CLIMATE ACTION STRATEGY

Phase 1: Developing a Green Ecosystem

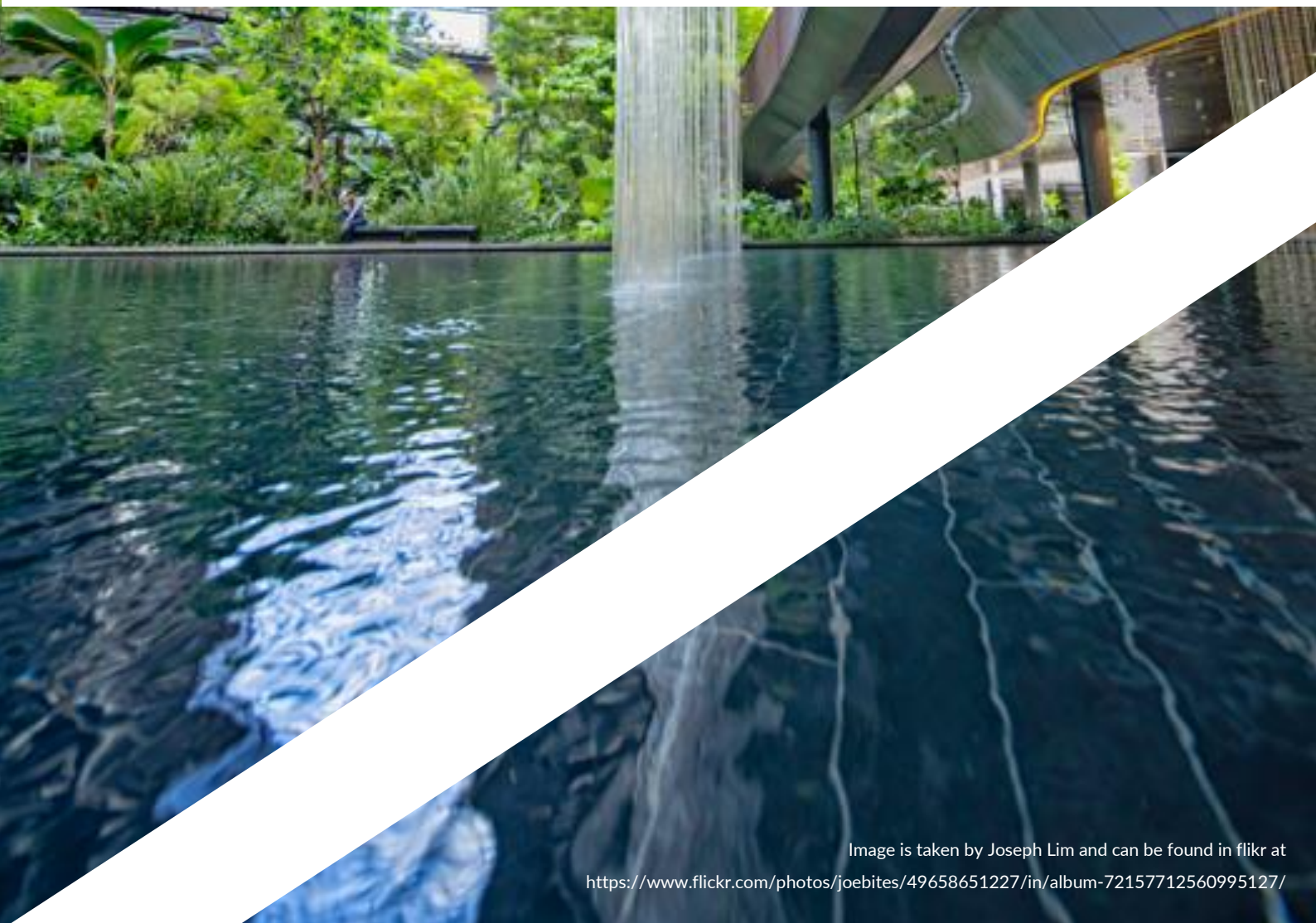

Image is taken by Joseph Lim and can be found in flikr at https://www.flickr.com/photos/joebites/49658651227/in/album-72157712560995127/

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Introduction

Climate change is an existential crisis not only for Singapore but for the world. The Young PAP (YP) recognises the impending and inevitable effects of climate change and calls for the government to take sharper and more expeditious measures to reduce Greenhouse Gas (GhG) emissions.

YP's campaign on climate change is not new. On 5 March 2020, YP published its first climate change position paper titled "Singapore: A Green Hub" after a broad-based consultation process with activists and experts.[1] The second edition of the same paper, published on 22 November 2021, was released following consultations with industry representatives to analyse the feasibility of the proposals in the first edition.[2] PAP Members of Parliament presented the contents of the position paper and the recommendations in Parliament during the 2021 Committee of Supply (COS) debates. Additionally, PAP has established the Action for Green Towns (AGT) initiative to partner with residents to enhance the environmental sustainability of PAP-managed town councils.[3]

YP's campaign on climate change reflects the aspirations of youths in Singapore. YP is proposing a Climate Mitigation Strategy and has consulted various industry professionals from January 2021 to assess the feasibility of our proposal.

[1] "Singapore: A Green Hub", *People's Action Party*, 5 March 2020, https://www.pap.org.sg/young-pap/singapore-a-green-hub/.
[2] "Young PAP Proposes Recommendations for a Sustainable Singapore", *People's Action Party*, 22 November 2020, https://www.pap.org.sg/news/young-pap-proposes-recommendations-for-a-sustainable-singapore/.
[3] "PAP Town Councils to take Action for Sustainability", *People's Action Party*, 15 May 2021, https://www.pap.org.sg/news/pap-town-councils-take-action-for-sustainability/.

