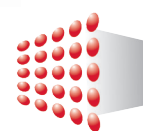


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Minister for the Environment and Water Resources Masagos Zulkifli at the Partners for Environment Forum on 10 July 2018. Photo by Ministry of the Environment and Water Resources, Singapore (used with permission).

INTRODUCTION

This Special Issue of the ESI Bulletin takes stock of Singapore's Year of Climate Action, and highlights some key events organised by the ESI in support of the initiative.

At the United Nations Climate Change Conference (COP23) held in Bonn, Germany from 6–17 November 2017, Singapore's Environment and Water Resources Minister Masagos Zulkifli announced that Singapore would designate 2018 as the Year of Climate Action. The announcement was timely, as it came as the world commemorated the 20th anniversary of the 1997 Kyoto Protocol and the 2nd anniversary of the adoption of the Paris Agreement on climate change.

2018 was set to be a pivotal year for climate change action in Singapore. On 26 January 2018, Minister Masagos Zulkifli officially launched

the Year of Climate Action in front of 220 guests at the Singapore Sustainability Academy. The event articulated Singapore's role on climate change to the international audience with the attendance of 54 diplomats. At the event, Minister Masagos shared that the aim of the Year of Climate Action was to raise the level of national consciousness around the need to take individual and collective action to fight climate change for a sustainable Singapore. He emphasised that everyone can and should play a part in reducing their carbon footprint and encouraged stakeholders to step forward and make pledges towards addressing climate change.

At the time of writing, just over 300,000 pledges to take climate action have been made by individuals, organisations and educational institutions.

The Ministry of the Environment and Water Resources played no small part in garnering support for the Year of Climate Action. They began the year by hosting round table discussions with civil society stakeholders as well as youth. In February, Finance Minister Heng Swee Keat announced a carbon tax — of SGD 5 per tonne of greenhouse gases emitted — to be introduced in

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2019, which will affect the largest carbon dioxide emitters in Singapore. This comes off the back of the tightening of emissions monitoring for large emitters under the Energy Conservation Act amendments in 2017.

In May, the National Environment Agency launched a nationwide Energy-Saving Challenge. In June, the Sustainable Singapore Gallery at the Marina Barrage reopened with a Climate Action Carnival. The Gallery now boasts interactive and multisensory displays that chart the milestones for Singapore's sustainable development and traces the country's response to climate change, particularly on water management, zero waste and renewable energy.

Singapore also played host to a number of high-level events this year. As Chair of the Association of Southeast Asian Nations (ASEAN), Singapore hosted a Special ASEAN Ministerial Meeting on Climate Change (SAMCA) and Expanded Special ASEAN Ministerial Meeting on Climate Change (E-SAMCA) on 10 July 2018 to reaffirm the region's commitment to the Paris Climate Agreement. It was followed by the Asia Pacific Climate Week (APCW2018) from 11–13 July 2018 and featured several high-level officials to build momentum towards the adoption of the Paris Agreement climate "rulebook" in Katowice, Poland in December this year. The first article details the significance of these events and Singapore's commitment to the Paris Agreement on climate change as well as to capacity building of

its neighbours in dealing with the adverse effects of climate change.

In July, Singapore undertook its first Voluntary National Review of the UN Sustainable Development Goals (SDGs) at the United Nations' High-Level Political Forum on Sustainable Development (HLPF). At the forum, 46 countries including Singapore presented their voluntary national reviews over three days of ministerial meetings from 16–18 July 2018. The second article discusses Singapore's progress towards meeting the UN SDGs.

The ESI organised two events in support of Singapore's Year of Climate Action. The first was a documentary screening, dialogue and tour of the Sustainable Singapore Gallery at Marina Barrage on 16 September 2018. The second was a Climate Change Negotiations Training Workshop for 35 youth, held weekly from 13 August to 17 September and was conducted by ESI Research Fellow, Melissa Low. The third and fourth articles are summary reports of the events.

We hope you find these articles of interest and welcome your views and comments.

Melissa Low

ESI Research Fellow, Energy and the Environment Division
(On behalf of the ESI Bulletin Team)

2018 — A Pivotal Year for Global Climate Action



Special ASEAN Ministerial Meeting on Climate Action (SAMCA) and Expanded SAMCA (E-SAMCA) held in Singapore, July 2018. Photo by Ministry of the Environment and Water Resources, Singapore (used with permission).

2018 is an important year for global climate action. For the Paris Agreement to be effective in curbing global temperature increase to below 2°C, then COP24 in Katowice, Poland this December must deliver a comprehensive, ambitious and balanced outcome to mark a decisive step forward in its implementation by all countries.

Singapore knows this well. Following the landmark Conference of Parties or COP21 climate talks in Paris in December 2015, Singapore's Chief Negotiator for Climate Change, Ambassador Kwok Fook Seng noted that the time had come to move away from negotiations and towards implementation. Singapore played no small role in the lead-up to the adoption of the Paris

Agreement, with Ambassador Kwok leading facilitated negotiations on an enhanced transparency framework for the Paris Agreement, to institute clear reporting and review processes in order to track the progress that countries have made towards achieving their pledges.¹

This year, Singapore's delegation to COP24 will be led by Chief Negotiator Joseph Teo, whose last post was Deputy Permanent Representative, Permanent Mission of the Republic of Singapore to the United Nations based in New York City, United States of America. He will have the difficult task of keeping track and guiding work to improve the completeness, coherence and consistency across all of the agenda items under the Paris Agreement Work Programme (PAWP). Negotiators must continue to streamline options while putting necessary details to the Paris "rulebook", to be adopted in Katowice, Poland at COP24 this December.

Domestic Action

Singapore passed the Carbon Pricing Act on 20 March 2018. The carbon tax of SGD 5 per tonne of carbon dioxide equivalent (tCO₂e) to be introduced in 2019, would be a fixed price credit-based system, where covered entities would be required to purchase credits from the regulator and surrender an amount equal to their respective emissions during the compliance period. Facilities with an annual direct emissions volume of 25,000 tCO₂e or above are liable to pay the carbon tax. The tax will be operational from 2019–23 and will be applied uniformly to all sectors without exemption. This policy announcement is expected to affect between 30 to 40 large emitters, mainly from the petroleum refining, chemicals and semiconductor sectors.

