

Hong Kong Youth Statement on Climate Actions

CarbonCare InnoLab COP29 Youth Delegates

Chang Yu Ching, Alfred

Cheng Chieh, Jenny

Lai Hiu Wah, Kylie

Leung Man Tai, Oscar

Yeung Ho Fan, Marco

Yeung Kit Lai, Prudence

Ying Yau Kit, Stanley

COP29 Hong Kong Youth Statement on Climate Actions

Introduction

As we stand at the threshold of 2024, the threatening shadow of rising temperatures hangs heavy over our world. The year 2023 has been marked as the hottest on record by the World Meteorological Organization, with forecasts indicating that 2024 may surpass this alarming milestone. As we look towards 2024, forecasts whisper of a potentially even hotter future looming on the horizon. According to the U.S. National Centers for Environmental Information Global Annual Temperature Outlook, there is a 97% chance that 2024 will rank as the warmest year on record. Drawing insights from the Planetary Health Check Report of 2024, which exposes the breach of six vital "planetary boundaries," we, the youth, are faced with a stark reality— the significant challenges our planet confronts, with its delicate balance in jeopardy. These unprecedented temperature surges, alongside the broader climate crisis, stand not merely as anomalies but as poignant symbols demanding our immediate attention and decisive action.

In Hong Kong, the repercussions of climate change are increasingly tangible, with the looming spectre of extreme weather events and rising sea levels menacing our communities, especially the vulnerable among us. The first half of 2024 has been unusually warm in Hong Kong, with a record mean minimum temperature of 21.4°C from January to June.

Studies highlight the looming threats faced by vulnerable groups. Research by CarbonCare InnoLab and the Kwai Chung Subdivided Flat Residents Association discovered that indoor temperatures in rooftop platform rooms are 1.5°C higher than outdoors. Over fifty percent of residents in inadequate housing have reported symptoms of heatstroke. The Concern for Grassroots' Livelihood Alliance sheds light on the struggles of outdoor workers facing fatigue, thirst, and health issues amid rising temperatures. Greenpeace's "Extreme Weather Opinion Survey 2024" underscores the anxiety felt by the younger generation regarding climate challenges. The climate emergency demands immediate action from government authorities; failure to act will burden the next generation with even greater risks.

As youth delegates gearing up for COP29, we implore the government to intensify efforts in combating climate change, aligning with the ambitious goals of the Paris Agreement to cap global warming below 1.5°C. We advocate for enhanced collaboration within and beyond our city to showcase a resolute commitment to environmental sustainability globally. We strive to advocate for climate justice and catalyse impactful change that resonates across generations. Our youth statement not only identifies the shortcomings in current climate policies but also presents actionable recommendations to address critical concerns, ensuring a sustainable and resilient future for Hong Kong and the world.

1. Raise Climate Ambition in line with the 1.5°C target of the Paris Agreement

Following the first Global Stocktake at COP28, it has become internationally recognised that existing policies and NDCs fall short of what is required to meet the 1.5°C target of the Paris Agreement. The Sixth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) has made it clear that limiting global warming to 1.5°C necessitates "rapid, deep, and sustained reductions in greenhouse gas emissions", compelling policymakers to step up their climate ambitions immediately and significantly. This confluence of evidence underscores that the Hong Kong government must raise its climate ambitions, and review and set credible, science-based targets on par with global efforts to align with the 1.5°C target of the Paris Agreement.

1.1 Halve Emission by 2030 and Net-zero by 2040

Despite global calls to enhance climate ambitions and mitigation initiatives, Hong Kong lags significantly behind international efforts. As a member city of the C40, Hong Kong has yet to establish a credible emission trajectory that aligns with the 1.5°C target. With the window to raise ambition rapidly closing, it is imperative for the Hong Kong government to take immediate action to scale up its pre-2030 mitigation efforts. We urge the government to commit to the C40 Race to Zero pledge, elevate its emission target to reduce carbon emissions by at least 50% by 2030 or sooner, and achieve net-zero emissions by 2040. Alongside this overarching ambition, the government should establish interim, short- and medium-term targets and prioritise actions within this decade.