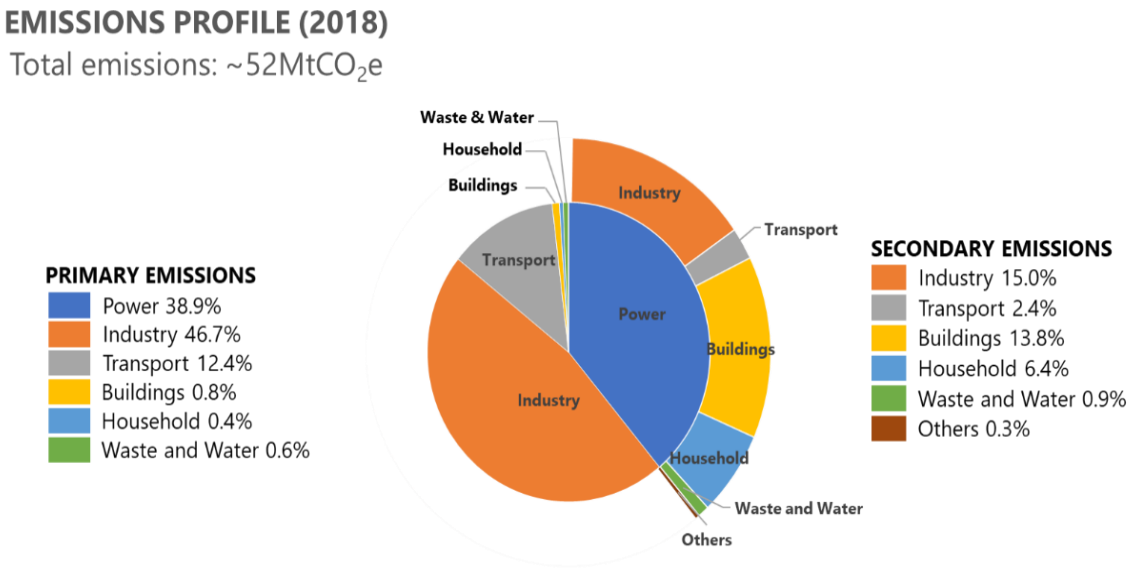

Figure 1: Singapore Emissions Profile[4]

Singapore must invest in efforts that produce the greatest effect on reducing GhG emissions. Based on data provided by the National Climate Change Secretariat (NCCS), power generation and industry are the highest emitters of GhG in Singapore. Hence industry-specific policies are needed to reduce Singapore's GhG emissions significantly.

This set of recommendations will require short-term economic trade-offs for a sustainable future. Given the gravity and urgency of climate change, YP believes that the government of Singapore must have the political will to commit to a sustainable future. Through our proposals, YP believes that Singapore can continue to be a vibrant, sustainable, and highly-regarded oasis for future generations of Singaporeans to pursue their aspirations, build better homes and live better lives.

YP calls on the government to accelerate our climate mitigation efforts and become the regional leader for environmentally sustainable solutions and practices by 2030. Given Singapore's history of turning vulnerabilities into strengths, YP believes that Singapore can capitalise on opportunities in developing a green economy. This paper outlines the first set of proposals to develop a green economy.

This paper contains phase 1 of YP's Climate Mitigation Action Strategy. YP calls on the government to lead the creation of a green economy by 2025. YP argues that a robust green

[4] "Singapore's Emissions Profile", *National Climate Change Secretariat Singapore*, 28 October 2021, https://www.nccs.gov.sg/singapores-climate-action/singapore-emissions-profile/.

economic ecosystem underpins the national agenda of regulating and reducing GhG emissions in every sector.

This paper will address three topics that cut across all sectors to create a green economy in Singapore. They include (1) enhancing Singapore's Green Financing Framework, (2) enacting a National Sustainability Administration Strategy, and (3) expanding the Talent Pipeline for Sustainability-Related Jobs.

Enhancing Singapore's Green Financing Framework

A green financing framework is necessary to incentivise businesses to transit to greener operations and penalise businesses for excessive GhG emissions. The current system of incentives does not reward environmental sustainability. Sustainable solutions tend to be more expensive, deterring businesses from adopting sustainable solutions. Hence, a successful green financing framework would impose a cost to GhG emissions and incentivise green solutions.

Singapore already has a green financing framework. There is a carbon tax of SGD5 per tonne of carbon emission without exemption.[5] The revenue generated from the carbon tax will be distributed to incentivise energy efficiency.[6] The Ministry of Finance has also announced that they will be reviewing the carbon tax rate for 2024, which is expected to be substantially higher than the SGD10—$15 range previously announced for 2030.[7]

In this section of the paper, YP recommends to (1) increase the revenue generated from the carbon tax through the inclusion of more companies, (2) explore alternative models to regulate carbon emissions, and (3) endorse a code of practice for Green Loans and Green Bonds.

[5] "Carbon Tax", *National Environment Agency Singapore*, 28 May 2021, https://www.nea.gov.sg/our-services/climate-change-energy-efficiency/climate-change/carbon-tax.
[6] Grace Fu, "Written Reply to Parliamentary Question on Carbon Tax", *Ministry of Sustainability and Environment Singapore*, 5 July 2021, https://www.mse.gov.sg/resource-room/category/2021-07-05-written-reply-to-pq-on-carbon-tax/.
[7] Lawrence Wong, "Opening Speech at The 35th Singapore Economic Roundtable", *Ministry of Finance Singapore*, 15 October 2021, https://www.mof.gov.sg/news-publications/speeches/minister-lawrence-wong-s-opening-speech-at-the-35th-singapore-economic-roundtable-on-15-october-2021.