To minimise additional compliance burden on companies, the Carbon Pricing Act was built on existing procedures and requirements under the Energy Conservation Act (ECA). The ECA itself was amended in 2017 to tighten energy monitoring and reporting requirements for large industrial users of energy. Reporting companies now have to comply with minimum energy efficiency standards for energy-consuming systems and submit an enhanced emissions report detailing energy consumption, energy production and greenhouse gas (GHG) emissions.

In addition to the requirement of submitting an energy efficiency improvement plan, facilities also need to implement an energy management system and conduct energy efficiency opportunities assessments for new ventures and expansions of existing business.

For certain affected companies, they must also appoint a GHG manager to prepare an emissions report. This individual must be a Singapore Certified Energy Manager certified by the Institution of Engineers, Singapore and have at least three years' experience in energy management and GHG emissions accounting and in the operational processes and activities of the reportable business.

Under the Carbon Pricing Act, in order to ensure that companies are reporting accurately, all emissions reports will have to be verified by an independent third party and

approved by the National Environment Agency (NEA), which will serve as the regulatory authority. If the report is considered unsatisfactory, NEA may ask for the report to be revised, rectified, recomputed, re-verified by a third party and resubmitted.

However, these government initiatives are not without challenges. First, improving the energy efficiency of the industrial sector — the largest consumer of energy that accounts for 60 per cent of Singapore's GHG emissions — is one of the key strategies to reducing emissions and fulfilling Singapore's pledge under the Paris Agreement. However, these new regulatory measures and a carbon tax will incur costs that affect industry competitiveness.

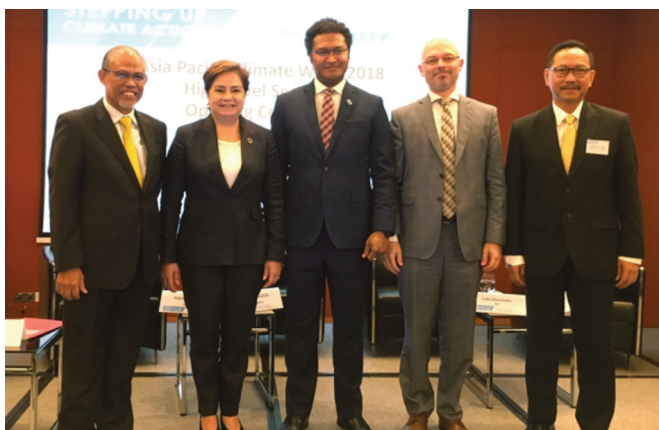
As a small island state that relies heavily on trade and foreign investment, the Singapore government must pay attention to this and continue to study the optimal mix of policies and technologies to achieve its 2030 commitment, while ensuring that the economy remains competitive. Second, companies may not regard energy efficiency improvements as a priority, and instead regard the new requirements as an additional step for them to maintain product quality. In ensuring product specifications are met, depending on the feedstock and materials used, more energy could be used to complete the manufacturing process. This is potentially where there could be a misalignment of government policies with business sentiments.

With the new policy changes introduced, much of the responsibility will be on local companies to step up and adhere to the enhanced regulations under the ECA and Carbon Pricing Act. If done satisfactorily and in line with international standards, Singapore will be in a good position to participate in external carbon markets in future. This is important, given that international market mechanisms currently being developed under the Paris Agreement's "rulebook" are expected to play a significant role in facilitating the meeting of climate goals by the various countries.

Momentum Building for Action on Climate Change in Singapore and Southeast Asia

To build momentum on climate action in Singapore, the Ministry of the Environment and Water Resources held its 2nd Partners Forum for the Environment (PFE2018) on 10 July 2018. The PFE2018, held at the Marina Bay Sands, Singapore and titled "Accelerating Action on Climate Change", brought together 260 stakeholders from businesses, non-governmental organisations, the community and agencies to discuss how they could move towards the vision of a Sustainable Singapore.

The Forum saw welcome remarks delivered by Minister for the Environment and Water Resources, Masagos Zulkifli and a keynote speech by Tomasz Chruszczow, Special Envoy for Climate Change and Poland's High Level Climate Champion. Jessica Cheam, Chairperson for the Climate Action SG Alliance and Managing Editor of Eco-Business and Yulanda Chung, Head of Sustainability, Institutional Banking Group, DBS also shared on initiatives undertaken.



Minister for the Environment and Water Resources Masagos Zulkifli with UNFCCC Executive Secretary Patricia Espinosa, Luke Daunivalu, the Fijian COP23 Presidency's Representative, Michal Kurtyka, Poland's Secretary of State for the Environment and COP24 President-designate and Bambang Susantono, Vice-President for Knowledge Management and Sustainable Development of the ADB at the opening of the Asia-Pacific Climate Week held from 10–13 July 2018 at Resorts World Sentosa, Singapore. Photo by ESI.

On the same day, Singapore hosted the Special ASEAN Ministerial Meeting on Climate Action (SAMCA) and Expanded Special ASEAN Ministerial Meeting on Climate Action (E-SAMCA). The meetings were an initiative by Singapore, as 2018 ASEAN Chair, to provide ASEAN and the Plus Three countries a platform to engage one another on their climate action plans, reaffirm their commitment to the Paris Agreement and galvanise regional action to address climate change. The meetings were inaugurated by Singapore's Deputy Prime Minister, Coordinating Minister for National Security and Chair of the Inter-Ministerial Committee on Climate Change Teo Chee Hean, and chaired by Environment and Water Resources Minister Masagos Zulkifli. Present were ministers and representatives from ASEAN Plus Three namely China, Japan and the Republic of Korea.

The high-level meetings took place alongside three sustainability conferences — the Singapore International Water Week, CleanEnviro Summit Singapore and the World Cities Summit. It was the first such meeting involving ministers and representatives from the ASEAN Plus Three countries, as well as other high-level officials — such as Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC), Lim Jock Hoi, the ASEAN Secretary-General, Michal Kurtyka, Poland's Secretary of State for the Environment and COP24 President-designate, and Luke Daunivalu, the Fijian COP23 Presidency's Representative and Chief Negotiator for Climate Change — who joined in to discuss climate change.