1.2 Adopt clear science-based targets in all sectors with clear roadmaps to ensure transparency and accountability

Contrary to international standards, a science-based decarbonisation pathway has yet to be found in the current Climate Action Plan 2050. We strongly urge the government to establish science-based targets and trajectories endorsed by the IPCC and the International Energy Agency, as this is crucial for aligning our efforts with the global temperature goal. This approach should extend to all sectors, including power generation, buildings, and transportation. A comprehensive roadmap must be developed to clarify when and how mitigation measures will contribute to achieving these emission targets. Furthermore, we call on the government to reference global best practices for monitoring, evaluating, and reporting on mitigation processes annually to the public. By transparently tracking and disclosing progress, the government can identify shortcomings in implemented policies and effectively allocate resources to prioritised actions.

1.3 Mainstream climate ambition across policymaking and government entities

Despite some measures having been made such as the establishment of the Steering Committee on Climate Change and Carbon Neutrality, the Climate Action Plan merely

endorsed separate roles and responsibilities for individual departments. The alignment of priorities among various government bureaux and departments with emission targets remains ambiguous. This highlights the urgent need to mainstream climate change within the government, as such integration could support the realisation of policy goals and reduce the risk of these goals being undermined by conflicting governmental priorities. To enhance this mainstreaming, the government should strengthen the existing institutions responsible for coordinating and driving integrated policy-making, providing centralised and consistent advice across different sectors on climate change issues. We also recommend the government to consider establishing statutory responsibility for addressing climate change in policy-making and building internal government capacity.

2. Develop a RE-centred energy transition roadmap

This shift is pivotal as Hong Kong has set ambitious targets in its Climate Action Plan 2050. By 2035, Hong Kong aspires to attain a 7.5% renewable energy target, yet at present, the contribution from renewable sources remains below 1%. During COP28, nearly 200 countries, including China, have pledged to triple their renewable energy capacity by 2030. Hong Kong's current position falls short of this global standard, emphasising the urgent need for significant efforts to bolster its renewable energy mix.

2.1 Clarifying Hong Kong's Energy Transition: Focused Roadmap Key to Achieving Renewable Energy Goals and Eliminating Distractions

In the Hong Kong Climate Action Plan 2050, the government has outlined its intent to transition to green energy without clearly defining the specific energy targets and associated policies necessary to achieve the goal of increasing renewable energy generation from less than 1% to 15% by 2050. The government has also alluded to the focus on hydrogen development as one of the substitutions of the energy transition.

It is crucial to present a coherent and focused energy transition roadmap that minimises distractions. By implementing well-defined policies and setting a clear timeline, the emphasis should not solely be on promoting solar energy initiatives to boost the renewable energy sector. This strategic approach should encompass various renewable energy projects, including wind farms, hydro-power plants etc. to fully harness the potential of renewable sources. Furthermore, the roadmap should concentrate on developing genuine renewable solutions and avoid distractions posed by alternatives such as hydrogen, natural gas, nuclear power, waste-to-energy, and biofuels to ensure a real and efficient transition. This exclusive focus on authentic renewable energy sources not only simplifies the implementation process but also propels progress towards a sustainable and eco-friendly energy environment.

2.2 Extend the "2033" rebate/FiT Scheme deadline to grant a decade-long commitment to all aspiring Renewable Energy owners

The Feed-in Tariff (FiT) functions as an incentive for private sector investment in Renewable Energy by allowing the sale of generated power to utility companies at rates above standard electricity tariffs, aiding in the recuperation of investment expenses in RE systems and generation. Nonetheless, the current FiT is available only until the conclusion of 2033, limiting long-term investments in Renewable Energy systems. This constraint has resulted in a notable decline in FiT applications, plummeting from 6,900 in 2019 to 2,400 in 2023 (CLP Sustainability Report), marking a decrease of about 69.57% since 2019. This reduction has led potential investors to hesitate due to the impending deadline, raising concerns regarding the equitable allocation of rebates, particularly for those embarking on RE projects nearing the FiT expiration. Such a scenario may dissuade commitments to extensive sustainability attempts. Moreover, the imminent deadline may trigger a rush to finalise projects before the cutoff, potentially sacrificing quality and meticulous planning to meet the FiT deadline, thus jeopardising the overall efficacy and sustainability of Renewable Energy initiatives.