1. *Impose Incremental Carbon Tax Rates*

YP welcomes the recent announcement that carbon taxes will be revised in 2024, to be announced in Budget 2022 and that the revenue generated will assist households in reducing energy consumption.[8]

The global implementation of carbon pricing has been ongoing in approximately 40 countries, 20 cities and regions. In a report from the World Bank in 2019, the carbon price will need to increase an average of US$120/mt by 2030 to reach the targets set in the Paris Agreement 2015.[9] However, based on current progress, the global average of carbon tax is about US$50-65/mt.[10]

Singapore is in a position to review the carbon tax model to facilitate the necessary industry transition while also retaining its hub status as a bunkering facility. Any fixed carbon tax rate would disproportionately affect middle-tier emitters more than the largest emitters as larger emitters tend to have the fiscal capacity to pay off the carbon tax. The carbon trading market in Singapore would be too small for an effective cap-and-trade model to be implemented.

Hence as an alternative and to address the disproportionate effect on middle-tier emitters, YP proposes for a tiered carbon tax model to regulate carbon emissions. A base carbon tax tCO_2 can be set based on the ministry's calculations of the appropriate measures. This base tax would then be increased marginally after every emission bracket. This would thereby not over penalise environmentally prudent businesses while providing greater incentives for large emitters to reduce their emissions. This model is consistent with Elinor Ostrom's eight principles of "Governing the Commons"; to impose graduated sanctions for violators.[11]

2. *Impose Carbon Tax on all Businesses in the Manufacturing, Built Environment, and Trade & Connectivity Industry Transformation Map Cluster*

YP supports the government's position on giving no exemptions from the carbon tax and not including emission allowances for existing industrial players, which we believe forms the

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[8] Grace Ho, "S'pore's revised carbon tax rates for 2024 to be announced in Budget 2022: Lawrence Wong", *The Straits Time*, 15 October 2021, https://www.straitstimes.com/singapore/politics/revised-carbon-tax-rate-for-2024-what-to-expect-till-2030-to-be-announced-in.

[9] "What is Carbon Pricing?", *S&P Global*, 25 February 2020, https://www.spglobal.com/en/research-insights/articles/what-is-carbon-pricing.

[10] "Carbon Pricing Dashboard", *The World Bank*, 2021, https://carbonpricingdashboard.worldbank.org/map_data.

[11] Elinor Ostrom, "Governing the Commons", (*Cambridge University Press, 2015*), https://books.google.com.sg/books/about/Governing_the_Commons.html?id=hHGgCgAAQBAJ&source=kp_book_description&redir_esc=y.

bedrock of a fair and just carbon tax, unlike the emission allowance systems seen in other countries. However, the carbon tax in Singapore is only directed at facilities that emit more than 25,000 tCO_2 annually. The National Climate Change Secretariat (NCCS) estimates that as a result, about 40 – 50 companies are liable to pay carbon tax.[12]

YP argues that the carbon tax should apply to more companies, especially businesses within the Manufacturing, Built Environment, and Trade & Connectivity Industry Transformation Map (ITM) clusters. Based on the NCSS data shown in Figure 1, these sectors are the highest emitters. While businesses in these sectors may not each emit as much as each of the largest companies, they collectively account for a significant proportion of the total GhG emissions in Singapore. It is crucial to impose a marginal cost to GhG emissions to incorporate environmental costs as part of the business's decisions.

Therefore, YP proposes for the carbon tax to be imposed on all businesses within the Manufacturing, Built Environment, and Trade & Connectivity ITM clusters, regardless of the annual emission amount. We believe that a carbon tax on all of these companies would meaningfully increase the impact and effect of the tax, as well as send a strong signal of the government's intent to achieve a net-zero economy "as soon as viable".

Moreover, implementing a carbon tax can compel businesses to shift their practices to cope with the cost of GhG emissions, particularly for the low-production high-emission parts of the manufacturing sector. YP's subsequent proposal to mandate Sustainability auditing for businesses with revenues above SGD5 million in critical sectors would facilitate the calculation of GhG emissions for this proposal.

3. Set a Maximum Viable Carbon Intensity for All Sectors by 2025

There is a correlation between carbon emissions and economic growth. Singapore must strike a balance between our economic viability and a sustainable future. Hence, the government of Singapore measures the carbon intensity (CO_2 emissions per dollar GDP) as an indicator of

[12] "Carbon Tax", *National Climate Change Secretariat Singapore*, 13 August 2021, https://www.nccs.gov.sg/faqs/carbon-tax/.

sustainability. In 2018, Singapore was ranked 126th of 143 countries for its carbon intensity.[13]