The meeting was conducted in the Talanoa Dialogue format, a process initiated by the Fijian COP23 Presidency in 2017. The Talanoa Dialogue is a year-long facilitative process that serves as an initial stocktaking exercise for the Paris Agreement's Global Stocktake that will occur for the first time in 2023 and every five years thereafter. Talanoa is the traditional word used in Fiji to describe an inclusive and transparent dialogue and decision-making process.

Countries present took the opportunity to share their climate action plans. The Philippines' Secretary Emmanuel M. de Guzman of the Climate Change Commission

highlighted the country's initiatives and underscored the concept of "climate justice" in the Philippines where the most vulnerable and affected by climate change — usually the ones who have contributed the least to the climate crisis — are empowered and enabled.²

Brunei Darussalam's Minister of Energy and Industry Haji Mat Suny bin Haji Mohd Hussein highlighted that although Brunei's GHG emissions are small, it is ready to raise its climate ambition. He added that the country intends to revise its Nationally Determined Contributions (NDC) that outlines plans and actions for the implementation of the Paris Agreement. The revision aims to shift the country's NDC from sectoral targets to a more action-oriented and long-term strategic trajectory for reducing GHG emissions.³

Singapore intends to submit a summary of the discussions at SAMCA and E-SAMCA to the UNFCCC as inputs to the 2018 Talanoa Dialogue.⁴

The same week, Singapore also hosted the Asia-Pacific Climate Week (APCW) at the Resorts World Sentosa. APCW2018 was an umbrella for a series of climate-related events focused on NDC implementation challenges and opportunities, the UN Sustainable Development Goals and global climate action.

The week's events were organised by the UNFCCC Secretariat under the Nairobi Framework Partnership, in partnership with the UN Development Programme (UNDP), UNEP DTU (UN Environment Programme with the Technical University of Denmark) Partnership, the World Bank, the Asian Development Bank (ADB) and others. Several high-level events and parallel sessions addressing specific issues on climate change such as carbon pricing, waste-to-energy enabling and the new enhanced transparency framework under the UNFCCC Paris Agreement were discussed.

As the Asia-Pacific region is expected to play a vital role in the future of the world's economy with growth and development, hosting the event in Singapore was an important opportunity for stakeholders from around the region to convene to share and accelerate solutions that will shape sustainable development in this region.

One such event was a workshop on "Regional Solutions for Asia Pacific to Meet the Enhanced Transparency Framework" organised by the UNEP DTU Partnership. At the session, the panel comprised of Jigme, Team Lead, Mitigation, Data and Analysis, UNFCCC; Melissa Low, Research Fellow at ESI; Santhosh Manivannan, Assistant Director International Policy, National Climate Change Secretariat (NCCS) Strategy Group, Singapore; Amjad Abdullah, Director General and Head of Climate Change and Energy Department, Maldives; and Albert Magalang, Head of Climate Change Office, Philippines.

The speakers shared on the status of the negotiations on Article 13 of the Paris Agreement, the main issues on the table and the prognosis for Katowice COP24, as well as perspectives and views of the Asia-Pacific countries on Article 13, what they would like to see in the Paris

“rulebook” with regard to this issue and how they can implement the new enhanced transparency framework. Representatives from Singapore, the Maldives and the Philippines provided details of the status and progress in the implementation of the transparency framework in their countries, as well as capacity needs and initiatives and lessons learnt.

Overall, the event served to encourage open and frank discussion on expectations out of COP24 in Katowice, Poland later this year, and highlighted countries’ efforts in meeting the UNFCCC transparency obligations and any concerns they had in terms of capacity for enhanced transparency moving forward.

Supporting Regional Climate Efforts

To support the region’s climate efforts, Minister for the Environment and Water Resources Masagos Zulkifli announced that Singapore will offer a Climate Action Package (CAP) to its ASEAN neighbours starting this year.⁵ The initial two-year package aims to bring ASEAN members to Singapore to build up capacity and capability, and to share Singapore’s experiences in climate change mitigation and adaptation, ranging from climate science to flood management and disaster risk reduction. Singapore plans to refresh the courses under CAP each year and to review the initiative prior to 2020.

Other than the programmes under the CAP initiative, the Meteorological Service Singapore (MSS) — as host of the ASEAN Specialised Meteorological Centre and the Centre for Climate Research Singapore — will also share their climate projection data and findings for the region with other ASEAN countries. The MSS has committed SGD 5 million in a five-year regional capability development programme starting this year, which will involve the sharing of technical knowledge and skills in weather and climate prediction, to help the Southeast Asian region better formulate climate change adaptation planning.⁶

Notably, the MSS has also hosted the Regional Office for Asia and the South-West Pacific of the World Meteorological Organisation (WMO) since August 2017.⁷ This is the first time a WMO Regional Office is located within Asia and the South-West Pacific and the second Regional Office to relocate from Geneva. (The other being the Regional Office for the Americas, located in Asuncion, Paraguay.) The office in Singapore is headed by WMO’s Asia-Pacific Regional Director, Chung Kyu Park, who relocated from WMO’s Geneva headquarters.

The office’s presence in the region is expected to benefit the weather-sensitive aviation sector as it can help synchronise weather warnings for planes flying in different flight information regions. It serves to improve coordination and build capacity on hazards ranging from floods to fires and to strengthen meteorological and hydrological services for rapidly evolving economic sectors such as air and marine transport. This is particularly important given that many countries in the region are already feeling the impact on climate change, and the dynamic tropical weather patterns in the region may be hazardous to flights and air travel.

On the adaptation and disaster management front, Environment and Water Resources Minister Masagos, in his speech to SAMCA and E-SAMCA, also reaffirmed Singapore’s support for the establishment of the Southeast Asia Disaster Risk Insurance Facility (SEADRIF) by 2019. The insurance facility intends to focus on the flood risk exposures of Cambodia, Laos and Myanmar before considering expanding the scope of work to other ASEAN countries and on different natural catastrophes. The purpose of the facility is to provide immediate financial relief for affected countries in Southeast Asia after natural catastrophes.

