Dear NCCS,

I am writing in response to the Public Consultation on Developing Singapore's Long-Term Low Emissions Strategy, with specific reference to the Public Consultation Document. I thank you for your work in consolidating and outlining the key areas in which Singapore has started to work on and looks towards in our efforts for climate action.

Before responding to specific policies and questions, I would like to make two observations.

Firstly, Singapore's target continues to be inadequate. Quoting your document:

> *Singapore has pledged to reduce our emissions intensity by 36% from 2005 levels by 2030, as well as to stabilise emissions with the aim of peaking around 2030.*

In the same page, NCCS also acknowledged that:

> *According to the SR1.5 report, to limit global warming to 1.5°C, global net human-caused emissions of carbon dioxide (CO_2) would need to fall by about 45% from 2010 levels by 2030, and reach 'net zero' around 2050.*

UN Secretary-General António Guterres has made clear that countries including Singapore have the opportunity to offer a more ambitious goal to the UN during the special Climate Action Summit on 23rd September 2019. However, PM's address during the summit did not enhance this target. In what ways can our current target be adjusted such that we can balance feasibility with room for pushing for greater emissions reduction? For example:

- Can we change the baseline year to one where levels were lower?
- Can we peak earlier, say by 2020?
- Can we increase the percentage?
- Can we use absolute emissions instead of emissions intensity?

Secondly, I am curious about the design of the public consultation. For example, what is the target audience? and what is the expected number of responses? How will the feedback be processed and channelled? Other than a press release, how is NCCS working to increase access for members of the public, with little expert knowledge, to provide meaningful contributions? I hope that this round of consultation which seems to be very open-ended serves as a way to guide further consultations which will hopefully be more clear in empowering citizens to make specific recommendations with regards to policy that will be implemented, such as in the case of the zero-waste masterplan consultation and recycling workgroup, where participants are given some training, and objectives are more clearly scoped. In general, NCCS, similar to other public agencies in Singapore, should take note to design the public consultation process more thoughtfully. If not, this will (a) undermine the point of having this particular round of public consultation and (b) disempower citizens who are willing to provide their feedback but see no visible impact of their voice in the long term.

Finally, I think it'll be great if climate policy can be made a national priority whether through greater mandates given to NCCS as a coordinating agency or other methods of facilitating a whole-of-government approach and the incorporation of climate targets into national laws.

Moving on, I would like to respond to specific questions posed in the public consultation document, which I have underlined.

B) Encouraging Responsible Climate Action through Carbon Pricing

<u>To meet emissions targets, would you prefer to have an economy wide carbon tax or a range of targeted measures such as regulations and mandates? What should be the balance between the two approaches?</u>

While laudable for being the first in Asia to implement one, Singapore should increase the current carbon tax which is insufficient. A carbon tax is also not a silver bullet and needs to be designed as part of a broader policy framework designed for decarbonization. Carbon tax rates must be greater than costs for decarbonization to incentivize emitters to do so. Another area is how the carbon tax revenue will be used. It should go towards research and innovation related to low-carbon tech-

nologies, and can also go towards citizens disproportionately affected by the carbon tax, to achieve more equitable outcomes.

E) Encouraging Collective Climate Action

On the whole, I would like to highlight that there is individualising of responsibility for climate action, which is not only ineffective since households contribute to a much smaller amount of emissions, while big power companies with greater contributions do not face substantial pressure to switch to renewables themselves, and the renewable energy industry does not receive nearly the same kind of support.

Would you be willing to pay more for products or services from a business that is taking responsible climate action by reducing emissions and/or purchasing carbon credits to offset its carbon emissions?

I don't think that purchasing carbon credits on the individual level is a good solution unless the market is much more regulated or consumers are better informed as consumers may not bother to ensure that the carbon credits they purchase are directed towards schemes that are transparent. Another caveat of carbon offset schemes on the consumer level also allows us to 'pay away' our guilt, which may have the effect of further fueling consumption.

It may also be good to conduct a study on some consumer carbon offset schemes which some local companies have started, as to their positive/ negative effects on consumer's decisions to consume - specifically whether they choose retailers with carbon offset schemes over those without, whether they may consume a higher/ lower number than they would have due to the offset scheme and so on. It will also be important to note what 'offset' means and whether there is a need for the government to regulate it such that their definitions cannot be loose and easily invoked by companies which do not actually contribute adequately to carbon emission reduction.

What are the challenges individuals face in taking climate action in their daily lives?

A major challenge is that of a culture of materialism. Shopping malls selling things we do not need, proliferation of sales and online shopping.