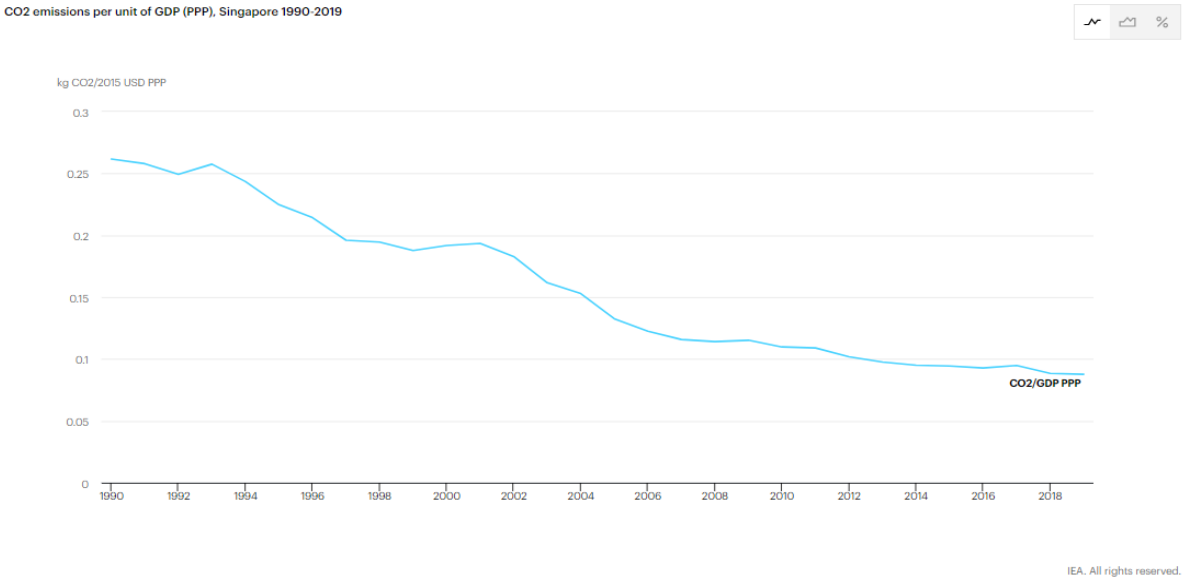

Figure 4: Singapore Year-on-Year Carbon Intensity[14]

While the overall carbon intensity has reduced significantly, YP believes that Singapore has the capacity to do better. YP suggests for the Singapore government to set a cap on carbon intensity (tCO_2/ Gross Profit) for all businesses with priority on carbon-intensive sectors (Energy and Chemicals, Manufacturing, Built Environment). This maximum viable carbon intensity should be adjusted and reduced every year. Hence, ensuring that carbon-intensive sectors will be gradually phased out of Singapore in favour of carbon light industries.

4. Enriching Regional Voluntary Carbon Exchange by Enhancing Carbon Measurement, Regulation, and Validation Practices

Many economies and regional blocs, for their compliance needs, have pivoted to the cap-and-trade model to regulate carbon emissions. This includes the European Union, Hong Kong-China, and some states in the US. The carbon market represents approximately US$277 billion in value, and companies often have dedicated carbon credit trading departments.[15] However, given that Singapore's carbon footprint is only 0.1% of global emissions, the market size in

[13] "Singapore Emissions Profile", *National Climate Change Council Singapore*, 28 October 2021, https://www.nccs.gov.sg/singapores-climate-action/singapore-emissions-profile/.
[14] "Data and Statistics: Singapore CO2 Emissions per unit of GDP (PPP)", *International Energy Agency*, https://www.iea.org/data-and-statistics/data-browser?country=SINGAPORE&fuel=CO2%20emissions&indicator=CO2ByGDPPPP.
[15] Nina Chestney, "Global Carbon Market Value Surged to Record $277 Billion Last Year – Refinitiv", *Reuters*, 27 January 2021, https://www.reuters.com/article/us-europe-carbon-idUSKBN29W1HR.

Singapore is too small to implement a cap-and-trade model. Moreover, Singapore does not have many abatement pathways available locally due to land and resource constraints.

Nonetheless, Singapore is fortunate to be sited in Southeast Asia, where multiple options exist in the region for carbon abatement like nature-based solutions, renewable energy, and carbon capture, utilisation, and storage (CSU). Today, carbon abatement in Southeast Asia contributes credits to the regional voluntary markets. International acceptance of voluntary credits in compliance markets has not yet been attained due to concerns about the environmental integrity of carbon offsets and the permanence of these measures. To this end, YP emphasises that carbon abatement is part of a comprehensive green financing framework and should not be viewed as a primary climate mitigation policy.

To make it possible for Singapore to meet its commitments, Singapore must lead the establishment of a trusted and dependable regional carbon trading and exchange marketplace to facilitate the international acceptance of voluntary carbon credits in compliance markets. This would require (1) setting up dependable carbon trading marketplaces, (2) carbon credits verification and the assurance of permanence, and (3) global engagements on multilateral platforms to establish credible rules with key regional partners.

Climate Impact X was recently launched by DBS, Standard Chartered Bank, Singapore Exchange, and Temasek.[16] However, a high standard for carbon measurement, regulation and verification (MRV) is required to build trust in Singapore's carbon exchange marketplace. The MRV landscape remains fragmented today, with stakeholders from non-profit standard bodies (like AENOR, JQA and Verifavia) and for-profit companies (like Tuv Sud and DNV.GL). Singapore can capitalise on the gap in the market to establish leadership in the carbon credits compliance market in the region.

YP appeals for the government to professionalise the MRV vocation by establishing a regionally recognised institution with both private and public partners to train, certify, and regulate carbon credits with the launch of Climate Impact X.

[16] "Climate Impact X is Carbon Credit Exchange launched b Singapore Finance Giants", *Investable Universe*, 20 May 2021, https://investableuniverse.com/2021/05/20/cix-is-carbon-credit-marketplace-launched-by-dbs-bank-singapore-exchange-standard-chartered-and-temasek/.

5. Endorse a Code of Practice for the Green Loan and Grant Schemes

Banks[17] have launched their own green loans for businesses to advance environmental sustainability. However, the criteria for obtaining a green loan or green grant from banks in Singapore remains unclear. YP calls on the government to increase the transparency of the evaluation matrixes to allow businesses to conduct a self-assessment of their likelihood of receiving the loan.

The published matrix should be aligned with existing international standards, such as the International Capital Market Association (ICMA) Green Bond Principles or the ASEAN Green Bond Standards.[18] A loan e-assessment could be made available for businesses to understand the loan evaluation matrix. This transparency would help businesses to pivot towards sustainability based on the published evaluation matrixes.

6. MSE-MAS Green Loan/Bond Endorsed Catalogue

Going green and prioritising sustainability is beneficial in the long term, but there will be costs for businesses in the short to medium term. While loans and grants are provided to offset the costs of transiting to more sustainable operating models, these do not assure the businesses that their services and products will be recognised in the market.