SEADRIF’s establishment was announced by the Singapore’s Finance Ministry on 4 May 2018, on the margins of the 21st ASEAN+3 Finance Ministers’ and Central Bank Governors’ Meeting in Manila, Philippines. SEADRIF builds on the work of the regional technical working group which convened in May 2017, between Cambodia, Laos, Myanmar and Japan with technical support from the World Bank, to jointly advance preparatory work on strengthening financial resilience against climate and disaster risks in the region.⁸

As ASEAN Chair this year, Singapore has prioritised climate action in the ASEAN region. It has used its Chairmanship to bring together ASEAN and regional partners at the ministerial level to support the UNFCCC process and the Polish host of the upcoming COP24 in Katowice, Poland. This has helped build strong political momentum on global climate action and serves as an encouragement to all who are working towards concluding the Paris Agreement Work Programme so as to ensure full and effective implementation of the Paris Agreement.

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Significance of Singapore's Voluntary National Review of the UN Sustainable Development Goals



Environment and Water Resources Minister Masagos Zulkifli presenting Singapore's Voluntary National Review at the UN High Level Political Forum 2018. Photo by Ministry of the Environment and Water Resources, Singapore (used with permission).

The 2030 Agenda is a long-term global development framework adopted by the world's leaders at the United Nations (UN) Sustainable Development Summit in September 2015. One of the more widely known outcomes of the summit are the 17 Sustainable Development Goals (SDGs), which apply to all countries, to mobilise efforts to end poverty, address inequalities and tackle climate change. The 2030 Agenda succeeds the Millennium Development Goals and calls on governments and people to take ownership of sustainable development and their own futures by implementing national frameworks for achieving the 17 SDGs.

The High-Level Political Forum on Sustainable Development (HLPF) was first convened in September 2013, replacing the Commission on Sustainable Development. The forum provides an opportunity for countries, civil society and businesses to highlight efforts and review progress towards achieving the SDGs and serves as a platform for exchanging ideas and best practices.

Voluntary National Reviews (VNRs) are an important innovation as a UN process to follow up on the implementation of SDGs. Where implementation was reviewed globally in the past, the 2030 Agenda takes a "country-led" approach that takes into account national realities and recognises that country ownership is central to the implementation of the agenda.

Countries have shown great interest in the VNR process. In its first year in 2016, 22 countries presented VNRs. In 2017, the number of countries that presented VNRs nearly doubled to 43.

Singapore was one of 46 countries this year to present its VNR at the HLPF 2018.

More than 125 Heads and Deputy Heads of State and Government, Ministers, Vice-Ministers and other Ministerial level officials, and over two thousand representatives from governments, the UN system and

other organisations, civil society, non-governmental organisations and the private sector participated in the HLPF 2018 held from 9–18 July 2018 to take stock of progress on SDGs.

Each HLPF (held on an annual basis) has a thematic focus and reviews a subset of the 17 SDGs. The 2018 HLPF theme was "Transformation towards sustainable and resilient societies" and the six SDGs reviewed this year were:

SDG # Description

- 6 Ensure availability and sustainable management of water and sanitation for all
- 7 Ensure access to affordable, reliable, sustainable and modern energy for all
- 11 Make cities and human settlements inclusive, safe, resilient and sustainable
- 12 Ensure sustainable consumption and production patterns
- 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss
- 17 Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development, that will be considered each year

The Singapore delegation to the HLPF — from 15–19 July 2018 at the UN Headquarters in New York City, USA — was led by the Minister for the Environment and Water Resources, Masagos Zulkifli. He was accompanied by officials from the Ministry of the Environment and Water Resources (MEWR), the Public Utilities Board which is Singapore's National Water Agency, and the Ministry of Foreign Affairs (MFA).

Three students from the NUS School of Design and Environment — Alviedo Dionne Robin Menez, Yu BingJie and Feng Wei Han — also attended. They were the winners of the MFA and MEWR's Youth Video

Competition, “The Sustainable Development Goals: What YOUTH Can Do” for students from all Singapore Institutes of Higher Learning. Civil society members from the Singapore Environment Council and Sustainable Living Lab were also part of the delegation.

In this first VNR, Singapore took stock of the policies enacted since independence and assessed their contribution to the country’s sustainable development within the framework of the 2030 Agenda. The VNR was also an opportunity for the government to examine areas where policies may be lacking and how to overcome them.

Environment and Water Resources Minister Masagos outlined three key elements of Singapore’s strategy in meeting the 17 SDGs. He said that balancing economic development with environmental protection and social inclusion; long-term integrated policy planning and implementation; and collaborative partnerships were important, as governments alone cannot tackle climate change and sustainability.

In its main message on the Sustainable Development Knowledge Platform, the Government of Singapore said that one important takeaway that the country had from the VNR process was that there is no one-size-fits-all approach to achieving the SDGs. It went on to say that countries should be free to pursue the SDGs in the manner they choose, taking into account their national priorities and circumstances. At the same time, Singapore recognises that there is much that countries can learn from one another in their common pursuit of sustainable development and highlighted that the country has learnt from the generous sharing by others of their own development experiences. Singapore is committed to strengthening the global partnership for sustainable development, including through its well-established technical assistance initiatives¹ as well as its Chairmanship of the Association of Southeast Asian Nations (ASEAN) in 2018.

In its 84-page VNR Report to the 2018 HLPF titled “Towards a Sustainable and Resilient Singapore”, Singapore details progress on all 17 SDGs and fleshes out future challenges and opportunities for each of them. The report highlights the “Whole-of-Nation, bottom-up approach” Singapore takes to develop solutions, and highlights how such an approach also “secures greater buy-in and commitment to action by all segments of society”. It acts as a report card for implementation progress of the SDGs and is an excellent resource for everyone, particularly educators and civil society.

The Annex features a progress tracker with 153 indicators. There are a total of 232 indicators that were developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) and adopted by the UN General Assembly on 6 July 2017. According to the table, Singapore has met 59 of the SDG indicators that apply.

Importantly, the MFA had collaborated with 31 other government agencies to produce the report. Comparably, the Climate Action Plan published in 2016 was an effort

by 25 agencies and the Sustainable Singapore Blueprint of 2015 was contributed to by 22 agencies. Thus, this VNR report represents the largest inter-agency effort by the Singapore government to take stock of SDG implementation progress.

As the report details, the preparations for the report began more than a year in advance. An Inter-Ministry Committee on SDGs (IMC-SDGs), co-chaired by the MFA and MEWR, was established to oversee the inter-agency process for the report. According to the report, the “IMC-SDGs ensured the buy-in of agencies and engendered a sense of ownership of the VNR process”. It is expected that the IMC-SDGs will also help in monitoring progress over the longer term.