Another major challenge is the knowledge that cutting down on emissions in one's daily lives will not make a huge dent on Singapore's carbon emissions, as households account for 7.6% of total emissions according to the 2020 projected emissions profile on NCCS's website.

I would also encourage the government to invest in climate change education, so that young people will be better equipped with the necessary science and be motivated to contribute to the effort in their own ways. The government can also look into stronger investments in climate financing (similar to 3R or Climate Action Fund), so as to encourage businesses and individuals to come up with larger scale ideas related to solving the issue of climate change.

How can we further encourage individuals to reduce, re-use, and recycle?

Firstly, we should be looking at 5Rs. Secondly, recycling in Singapore has failed because of infrastructural reasons. Recycling also continues to be framed as an individual action/ habit which is not particularly constructive without a redesign the system, starting with the blue bin. Waste management is also unlikely to help to cut down on emissions substantially, even as it is an important issue. Of the three, reduce and reuse are definitely more helpful in reducing emissions, and encouraging businesses to move towards new business models of producing products with longer lifespan while charging for repair and servicing, i.e. a circular economy will be important. Items sharing and food rescue applications are examples of innovative solutions, and could be supported by the government as well.

D) Deploying Emerging Low-Carbon Technologies

What should Singapore's considerations be when making a decision between (i) investing early in the development of relevant policies and infrastructure to adopt (ii) waiting for the global production and use of hydrogen to be more established?

Some data I think would be useful before we citizens can make some kind of judgement:
- What is the amount of investment (private and public) in solar energy, LNG and hydrogen?
- What is the amount of investment (private and public) in research for solar energy, LNG and hydrogen?

I would also like to take the opportunity to ask about Singapore's involvement in the ASEAN Power Grid. What are the main challenges of importing clean energy from ASEAN. Are there geopolitical concerns, a lack of infrastructure or high costs of transportation?

In comparison, the new deal with the Australian solar panel project is very exciting indeed. Perhaps a more market-oriented would indeed be faster to deploy.

Finally, as this question was directed at businesses - I would like to raise the question of whether citizens should also have a say in this. Other than being able to choose our own service provider in the open energy market, citizens should also have a say in the kind of energy industries our government can choose to actively promote whether through spending on research or through regulation. Moreover, major energy providers in Singapore are currently operated by transnational companies, which is an issue of energy security and in this case, may limit our ability to

On the same note, a glaring omission from the NCCS Public Consultation Document is the mention of a coal plant in Singapore. Deploying Low-Carbon Technologies needs to be go hand in hand with shutting down non-renewables, particularly coal which is carbon emissions intensive even if it is 'clean'.

F) Tapping on Green Growth Opportunities

<u>How can Singapore be a global leader in green growth?</u>

(a) "Green Growth"

A more appropriate term here is *'transition'* - scaling down fossil fuel intensive industries and scaling up renewable energies. A drawdown plan is important - again, focusing on 'growth' without looking at the inherent trade-offs limits our ability to plan in a more holistic manner.

A related suggestion is to quantify the economic damages caused by climate change, and consider them as risks to be accounted under continued investment in fossil fuel emissions resulting in increased carbon emissions. This is a different way from carbon tax calculation, of using financial tools to understand the severity of climate change - again I think understanding the big picture will provide greater urgency and clarity to Singapore in terms of the changes that is required to convince industry and policy to shift quickly in favour of a clean transition.

(b) "Global Leader"

Singapore has always prided itself on its outsized abilities when it comes to many areas such as public and affordable housing, securing supplies of water and our impeccable greenery amidst a concrete jungle. There is no reason why we cannot harbor ambitions of being a global leader in the area of climate change, but it must go hand in hand with a more ambitious target. Leading the way and committing to net zero alongside many other countries will be a first step towards galvanizing all sectors of industry as it will send an important signal. Currently, Singaporean businesses like City Developments Limited and Singtel have taken the lead to pledge net zero by 2050 under global initiatives like the UN Global Compact. Businesses in Singapore should be more forward and global thinking, which will also keep them competitive.

Finally, I would like to also suggest that the impending challenges brought forth by Climate Change is not purely economic but social as well. The language of climate change in Singapore continues to be punctuated by insecurity over the economy and hopes of keeping our way of life, and the pursuit of ever increasing economic growth. As a nation, there needs to be more fundamental conversations that need to be had, such as whether there are inherent trade-offs between unbridled economic growth and a safe climate, and whether Singaporeans should also get a chance to choose instead of being governed by the assumption that the former is necessarily more important.