Therefore, YP calls for the Ministry of Sustainability and Environment to develop an MSE-Monetary Authority of Singapore (MAS) Green Loan/Bond Endorsed project catalogue to formally recognise the businesses undertaking significant sustainability efforts. Businesses and individuals interested in procuring goods and services from sustainable sources can refer to the

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[17] "Green Loans", *DBS*, https://www.dbs.com/sustainability/responsible-banking/sustainable-financing/green-loans; "SME Sutainable Financing – Green Financing", *OCBC*, https://www.ocbc.com/business-banking/smes/loans/sustainable-financing?cid=Business%3Aloans%3ASustainableFinancing%3AAlwaysOn%3AAcquisition%3AFeb%3A2021%3Asem%3AGoogle%3APPT-Generic%3ASmeGreenLoan%3AExpanded-Text-Ad%3A%2Bgreen%20%2Bloans%20%2Bsingapore%3A&gclid=CjwKCAjw_L6LBhBbEiwA4c46ulydzwe7osaxGHGZIoaGCNqW909AXvLIxms4WZZLQr5XniAZU4YsghoC6_UQAvD_BwE&gclsrc=aw.ds; "Taking Green and Sustainable Financing Forward", *Maybank*, 12 July 2021, https://www.maybank2u.com.sg/en/personal/about_us/maybank-singapore/Featured-Articles/taking-green-and-sustainable-financing-forward.page?utm_source=google&utm_medium=search&utm_campaign=branded-articles&utm_term=brand&utm_content=green-sustainable-financing&gclid=CjwKCAjw_L6LBhBbEiwA4c46ulvzuhaYK4nABuPxPeUTq2N0phDKrLdI3NgPToBMA-hlZ0yaUF74jxoCSx4QAvD_BwE.

[18] "Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds", *International Capital Market Association*, (June 2021), https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-140621.pdf; "ASEAN Green Bond Standards", *Association of Southeast Asian Nations*, (October 2018), https://drive.google.com/file/d/1JZOBiomtQC69clfZmOVvpu3Tjrhjs5QV/view, retrieved on 23 October 2021.

MSE-MAS catalogue. This will improve the business prospects for companies that commit to the transition of going green.

Fundamentally, the MSE-MAS Green Loan/Bond Endorse Catalogue is a low-cost, low-risk solution that can potentially shift consumer and business behaviour and will have a disproportionately positive impact on environmental sustainability.

The National Sustainability Accountability Strategy

However, sustainability reporting must be robust and transparent for these green financing proposals to be feasible. The National Environment Agency has published greenhouse gas inventory results in its 2020 fourth biennial report.[19] Such transparency raises public awareness of the emission levels of various sectors.

As the future economy will be driven by the availability of near-real-time data, the validity of the information is paramount. Having up to date information about GhG emissions levels will promote accountability within the ecosystem, forward planning for related policies, and timely remediation measures to ensure that GhG levels remain acceptable. The information needs to be updated on an annual basis, at least. Current published data on GhG emissions is outdated.

The ability to accurately account for GhG emissions will allow Singapore to make more targeted interventions within industries. The United Nations (UN) called for the harmonisation of carbon emissions.[20] However, there are no internationally agreed harmonised standards for carbon accounting as the sector remains nascent, complex, and messy. Experts that YP spoke to highlighted significant institutional difficulties in harmonising standards because companies, agencies, and stock exchanges have already adopted varying international reporting standards.[21] Agencies overseeing emission disclosure standards have made attempts to harmonise reporting standards and published the Alliance Prototype in December 2020.[22]

Given the present unharmonised and disparate landscape, there is an opportunity to improve sustainability reporting. If Singapore takes the lead on sustainability auditing, we can make our

[19] "Singapore's Fourth Biennial Update Report 2020", *National Environment Agency Singapore*, (2020), https://unfccc.int/sites/default/files/resource/Fourth%20Biennial%20Update%20Report.pdf#page=44.
[20] "IFIs – Harmonization of Standards for GHG accounting", *United Nations Climate Change*, https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting.
[21] Nadia Mirabella and Karen Allacker, "Urban GHG accounting: discrepancies, constraints and opportunities", *Building Cities, 2(1), 21-35*, (2021), https://journal-buildingscities.org/articles/10.5334/bc.50/.
[22] Anne Adrian, "Global Bodies Launch Prototype Climate-Related Financial Disclosure Standard", *ICAS*, 6 January 2021, https://www.icas.com/landing/sustainability/climate-change/global-bodies-launch-prototype-climate-related-financial-disclosure-standard.

processes interoperable for global businesses. Singapore can, and should, seize the opportunity to increase the demand for sustainability auditing. We will also be able to influence the development of best practices. Sustainability reporting and auditing could be a strategic sector in Singapore due to our status as a regional financial hub.[23] However, as the demand for sustainability reporting and auditing is low, there is insufficient talent in this sector. Hence, the following recommendations aim to establish platforms to increase the demand and support for sustainability reporting and auditing in Singapore.

1. Capitalise on Singapore's Transnational Transport Infrastructure to Harmonise Emission Calculation and Publication Practices

Many sectors face challenges in accounting for GhG emissions.[24] While Singapore's Maritime Port Authority (MPA) has committed to a memorandum of understanding to raise the carbon accounting capabilities of maritime companies in Singapore[25], experts from the transport and logistic sector have highlighted that accounting for GhG emissions continues to be arduous and manual. Today, there is still no way to measure the emissions of vessels and vehicles directly. Hence, the process of accounting for GhG emissions is based on theoretical estimates. For example, for a given truck or a ship related movement, carbon emissions are calculated based on the following factors; (1) weight of cargo carried, (2) distance moved, and (3) fuel consumed.[26]

There is also a theoretical emission factor based on which mode of transportation is used. This provides emission estimates based on consumption data and not actual emission information. Data collation of fuel consumption and cargo weights is highly manual despite implementing standards such as verified gross mass by the International Maritime organisation. Companies have also stated that significant time and effort are required for reconciling this information.

