevant to climate action and responsiveness. The last year in which Singapore's emissions data was made publicly available was 2014. The absence of publicly available, up-to-date, and granular data impedes collective climate action as well as corporate responsiveness. How would the public or private sector know where best to begin? With the oversight that the Singapore Government has, it must ensure that all relevant data is updated and made available to the public to hasten decision-making on all fronts. Such data should include, but are not limited to:

- A detailed review of this NCCS Public Consultation
- An updated breakdown of Singapore's carbon emissions profile and carbon accounting methodology
- Materials flow analysis, which would be particularly useful for supply chain planning and moving towards a circular economy

Issuing a plan for net-zero emissions by 2050: In order to adhere to the IPCC pathways, the Singapore Government must strengthen our national determined contribution (NDC) and issue a plan for carbon neutrality by 2050. Our present commitments are glaringly inadequate. Not only do we currently rely on the blunt measure of emissions intensity, which allows our absolute emissions to increase as long as GDP grows at a faster rate, we have only committed to peaking our emissions by 2030—ten years later than the recommended IPCC pathway. We have set our NDC unbelievably low: even if Singapore continues with business-as-usual policies, it would be on track to meeting its Paris Agreement targets. Less affluent countries have committed to more ambitious targets, and major corporations (87, as of today) are similarly adopting emissions-reduction pledges that align with limiting warming to 1.5°C. Singapore must do more.

Aside from the moral argument of taking responsibility for our culpability for outsourcing emissions, a stronger NDC matters also in instigating knock-on effects within our ASEAN community and beyond. As Member of Parliament Louis Ng has previously noted, many

countries look to Singapore as a first mover and a model for issues such as climate action because of our economic capacity. It is therefore imperative that we signal a firm commitment to achieving net zero emissions.

Strengthening Singapore's carbon pricing strategy: Many others before me have highlighted how our current carbon tax (SGD 5 per tCO₂e) is grossly insufficient to disincentivise our biggest emitters and have called for higher carbon pricing. The World Bank, for instance, has indicated that an effective carbon tax would hover between US\$40 to US\$80. While more research needs to be done to determine the appropriate carbon pricing strategy for Singapore, I fully support the move to strengthen our carbon tax. Not only does a strong commitment to narrow the carbon price gap send a clear signal to businesses that a zero-carbon future is a non-negotiable priority for the Government, it also creates certainty for the private sector that it pays to invest in low-carbon technologies. These investments do not only refer to money being diverted to improving clean energy access, they also extend to other mitigative technologies such as carbon capture. In the absence of an ample carbon price, corporations would view carbon capture technologies as an investment without returns.

I personally would be willing to bear the additional costs and inconveniences to aid the transition towards a net-zero economy. However, I acknowledge that not everyone has the same capacity to do so. Any carbon price solution put forth by the Singapore Government must therefore be sensitive to issues of inequality and ensure that emitters do not eschew the responsibility for reducing their emissions by passing on the bulk of the costs to consumers.

Reducing emissions from power generation: Apart from a call for the Singapore Government to explore the possibility of an ASEAN Power Grid, I would like to address the broader topic of alternative energy sources, particularly the more contentious issue of nuclear power. I am aware of the social taboo surrounding nuclear energy. Yet, it appears that any rational solution for a transition towards a net-zero economy must move past the conversation on renewable energy. The NCCS has already noted that total reliance on solar deployment for Singapore's overall electricity demand is unattainable in the foreseeable future.

An update on nuclear energy's suitability for Singapore is due. In 2014, the NRF announced the Singapore Nuclear Research and Safety Initiative and the Nuclear Education and Training Fund

as part of a 5-year programme aimed at assessing nuclear power as a possible energy source for Singapore. Results of the programme should be made publicly available to inform Singaporeans about the progress of nuclear research—only then will we be able to decide how best to move forward.

Tapping on green growth opportunities: As the NCCS has noted, economic development does not have to equate to an increase in carbon emissions. However, I would like to use this opportunity to point out that nothing physical can grow infinitely on a physically finite planet. Over the next few decades, the climate crisis will only magnify the existence of planetary boundaries and the finitude of our natural resources. If we acknowledge the science, we need to move beyond using GDP—which presupposes that the stock of goods and services provided must grow indefinitely—as the primary indicator of prosperity. New Zealand has already started the shift on a national front, while major banks and sovereign wealth funds are increasingly incorporating environmental, social, and governance (ESG) metrics into their investment frameworks. There is no reason why Singapore should not do the same.

Thank you for taking the time to review this submission. I look forward to a long-term low emissions national strategy that is in line with the IPCC pathways.

Yours sincerely,

Estella