

To the NCCS:

Thank you for holding this public consultation on Singapore's long-term low emissions strategy. I'm writing in my capacity as a climate researcher, resident of Singapore, and member of Singaporean civil society.

[A\) Improving Energy Efficiency](#)

Based on the latest public data on Singapore's emissions profile, the building sector is the biggest sources of secondary emission (16%). Singapore has set the goal of achieving 80% of green buildings in 2030, but by 2017, only 30% of the buildings had been certified as green buildings, which experts say is behind schedule. Therefore, **more can and need to be done in the building sector to drastically reduce Singapore's secondary emissions.**

A deeper conversation on green buildings is needed to improve awareness about the benefits of green building technology, and promote cooperation among technology suppliers. The 2014 report by Building and Construction Authority (BCA) listed a lack of knowledge and awareness among Operations, Monitoring and Maintenance (OM&M) personnel about how to run a building in the most energy efficient way as one of the key challenges facing the industry.

[B\) Encouraging Responsible Climate Action through Carbon Pricing](#)

While Singapore's introduction of Southeast Asia's first carbon tax is admirable, we cannot stop here. The current and planned figures for carbon pricing are far too low for a safe climate and a safe future for Singapore. In a comprehensive report completed in May 2017, Lord Stern and Professor Joseph Stiglitz, who were the co-chairs for the High-Level Commission on Carbon Prices, recommended that **the carbon price should be set at \$40-\$80/tCO₂e in 2020, and between \$50-\$100/ tCO₂e in 2030.**¹

While raising the carbon tax rate, please **retain the current flat-rate, no-exemption approach to all large emitters.** I understand there is concern in government circles that faced with a higher carbon tax, heavily polluting companies would simply shift their operations from Singapore to neighboring countries. I don't think this is likely, however, given how much investment and infrastructure such companies have already poured into Singapore. They will not soon pick up and leave their multi-billion dollar systems here.

[C\) Reducing Emissions from Power Generation](#)

There must be **a strategic and carefully managed phasing out of the fossil fuel industry from Singapore.** The continued existence of this industry is incompatible with a safe future for Singapore and the rest of our neighbours. **A governmental committee can be set up for the greening of the Singapore economy, with a task force set up alongside to ensure the just transition of affected workers.**

One immediate place to start would be to **re-consider the recently announced expansion of Jurong Island, which will commit Singapore to infrastructure that is carbon-intensive,** while creating more stranded assets.

¹ <https://www.carbonpricingleadership.org/report-of-the-highlevel-commission-on-carbon-prices>

D) Deploying Emerging Low-Carbon Technologies

Please **publicly commit to shifting our national energy grid to be at least 70-85% renewable-based by 2050**, a climate mitigation goal necessary to keep warming below 1.5°C as laid out in the IPCC Special Report. To achieve this target, Singapore can:

- **Work more closely with ASEAN Partners to develop the ASEAN Power Grid**, as the initiative has the potential to increase a country's share of sustainable energy. Renewable energy sources are increasingly reaching grid parity (i.e. the point when the cost of the alternative energy becomes equal to or less than electricity from conventional energy forms like fossil fuels) in ASEAN. For example, hydropower sources in Thailand, Indonesia and the Philippines are able to compete with conventional fuel generation and in most Malaysia projects, while solar PV has reached grid parity in Philippines.
- **Use interconnection, in conjunction with smart grid infrastructure, to expand the coverage area** for renewable energy production. This could reduce the variability of electricity production from solar and wind energy and create additional opportunities for production spillover and backup supply.
- **Actively explore global collaborative opportunities to power Singapore with renewable energy**. For instance, SunCable, an Australia-based company has an ambitious \$20 billion plan to power Singapore with Australia's solar energy.
- **Contribute Singapore's energy efficiency expertise and investment in low-carbon transport in assisting our neighbours in ASEAN and beyond**. With 68% of the world projected to live in cities by 2050, this presents an immense leadership and economic opportunity for Singapore.
- **Channel more resources into developing the ecosystem of solar energy players**. This facilitates faster transition to clean energy to the world and by extension, to Singapore.
- **Create an enabling regulatory environment for prosumers and encourage households and institutions (like universities) to become prosumers of solar PVs**. Prosumer is the hybrid of "consumer" and "producers." It describes an energy supply system where each agent — an individual, a household, or an institution — is a consumer and producer of energy at the same time. For example, a consumer purchases solar PVs from a retailer and excess energy can then be sold to other households, incentivising the production of clean energy as an alternative source of income. Thus, every consumer is empowered to decide where their energy comes from and in what amounts, as well as turn into a "prosumer" by choosing to produce solar energy. According to Solar Energy Research Institute of Singapore (SERIS), a key aspect of Singapore's 2030 vision consists of consumers becoming prosumers.

E) Encouraging Collective Climate Action

The biggest challenge to collective action is the lack of policy and government messaging recognizing the need for system-level action. People understand that a system-level problem necessitates a system-level solution, which makes the NEA's calls for the public to do individual actions – like

“Switch off the storage water heater after use” and “Use a thermos flask instead of an electric air-pot”² – feel like a distraction.

Please **reduce the government’s focus on such individual actions** (which I notice are also emphasised in these consultation questions). One by one, these are no match for the scale of climate change, which requires system-level actions by powerful institutions like the government. Our public transport system is a good example of the government taking such systemic action: transport infrastructure and policies enable people from all walks of life to live a lower-carbon life because these systems minimize inconvenience and make the low-carbon option the default.

Even though the government has the resources and ability to lead system-level action, as exemplified by our world-leading public transport system, our Paris Agreement target to reduce *emission intensity* by 36% from 2005-2030 is unambitious and not strong enough to match the existential threat we face. **Please focus instead on *reducing absolute emissions*, and mirror at the national level what the recent IPCC report has laid out as a global requirement: a decline in absolute emissions by about 45% from 2010 levels by 2030, with emissions reaching net zero by 2050 in order for temperatures to increase no more than 1.5C.**

Please also consider **making climate science and environmental studies part of the MOE curriculum** in a way that includes climate justice and the various ways in which the environment is closely connected to other societal issues. Similar to social studies, the subject should be compulsory so that every student is exposed to it. Such education is the first step in having an active citizenry that’s engaged in the policymaking process, which is important because climate change requires society to think about questions of equity and trade-offs – and these questions are best worked through in dialogue with the people. **Please increase government decision-making legitimacy and promote an informed/engaged citizenry by instituting participation in policymaking.**

F) Tapping on Green Growth Opportunities

As an international financial hub, Singapore should join other financial leaders who are already recognizing their role in *mitigation* – on top of adaptation – to climate change.

While we celebrate the green dollars we are raising through green bonds, we cannot forget the impact that our brown dollars are having. The International Energy Agency has already warned that the world has no capacity to absorb new fossil fuel plants: “we have no room to build anything that emits CO2 emissions.”³

Our financial institutions cannot continue to participate in deals that lock in an unsafe climate future for Singapore and our ASEAN neighbours.

Thank you for your time and consideration.

With hope,
Angela

² https://www-nea.gov-sg-admin.cwp.sg/images/default-source/resources/chewonit_exhibition-panel_2019_1.jpg

³ <https://www.theguardian.com/business/2018/nov/13/world-has-no-capacity-to-absorb-new-fossil-fuel-plants-warns-iea>