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[23] Jacqueline Loh, "Creating Opportunities and Strengthening the Singapore Core in Financial Services", *Monetary Authorities of Singapore*, 12 August 2020, https://www.mas.gov.sg/news/speeches/2020/creating-opportunities-and-strengthening-the-singapore-core-in-financial-services.

[24] Joseph Chun, Joesph Tay, Wei Shyan Tan, "A Closer Look at Singapore's Mandatory Corporate ESG Disclosure and Associated Legal Risks", *International Financial Law Review*, 29 June 2021, https://www.iflr.com/article/b1sgmvnq1ndxc8/a-closer-look-at-singapores-mandatory-corporate-esg-disclosures-and-associated-legal-risks.

[25] "MPA, SSA and GCNS Sign MoU to Raise Carbon Accounting Capabilities amongst Maritime Companies in Singapore", *Maritime Port Authorities Singapore*, 24 September 2021, https://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/8c65cbd1-eec1-4caa-a0af-babba37dc2ab.

[26] "Energy Efficiency Measures", *International Maritime Organisatization*, 2019, https://www.imo.org/en/OurWork/Environment/Pages/Technical-and-Operational-Measures.aspx.

Being a major hub in both the maritime and aviation sectors, Singapore should continue capitalising on this competitive advantage. As an international transport node, we could require vessels and planes to share GhG emissions information in accordance with international standards such as the MPA's Maritime Sustainability Guide.[27] This would reduce the reconciliation requirements for companies and appeal to carbon-conscious consumers.

2. Mandate Sustainability Reporting and Auditing for High-Revenue Companies in Critical Sectors

The primary challenge to mandating sustainability auditing in businesses is the cost of compliance and also administration. Participants at our focus group discussions explain that smaller businesses with lower cash flow and less manpower cannot bear the additional burden of conducting sustainability auditing. Moreover, sustainability auditing for many smaller businesses might be counterproductive due to their relatively minimal production capacity and GhG emission footprint.

We need to strike a balance between building a larger base of reporting companies and avoiding inordinately increased compliance costs among smaller businesses and emitters. YP proposes for the government to set a minimum annual revenue for mandatory sustainability reporting. This will identify companies with and without the financial and administrative capacity to undertake sustainability auditing. This will also significantly increase the demand for sustainability auditors.

Subsidies can be provided for some businesses that marginally meet the minimum revenue for mandatory sustainability auditing to alleviate the cost of sustainability auditing. One possibility is to provide the subsidy through the MAS's Green & Sustainability-Linked Loan Grant Scheme (GSLS).[28] The GSLS aims to defray the business cost of validating green and sustainability credentials. The GSLS could also be used to fund the procurement of technologies and software that can help automate the process of sustainability reporting and accounting. However, it is unclear if sustainability auditing is covered under the GSLS. Hence, YP appeals

[27] "Maritime Sustainaibility Reporting Guide: Beset Pratices for Creating a Maritime Sustainability report", *Maritime Port Authorities Singapore vol. 1, (2019),* https://www.mpa.gov.sg/web/wcm/connect/www/1642d704-55ea-4600-95f7-8cddbcb85096/Maritime+Sustainability+Reporting+Guide+Vol.+01+and+Success+Stories.pdf?MOD=AJPERES&id=1565859931627.

[28] "Green & Sustainability-Linked Loan Grant Scheme (GSLS)" *Monetary Authority of Singapore*, 24 November 2020, https://www.mas.gov.sg/-/media/MAS/News/Media-Releases/2020/GSLS-Brochure.pdf.

for the government to clarify if the cost of sustainability auditing would be covered under the GSLS.

3. Create a Consortium of Sustainability Auditors

YP calls for the government to consolidate a consortium of accredited sustainability auditors or auditing companies recognised under the Institute of Singapore Chartered Accountants (ISCA) to facilitate the procurement of sustainability auditing services. This requires the government to establish or approve accreditation standards to ensure that sustainability auditors and companies are credible. Additionally, the consortium of sustainability auditors and companies can improve the prestige of sustainability auditing and potentially attract more Singaporeans to pursue a career in sustainability administration.

Sustainability Auditors can be introduced under the current framework for the accreditation of Auditors established by professional bodies for auditing in Singapore, such as The Institute of Internal Auditors of Singapore. Alternatively, sustainability auditing can become a compulsory module for aspiring auditors to be accredited under the Singapore Accreditation Council framework. Hence, energizing the ecosystem to promote more sustainable measures to mitigate climate change.

4. Develop a Centre of Excellence for Sustainability Administration

For Singapore's efforts to gain traction, we should attempt to establish ourselves as a regional thought leader for sustainability administration. Given the nascency and complexity of the sustainability sector, there is much room for policy research to harmonise sustainability standards, increase the demand for sustainability auditing, and enhance the role of sustainability administration.

To do so would require the establishment of a Centre of Excellence for Sustainability Administration (CESA) to bring together academics, policymakers and practitioners to develop curricula, standards and certification processes. Such a Centre would also serve as a focal point for the discussions about the subject and the professional development of local talent.

By leveraging Singapore's Meetings, Incentive Travel, Conventions & Exhibitions (MICE) industry,[29] Singapore can host regular sustainability conventions, workshops, and seminars.

[29] "Hybrid Events, Virtual Demonstrations – How Singapore's MICE Sector is Adapting Quickly to COVID-19", *The Government of Singapore*, 14 September 2020, https://www.gov.sg/article/how-the-mice-sector-is-adapting-quickly-to-covid-19.