The HLPF is not the only platform where Singapore is working to sustain political momentum towards achieving the SDGs.

At the UN Conference on Housing and Sustainable Urban Development (Habitat III) held on 18 October 2016 in Quito, Ecuador, Special Envoy of the Prime Minister and Senior Minister of State for Home Affairs and National Development Desmond Lee shared Singapore’s pragmatic approach to governance and sustainable urban development.

In support of SDG #11 on sustainable cities, Singapore signed a Memorandum of Understanding (MOU) with the United Nations Human Settlements Programme (UN-Habitat) at Habitat III, under which it committed to work with UN agencies to provide capacity building support and technical assistance to cities from developing countries. In this way, the country hopes to support the implementation of the 2030 Agenda and the New Urban Agenda through this partnership.

The first iteration of the capacity development programmes under the MOU was offered as a pilot to African countries, and future iterations may include collaborations with other developing countries. The Centre for Liveable Cities, a division under Singapore’s Ministry of National Development, leads Singapore’s efforts to implement the MOU with UN-Habitat. The first Singapore UN-Habitat International Leaders in Urban Governance Programme (SG UNiLUGP), a five-day residential urban governance programme, was held in June 2017 and attended by 42 city leaders from 14 African cities.²

The SG UNiLUGP, like other capacity building programmes, seeks to promote peer-to-peer learning and networks among government officials. Cross programmes help develop better understanding about Singapore’s model of sustainable urban development and provides city leaders with the knowledge, skills and tools that will enable them to lead change in their cities’ urban planning, thereby contributing directly to achievement of the SDGs.

Singapore contributes to the 2030 Agenda, largely through the sharing of its experiences in public service. The UNDP Global Centre for Public Service Excellence (GCPSE) was a joint initiative of the Government of Singapore and

the United Nations Development Programme (UNDP). It was one of six Global Policy Centres of the UNDP and promoted the strengthening of public institutions and good governance towards meeting the 2030 Agenda goals.

One of the more “popular” training workshops on Public Sector Leadership was entitled “Transformational Leadership for Delivering the 2030 Agenda”.³ The GCPSE project closed on 31 August 2018, and in the six years of operations in Singapore, the Centre designed and delivered over 90 conferences, capacity building workshops, talks and workshops with more than 3,700 participants.⁴

At the UNDP Asia Pacific 2018 Regional Management Meeting held in Singapore on 9 October 2018, Minister for Foreign Affairs Vivian Balakrishnan announced that the UNDP Global Centre for Public Service Excellence will transition into its third phase as the Global Centre for Technology, Innovation and Sustainable Development.⁵

But beyond senior leadership level exchanges, Singapore also targets policy design and ground implementation. The SG UNiLUGP is a good example of a multi-year programme to share and discuss urban policies, planning and legislations, urban financing, the 2030 Agenda and the New Urban Agenda, as well as Singapore’s successful urban practices and model of urban transformation.

At the ground level, Singapore works with partners like the UN Children’s Fund (UNICEF) and UN-Water (the UN inter-agency coordination mechanism for all matters related to freshwater and sanitation) to provide training and consultancy that focuses on delivering practical and local solutions in water and sanitation for countries in need. Through water management training courses, practitioners share technical insights and in-depth planning and operational experience about the sustainable management of water and sanitation. This directly addresses SDG #6.

Water is an important issue for Singapore, an island with no natural water resources. Apart from addressing SDG #6 on access to and the sustainable management of water, oceans are another important SDG that Singapore pays attention to.

At a high-level United Nations Conference to Support the Implementation of Sustainable Development Goal 14 — Life Below Water held on 8 June 2017, Foreign Affairs Minister Balakrishnan highlighted the need for sustainable development of the oceans in a “balanced and integrated manner”, and in accordance with the UN Convention on the Law of the Sea (UNCLOS).⁶

Highlighting that a rules-based international order would provide the necessary framework for all UN member states to operate on a common basis in the global environment, Balakrishnan said that Singapore had worked with Jamaica, Argentina, the Netherlands, Papua New Guinea and the UN Office of Legal Affairs to organise an event on 6 June 2017 to discuss how UNCLOS — the “constitution for the oceans” — can play a central role in efforts to achieve Goal 14.

Minister Balakrishnan stressed that there were challenges involving the global commons and shared that overfishing, climate change, marine pollution and coastal degradation were serious issues for Singapore and fellow small island nations. He said that Singapore had made a voluntary contribution to the Conference Trust Fund to enable other small island developing states to be represented at the conference and to have their voices heard on matters concerning their survival.

He also outlined Singapore’s efforts to protect its marine environment, with measures put in place to contribute to cleaner and greener shipping. These included the Maritime Singapore Green Initiative by the Maritime and Port Authority of Singapore (MPA) and efforts by Singapore to become a liquefied natural gas or LNG bunker ready port by 2020 to reduce carbon dioxide emissions and contribute to cleaner shipping.

In conclusion, Singapore’s VNR of the UN SDGs is significant on several accounts. First, it provided the country with a platform to share and discuss progress, successes, challenges and lessons learnt on its journey to implement the SDGs. Furthermore, the HLPF 2018 saw a record number of country leaders, private sector and civil society actors participating in the review. This gave Singapore a global platform to share details of its SDG implementation progress.

Second, the writing of the VNR report was a successful inter-agency effort. Remarkably, 31 agencies participated in the report and the IMC-SDGs is expected to continue to use the established approach to oversee progress in the longer term. In order for the report to be in-depth yet wide-ranging, groups of agencies had to work together to produce write-ups for individual goals. The effort showed that implementation of each SDG could not be single-handedly accomplished by any one agency; instead, it required the effort and expertise of several parties to achieve the targets and indicators for each SDG. Given the interlinkages between several if not all of the SDGs, this is an important outcome of Singapore’s participation in the VNR. Furthermore, the VNR enables mutual learning and can foster better working relationships among government agencies.

Third, the VNR highlights that Singapore, a small island nation state, can play a role in global partnership to implement the SDGs. The Government of Singapore has worked with UNDP and UN-Habitat to develop international capacity development programmes. Together with existing programmes under the SCP, these have helped to facilitate cross-sector knowledge exchange and promote peer-to-peer learning and networks among political and government leaders.