CESA could spearhead regular sustainability-related MICE events to shape industrial innovation. Hence, attracting regional and international experts to discuss critical sustainability-related topics. Through such events, Singapore can attract established global partners and budding brands in ASEAN to incorporate the sustainability agenda into their business.

Expanding the Talent Pipeline for Sustainability-Related Jobs

Finally, a green economy must be supported with a green workforce. Singapore has declared ambitions to produce graduates and transition mid-career workers to take on roles in the sustainability sector, such as high-tech agriculture, waste management, and water management.[30] There is also a high level of interest among Singaporeans to go into this area, as demonstrated in the recent YP-WW survey conducted with 220 respondents. 42% of the participants rated the Sustainability sector as one of the top 3 sectors they would like to explore a career in.[31]

However, there is a capability gap in Singapore for sustainability or clean energy engineering and sustainability auditing.[32] There has been a recent surge in sustainability-related jobs in Singapore. The government must do more to prepare locals with skills relevant to these jobs. Hence, the following are YP's policy recommendations to increase the local talent pool and improve the process of job transition.

1. Green Space Academy - Singapore as a Knowledge Hub for Sustainability

YP had previously proposed measures to make Singapore a Research and Development (R&D) hub for alternative energy by directing more national resources towards scientific research for alternative energy. MSE has provided funding through the Resource Efficiency Grant for Energy, Energy Efficiency Fund, and the Low Carbon Energy Research Fund.

Looking forward, YP calls for a more institutionalised approach to develop Singapore as a Knowledge Hub for Sustainability. Setting up a "Green Space Academy" to groom local in-

[30] "30 by 30", *Singapore Food Agency*, 18 August 2021, https://www.ourfoodfuture.gov.sg/30by30; "NEWSand: A Key to Closing Singapore's Waste Loop", *National Environmental Agency*, 25 November 2019, https://www.nea.gov.sg/media/news/news/index/newsand-a-key-to-closing-singapore-s-waste-loop; "NEWater", *Public Utilities Board*, n.d., https://www.pub.gov.sg/watersupply/fournationaltaps/newater.

[31] Refer to Appendix 1

[32] Joesph Radigan, "Auditors May See Increased Demand for ESG Attestation", *Journal of Accoutancy,* (29 May 2021), https://www.journalofaccountancy.com/news/2021/may/esg-attestation-increased-demand.html; Morgan Smith, "The 10 Most In-Demand Green Jobs Right Now" *CNBC*, 19 October 2021, https://www.cnbc.com/2021/10/19/the-10-most-in-demand-green-jobs-right-now.html.

house expertise in R&D. These experts could include R&D professionals, mechanical engineers, and maintenance and repair specialists.

Developing a body of knowledge within the sustainability field would facilitate the progress of sustainability efforts within different industries, the sharing of technical and engineering knowledge, and innovation. We should continue to position ourselves in Singapore as a pilot location for Green Solutions in manufacturing, transport and logistics, as well as building and construction.

The Academy should be a multi-stakeholder arrangement alongside global and local industry-led non-profit collaborations like the Zero Carbon shipping partnership spearheaded by Mærsk, Mc-Kinney, Møller, among others.[33] Transition programmes should be created that build expertise through specialist and professional tracks for youth in tertiary institutions and mid/ late-career transitions. Programmes need to combine classroom teaching, simulated experiential learning, and internship arrangements together with partner organisations. Thereby increasing exposure while building experience and expertise.

2. Enhanced Internship Programme

No education can guarantee a job for the applicant. Hence, efforts to upskill and upgrade should be complemented with opportunities for on-the-job training experience to ensure that the applicant remains industry-relevant and gains the necessary network to penetrate the job market.

Therefore, YP proposes for ITEs, Polytechnics, and Universities to devote mandatory hours to internships in sustainability-related roles. Such internships expose students to the technicalities and complexities of environmental sustainability while augmenting the supply of green experts. Moreover, such hands-on opportunities can provide students with valuable skills that cannot be taught in the classroom.

The tertiary education institutes should be proactive in establishing partnerships with private sector companies to facilitate students' internship experiences.

[33] "Decarbonizing the Global Maritime Industry", *Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping*, https://www.zerocarbonshipping.com/, retrieved on 30 October 2021.

3. Tripartite Committee for Internship and Apprenticeship

Internships and apprenticeships are opportunities for individuals to develop industry-relevant skills and to open doors for both trainees and their employers. However, individuals have varying experiences during their internship/apprenticeship because some organisations do not have the capacity to design a framework to transfer skills. Smaller companies are often unable to maximise the opportunities a trainee can provide their business because they lack the human resource expertise to do so.

Thus, the government can consider creating a tripartite committee to establish guidelines for internships and apprenticeships, particularly for sustainability-related jobs. While these guidelines are not enforceable, they provide companies with a readily available framework and best practices to transfer skills to the interns or apprentices while achieving their business objectives concurrently. Moreover, the guideline can be used to manage both the intern's/apprentice's and their employer's expectations.

4. Embed Sustainability within All Industry Transformation Map and Jobs Transformation Map Clusters

YP called for the government to embed the sustainability agenda within all ITM clusters in March 2020.[34] YP continues to appeal for the government to embed sustainability into the ITMs while appealing for sustainability to be integrated into the recently created Jobs Transformation Map (JTM).[35] This initiative aims to increase the industry demand for sustainability-related jobs and to increase the opportunities for internships and apprenticeships.

The ITMs and JTMs can be enablers for businesses to adopt more sustainable solutions. The integration of sustainability into the ITMs and JTMs, particularly for the Manufacturing, Building & Construction, and Trade & Connectivity clusters, can provide students and mid-career workers with more internship and apprenticeship opportunities, thereby expediting and facilitating the transition into an environmentally friendly economy.