The voluntary, transparent and participatory approach to the VNRs makes participation significant. Governments and stakeholders greatly benefit from the preparation and commentary on the VNR reports. VNR report analysis done by the UN are also helpful in understanding cross-cutting themes and trends as countries work towards the 2030 Agenda goals.

Finally, highlighting of diverse practices of countries will also aid in promoting mutual experience sharing and learning across countries, as well as generate healthy competition among countries to produce higher quality reports over time. As such, Singapore's participation in its first VNR in 2018 is timely as the country continues to build on progress towards the achievement of the 2030 Agenda and beyond.

- 1 The Singapore Cooperation Programme (SCP) was established in 1992 to provide training and capacity building courses for partners. In 2015, Singapore launched the Sustainable Development Programme (SDP) under the SCP to support the 2030 Agenda.
- 2 UN-Habitat. 2018. "Singapore UN-Habitat International Leaders in Urban Governance Programme." Accessed October 11, 2018. <https://unhabitat.org/wp-content/uploads/2018/05/SG-UNILUGP-2018-Brochure.pdf>.

- 3 United Nations Development Programme. n.d. "Convening Hub — Training Workshop: Transformational Leadership for Delivering the 2030 Agenda." Accessed October 11, 2018. <http://www.undp.org/content/undp/en/home/ourwork/global-policy-centres/publicservice/convening-hub.html>.
- 4 United Nations Development Programme. n.d. "About the Centre." Accessed October 11, 2018. <http://www.undp.org/content/undp/en/home/ourwork/global-policy-centres/publicservice/about-us.html>.
- 5 Ministry of Foreign Affairs, Singapore. 2018. "Transcript of Minister for Foreign Affairs Dr Vivian Balakrishnan's Keynote Address at the United Nations Development Programme (UNDP) Asia Pacific 2018 Regional Management Meeting (RMM) at the Hilton Hotel, 9 October 2018." October 9, 2018. <https://www1.mfa.gov.sg/Newsroom/Press-Statements-Transcripts-and-Photos/2018/10/Transcript-UNDP>.
- 6 Channel Newsasia. 2017. "Singapore to Review Implementation of UN Sustainable Goals: Balakrishnan." June 9, 2017. <https://www.channelnewsasia.com/news/singapore/singapore-to-review-implementation-of-un-sustainable-goals-8931762>.

Climate Action and Sustainable Development — Where Are We Now?



Veerappan Swaminathan (with microphone) sharing some insights on Singapore's first Voluntary National Review. Photo by National Youth Council, Singapore (used with permission).

On 16 August 2018, the Energy Studies Institute, National University of Singapore (ESI, NUS) hosted a documentary screening of *Before the Flood* directed by long-time environmental advocate Leonardo DiCaprio and a dialogue titled "Climate Action and Sustainable Development — Where Are We Now?" to take stock of climate action and sustainable development in Singapore. The event was held at the Marina Barrage, which celebrates its 10th anniversary this year and where the Sustainable Singapore Gallery (SSG) was relaunched in June 2018, with an upgrade to both format and content that took one and a half years. ESI worked with the Public Utilities Board (PUB) to organise a guided tour of the SSG as part of this event. ESI would like to thank all speakers, participants as well as co-organising partners, the NUS Office of Environmental Sustainability and the National Youth Council Singapore for supporting the event.

IPCC and Scientific Evidence of Climate Change

Assistant Professor Winston Chow, Department of Geography, National University of Singapore and Intergovernmental Panel on Climate Change (IPCC) Working Group 2 AR6 Lead Author on Cities

Winston Chow shared that coherence and consilience (agreement between the approaches to a topic of different academic subjects) are important concepts. He noted that IPCC reviews extant research, and that scientific evidence that humans are causing climate change is

unequivocal. He noted that as a geographer, he also looks at scale — both regional and local. At the local scale, there is evidence of temperature increase in Singapore¹ and this is currently being addressed by the work of the National Parks Board. While air conditioning helps in adapting to increased temperatures for thermal comfort, there is negative feedback effect where increased use of air conditioning in buildings results in greater electricity use. Precipitation change was highlighted, not just in terms of increased or decreased amount of observed rainfall patterns, but also extremes.

Chow said that a United States Climate Prediction Center report noted it is increasingly likely (around 70 per cent chance) an El Niño will form between this and next year (December to February). Singapore has not had incidents of haze for three years, but Chow warned that an El Niño phenomena can cause increased forest fires. Lastly, he underscored that sea level rise poses the biggest threat to island states like Singapore and that there is no better time to step up efforts on mitigation and adaptation and sustainable development than right now.

Singapore's Year of Climate Action — How We've Done So Far

Eugene Ang, Senior Executive, Outreach and Engagement, Communications & 3P Partnership Division, Ministry of the Environment and Water Resources

Eugene Ang presented on Singapore's Year of Climate Action, which was launched by the Ministry of the Environment and Water Resources (MEWR) on 26 January 2018. The event officially unveiled the Climate Action Pledge and was attended by many partners and 54 diplomats. Ang shared that the aim of the Year of Climate Action is to raise the level of national consciousness around the need to take individual and collective action to fight climate change for a sustainable Singapore. To do this, MEWR encourages everyone to play a part to reduce their carbon footprint. The Climate Action Plan contains steps that everyone can take. Elaborating on how Singaporeans can move towards a lifestyle where all products are reused, Ang shared that MEWR is planning to introduce a Zero Waste Masterplan in 2019.

MEWR's efforts so far in the Year of Climate Action were also shared. These included the various round table discussions with non-governmental organisations (NGOs) and youth in January, the National Environment Agency's (NEA's) launch of the Energy-Saving Challenge in May, the launch of the Sustainable Singapore Gallery on 2 June as well as several talks and sharing sessions at partners' events. MEWR and NEA are planning more community programmes and more details will be shared soon.

In terms of working with partners, MEWR's flagship event, the Partners for the Environment Forum, was held for the second time on 10 July at the Marina Bay Sands. It was noted that it involved more than 260 participants from the 3P sectors (i.e. people, public and private), with the theme "Accelerating Action on Climate Change". The event saw the announcement of a collaboration between MEWR and the Singapore Scout Association, and partners having discussions on three sub-themes: Education, Empowering Youth and Capacity Building for Organisations/Companies. On partners' events, several examples were raised, including the Youth Conversations² launched by the Ministry of Culture, Communications and Youth (MCCY) earlier this year, and run by the National Youth Council Singapore.