The proposal is complementary to the carbon tax proposal. The implementation of a carbon tax is targeted at changing business and consumer behaviours. However, if behaviours were

[34] "Singapore: A Green Hub", *People's Action Party*, 5 March 2020, https://www.pap.org.sg/young-pap/singapore-a-green-hub/.
[35] "Jobs Transformation Maps", *Workforce Singapore*, 1 March 2020, https://www.wsg.gov.sg/for-employers/jobs-transformation-maps.html.

augmented by other means, the carbon tax necessary to achieve the outcome need not be as high. Hence, it is crucial for the government to augment a shift in business behaviour through the various ITM clusters.

Conclusion

YP's recommendations have targeted industries to accelerate Singapore's ambitions to be a regional leader for sustainable solutions. This paper calls for the government to lead in the creation of a green economic ecosystem in Singapore by 2025. YP's recommendations aim to result in an increase in demand for sustainability-related services in Singapore through enhancing Singapore's green financing framework, developing a sustainability administration strategy, and expanding the talent pipeline.

Enhancing the green financing framework should further incentivise sustainable solutions and penalise GhG emissions while ensuring that Singapore remains a viable business partner for the world. The fiscal policies first dealt with the carbon tax. These proposals ensure that carbon tax is fairly implemented while broadening the carbon tax base on high-emitting sectors. Next, it proposes regulations on carbon intensity and the MRV of carbon credits exchange. Finally, it addresses the availability of financial incentives for businesses intending to "go green" by publishing a code of practice for financial institutions to disburse their loans and publishing a catalogue of sustainable businesses.

Nonetheless, the green financing framework must be supported by a robust and sustainable auditing system. Hence, YP proposes a national sustainability administration strategy to increase the demand and improve our local expertise in sustainability auditing. This can be achieved through regulation and education. Singapore must leverage its strengths to shape regional and international practices. Singapore's port-hub status could facilitate the harmonisation of reporting standards. Regulations could also be implemented to increase the demand for sustainability auditing. Lastly, high-quality education and a robust MICE sector could catalyse interest and expertise in sustainability administration.

The green economy must be supported by a trained talent pool. YP's proposals on expanding our green talent pipeline focus on practical initiatives to develop people. YP first proposed an industry-led skills development institute. Next, to expose all tertiary students to sustainability-related jobs while providing guidelines for employers with best practices for transferring skills to interns and apprentices. Finally, to make environmental sustainability a businesses culture by embedding the sustainability agenda into all ITMs and JTMs.

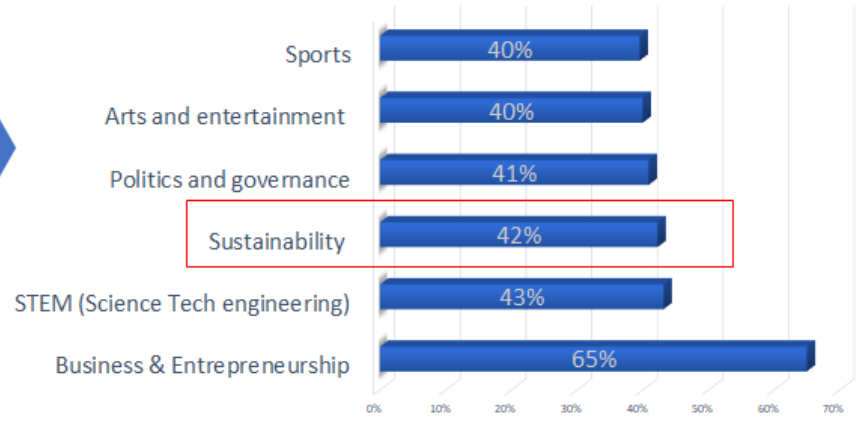
Creating a green economic ecosystem is only the first phase of YP's strategy to accelerate Singapore's climate mitigation efforts. YP has already begun consulting representatives from these sectors to solicit feedback for green solutions in specific industries. We will also partner with our comrades from Young NTUC to leverage their sector-specific expertise to co-create policy recommendations. We must engage with and address the sentiments of workers from the affected industries while deepening the symbiotic relationship between the PAP and NTUC.

Appendix 1

WHAT TYPE OF JOBS WOULD YOU CONSIDER PARTICIPATING IN OR ASPIRE TO HAVE IN THE FUTURE?

A few sectors were identified for this question.

Popular sectors in the future

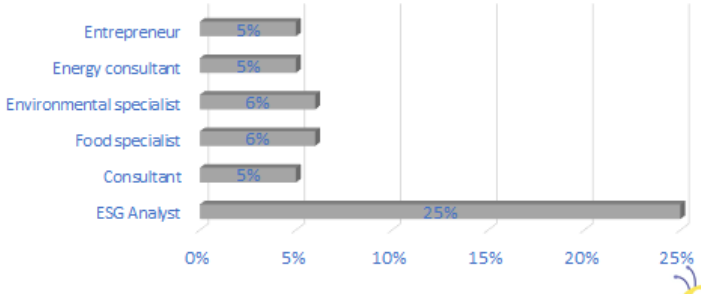


WHAT TYPE OF JOBS WOULD YOU CONSIDER PARTICIPATING IN OR ASPIRE TO HAVE IN THE FUTURE?

A sectors were identified for this question.

3

42% felt that Sustainability sector offered opportunities in the future



Job Transitions required : A centre of excellence for Green Shipping to be set-up as an academy – For transition jobs, for students to take on ad-hoc sustainability courses, flexi – work arrangements as part of internships. A digital marketplace can be created for sustainability related roles open across age groups and for both men and women.