NEA had also introduced a Climate Action SG Grant to support ground-up initiatives for NGOs and interest groups in the Year of Climate Action. Projects that promote climate action messages, the 3Rs (Reduce, Reuse and Recycle) or energy conservation may apply. The application period is between 1 April to 31 December 2018, for projects that take place between 1 April 2018 and 31 Mar 2019. Successful NGOs and interest groups may receive between SGD 500 and SGD 5,000.

Finally, Ang elaborated on how individuals can get involved and encouraged the audience to share and promote messages through social media with the hashtag #ClimateActionSG. He added that MEWR is open to sharing stories by partners via their Climate Action SG Blog³. MEWR has received more than 250,000 Climate Action Pledges⁴ and encouraged everyone to do so as well.

Sustainable Development Goals — A Youth Perspective

Veerappan Swaminathan, Founder and Director, Sustainable Living Lab

Veerappan Swaminathan shared some insights from his involvement in Singapore's 1st Voluntary National Review (VNR) of the United Nations (UN) Sustainable Development Goals (SDGs) at the UN's High-Level Political Forum on Sustainable Development (HLPF) in July 2018. He said that this year, 46 countries including Singapore presented their voluntary national reviews over three days of ministerial meetings from 16–18 July 2018.

Swaminathan noted that there were six SDGs that were being reviewed this year, and countries who participated were called upon to report on the SDGs for 15 minutes, and this was followed by a 30-minute session where member states or the major working groups of the UN

were allowed to pose questions to the state undergoing the VNR. He also gave a brief background on the eight Millennium Development Goals (MDGs) as well as the 17 SDGs. He shared that there was consensus among those in the UN that the MDGs did not provide much room for non-state actors to be a part of the goals, and that helped to shape the SDGs. He added that the SDGs are more inclusive and countries can prioritise and address the SDGs that are relevant to them. For Singapore, he said that SDGs 6, 7, 11, 12, 15 and 17, which were reviewed this year, are important.⁵

He shared some examples of the kinds of questions asked during the VNR, and gave the example of the Netherlands. He noted that there was great interest from the floor about Singapore's water story, specifically on reducing foreign dependence and becoming self-sufficient. However, Swaminathan voiced concern that water is often a subnational issue and cited the example of Tamil Nadu's water dispute. He suggested that the UN should consider additional mechanisms to address subnational matters as current mechanisms are not so suitable. He also shared his views on the role of youth, and his worries about youth unemployment, citing Indonesia's 14 per cent youth unemployment rate as a cause for concern.

Finally, Swaminathan encouraged the audience to read Singapore's VNR report, and noted that it could speak more about civil society's involvement in sustainable development as that isn't covered in the report.

Corporate Leadership in Sustainability

Karen Lee, Sustainability Lead, Asia, Interface

Karen Lee shared about Interface's journey to corporate leadership in sustainability and how that stemmed from the realisation of Interface's late founder, Ray C. Anderson, that the company was only compliant with environmental laws and not pushing the boundaries on environmental stewardship. She highlighted several initiatives by Interface, including its Mission Zero — to eliminate any negative impact on the environment by 2020 — and Climate Take Back. Lee also shared that as of May 2018, Interface has managed to reduce greenhouse gas emissions by 96 per cent, water use by 88 per cent, waste to landfill by 91 per cent and overall carbon footprint by 60 per cent.

On the Climate Take Back initiative, Lee explained that we need to start seeing carbon not as an enemy but as a building block and to begin using it as a resource. Interface calls this "Love Carbon". She also highlighted the initiative's three other aims of attaining zero negative impact ("Live Zero"), transforming industry into a force for the future ("Lead the Industrial Revolution") and supporting the biosphere's ability to regulate the climate ("Let Nature Cool").

Through a Proof Positive prototype carbon-capturing tile, Lee shared that carpet tiles manufactured by Interface can actually store 2 kilogrammes of carbon dioxide (CO₂) per square metre, rather than emitting 7 kilogrammes of CO₂ per square metre per average tile. She shared two other programmes: Factory as a Forest

Pilot and Net-Works⁶, where Interface is working with the Zoological Society of London on a #Nets2Carpet programme, where they buy discarded fishing nets from some of the poorest communities in the world. The nets are recycled into new yarn for their carpet tiles by Aquafil, thus providing fishing communities an alternative livelihood and promoting sustainability in the industry. It also proves that collaborative innovation can create positive and sustainable change.

Panel Discussion

There were a total of four questions and some comments from the audience for the panel discussion. They centred on the following:

- Banks and the funding of coal power plants;
- Use of electric vehicles in Singapore;
- Government action on single-use plastics;
- Sea level rise in Singapore giving rise to migrations and climate refugees;
- How small and medium-sized enterprises (SMEs) in sustainability can make their business model work;
- How SMEs can overcome high costs of recycling.

Panel Discussion sharing:

- Key Environmental Statistics 2018 published by MEWR⁷;
- Weather extremes causing conflicts and migration, examples of the Syria drought and Jakarta's over-extraction of ground water were cited;
- Sustainable Living Lab's approach of taking a different communication strategy and promoting "incidental sustainability", where it is more important

to have people act in a sustainable manner than to be aware of it. For example, in the Repair Kopitiam initiative, pre- and post-event surveys show that people attend these sessions to learn skills, save money or make friends. The speaker here noted that "as long as the effect is achieved, perhaps the why is not as important"; but noted that not everyone agrees with this approach.

- 1 Tan, Audrey. 2018. "New Temperature Record for Singapore in 2017, Another Sign of Climate Change.", *The Straits Times*, January 11, 2018. <https://www.straitstimes.com/singapore/environment/new-temperature-record-for-singapore-in-2017-another-sign-of-climate-change>. See also: National Climate Change Secretariat, Strategy Group, Prime Minister's Office. 2018. "Impact of Climate Change on Singapore." Last updated February 20, 2018. <https://www.nccs.gov.sg/climate-change-and-singapore/national-circumstances/impact-of-climate-change-on-singapore>.
- 2 Ministry of Culture, Communications and Youth and National Youth Council Singapore. n.d. "Youth Conversations." Accessed October 11, 2018. <https://youthconvo.sg>.
- 3 Ministry of the Environment and Water Resources, Singapore. n.d. "Climate Action SG." Accessed October 11, 2018. www.climateaction.sg.
- 4 Ministry of the Environment and Water Resources, Singapore. 2018. "Make Your Climate Action Pledge." Last updated September 25, 2018. www.climateactionpledge.sg.
- 5 Goal 6: Ensure availability and sustainable management of water and sanitation for all; Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all; Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable; Goal 12: Ensure sustainable consumption and production patterns; Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; Goal 17: Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development.
- 6 Interface. n.d. "The Net-Works Programme." Accessed October 11, 2018. http://www.interface.com/EU/en-GB/about/mission/Net-Works-en_GB.
- 7 Ministry of the Environment and Water Resources, Singapore. n.d. "Key Environmental Statistics 2018." Accessed October 11, 2018. <https://www.mewr.gov.sg/docs/default-source/default-document-library/grab-our-research/kes-2018.pdf>.

Youth Against Climate Change

Thirty-five youth under the age of 35 participated in climate change negotiations training workshop sessions conducted by the Energy Studies Institute, National University of Singapore (ESI, NUS), in partnership with the NUS Office of Environmental Sustainability and Ridge View Residential College (RVRC) and the National Youth Council Singapore from 13 August to 17 September 2018.

The aim was to help youth get a better understanding of the complex climate change negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) and how countries are responding, as well as empower youth to act on climate change and promote awareness among their peers. This was the first time such a workshop has been conducted for the youth in Singapore.

The workshop was co-run as a Year Two RVRC Forum on Resilience. Specifically, the rubrics for class participation and participant briefs for the assignments were designed with the help of Sadaf Ansari, Associate Director of Studies at RVRC.

The participants were selected from over 60 applications and included students from NUS and other institutes of

higher learning, as well as working professionals from the public and private sectors.

This summary provides an overview of the workshop programme, highlights reflections and ideas generated by participants and shares next steps.

As the official appointed channel for the exchange of information with the UNFCCC Secretariat when the University was admitted as a Research and Independent Non-Governmental Organisation to the UNFCCC in 2014, the ESI shared its expertise on the UNFCCC process during the workshop.

The climate change negotiations training workshop sessions were held for two-hours weekly every Monday (except for Session 3, which fell on a Tuesday) from 6 p.m. to 8 p.m. at The Red Box. At each session, a limited number of observers were allowed to attend, at the invitation of the organising partners. The concluding session was held at RVRC, and was open to the public.

The programme included an introduction to the UNFCCC and its Paris Agreement; the role of youth; national perspectives on climate change and Singapore's

participation at the UNFCCC. One unique feature of the workshop was the online tracking of the Bangkok Climate Change Conference, where countries met from 4–9 September 2018 in Bangkok, Thailand to complete developing the Paris Agreement climate “rulebook”, for adoption by Parties to the UNFCCC by December this year.

During the session on the role of youth, two guest speakers — Cheryl Lee, a member of the Singapore Youth for Climate Action, and Stacy Wong, Curriculum Resource Development Officer at the Ministry of Education — shared their experience attending the Conference of Parties (COP) meetings in 2017 and 2015 respectively. At the concluding session, Nor Lastrina Hamid, co-founder of the Singapore Youth for Climate Action and Community Development Manager at the People’s Movement to Stop Haze; Goh Jia Lin, RVRC Alumni and NUS student representative to COP21; and Wilson Ang, Executive Director of Global Compact Network Singapore and founder and President of Environmental Challenge Organisation (ECO) Singapore shared their individual COP experiences as well.

It was an opportunity for participants to hear from Singaporeans about their personal and professional environmental journeys and to promote better understanding, potential collaboration and career opportunities following active involvement in climate negotiations.

Participants were required to submit weekly reflections that take stock of their learnings and raise further questions. The weekly reflections highlighted that participants mostly started with little or no understanding of what climate change negotiations entailed and how significant Singapore’s role as a small, low-lying island state can be at these talks. Many shared that they had changed perspectives after having been through the training sessions. By the end of the workshop, 78 weekly reflections were submitted.

Selected reflections are reproduced here to illustrate participant learnings.

Elissa Goh, NUS Geography Alumni: “Singapore’s participation at the UNFCCC reflects a commitment to stay globally competitive and to collaborate with other nations to address a global phenomenon. Although small in size, Singapore’s representation of almost 20 delegates across different Ministries creates an impression of ‘effective cooperation’. Singapore has an influential presence at the negotiations by taking part at high-level meetings and assisting the secretariat in chairing/co-chairing the working groups. This involvement is crucial for ensuring that Singapore stays up-to-date with developments on a number of levels and sustains growth. Open-minded conversations will continue to be important between communities, families and strangers to help each personalise their own convictions towards a

better and more sustainable future for all. For enduring change towards a sustainable future, it has to go beyond an awareness of climate change to a deep consciousness of the exponential effects of one’s actions on the environment and the interconnectedness of the present with the future.”

Tay Yong Sheng, Year 2 RVRC student and NUS Physics major: “This session made me think more about how international diplomacy is conducted within the framework of the United Nations, be it in climate change negotiations or not.”

Aidan Mock, Year 3 Yale-NUS College Environmental Studies Major/Marine Biology specialisation: “Moving forward, I hope to engage in meaningful advocacy that can push the needle forward in getting climate legislation and also educating the general public on what climate change is and why it matters. I think another meaningful area of engagement would be to explore how to handle the displacement of jobs and livelihoods when the oil installations here inevitably cease to exist.”

The six-week workshop concluded with RVRC College Master Adekunle Adeyeye presenting participants with their certificates of participation.

Since the workshop’s conclusion on 17 September 2018, there have already been expressions of interest from participants and observers to represent NUS at COP24. ESI will lead a delegation of five to Katowice, Poland. The delegation comprises students from the Lee Kuan Yew School of Public Policy, NUS Law and Yale-NUS College. There are plans to organise similar workshops in the future, given the positive feedback received. The ultimate goal is to build capacity for youth representation at global climate change negotiations and to galvanise young people to take on the role as climate change ambassadors in Singapore.

Contact

- Collaboration as a Partner of ESI (research, events, etc)
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