Offering a guaranteed ten-year rebate period to all investors can significantly boost interest in Renewable Energy development while fostering equitable rebate returns. This extended rebate duration not only provides a predictable incentive for investors to engage in sustainable energy projects but also ensures a level playing field by granting all participants an equal opportunity to benefit from the incentives over an extended period. By establishing a fair and extended rebate system, stakeholders are more likely to view Renewable Energy investments as financially viable and are incentivised to contribute to the long-term growth and sustainability of the sector, ultimately leading to a more robust and inclusive renewable energy landscape.

2.3 The government should mandate power companies to guarantee grid compatibility with renewable energy sources, streamlining the FiT approval process for increased renewable energy integration and improved grid stability for heightened energy security.

Challenges arise for the Feed-in Tariff Scheme, intended to promote renewable energy growth, due to delays in readiness by power companies in facilities, improving grid capacity, and navigating the extensive approval process for installing renewable energy systems. CLP has acknowledged limitations in linking high-capacity power generation facilities to the current grid infrastructure. The number of applications declined because the grid system has reached the maximum handling capacity. There are obstacles to extending the installation of large-scale renewable energy systems such as solar panel roofs in the parking lot, solar installation which exceeds 1.5m will require more than just a Registered Structural Engineer (RSE) report but also the Alteration and Addition (A&A) work, typically taking 1 to 2 years for approval and the cost of it is very expensive, severely impacting construction timelines and deterring property owners from embracing renewable energy installations. Critics highlight the rushed implementation of the FiT Scheme without requisite infrastructure, causing significant hurdles in the post-launch period. Delays in the construction and installation of renewable energy systems, overseen by the Buildings Department and attributed to power

companies, have hindered advancements until agreements are reached with these providers. These delays risk diminishing public interest, potentially undermining environmental conservation goals.

To ensure effective integration of the Feed-in Tariff (FiT) Scheme, robust policies are needed to incentivise both power companies to enhance their grid infrastructure and streamline the application approval procedures.

3. Reform and develop an effective, comprehensive and human-centred adaptation and resilience plan

Hong Kong, as a coastal city facing one of the highest risks of natural disasters in Asia, must prioritise the development of an effective, comprehensive, and human-centred climate adaptation and resilience plan. However, comparing the existing strategies set out in the Hong Kong Climate Action Plan 2050, with international standards and best practices from other cities reveals significant discrepancies. This stark contrast highlights the urgent need for the Hong Kong government to reform its current plan, ensuring that it meets the evolving challenges posed by climate change and adequately protects its vulnerable communities.

3.1 Establish an effective governance structure to develop an overarching climate adaptation and resilience strategy

Climate adaptation and resilience is a holistic challenge, and a holistic solution is necessary to develop a climate-resilience city. Thus, an effective governance structure is crucial to develop over-arching climate strategy and ensure collaborations, as the research carried out by C40 Cities and McKinsey Sustainability suggested. Currently, as laid out in the Hong Kong Climate Action Plan 2050, the Climate Change Working Group on Infrastructure ('CCWGI') merely coordinates the efforts of the works departments on strengthening infrastructure. The absence of an overarching strategy, and a clear top-down governance structure results in inadequate adaptation and resilience strategies, which neglect the needs of communities and vulnerable groups. The fact that adaptation and resilience were missing in long-term development plans of the government such as the Northern Metropolis Development Strategy evidenced that adaptation and resilience are not integrated nor even considered in policy-making. The Government should review and establish a clear governance structure that is high-level, including expertise from a range of disciplines, to be held accountable for developing a comprehensive, overarching climate resilience strategy. The strategy should consider not only physical facilities, but also vulnerable groups, communities and ecosystems. With the high-level governance structure in place, climate adaptation and resilience shall be integrated into socioeconomic and environmental policies when appropriate.

3.2 Adopt a human-centred approach and ensure public engagement when formulating adaptation and resilience plan

To effectively build climate resilience in Hong Kong, public engagement must be prioritised when developing the adaptation and resilience plan. The exclusion of community voices and the lack of assessment of local needs can lead to ineffective measures and repeated mistakes. "Considering vulnerable groups, communities and ecosystems" is also highlighted in the Paris Agreement Article 7, paragraph 5, as one of the key components in adaptation efforts. This underscores the urgent need for a human-centred approach and a more inclusive planning process.

However, the last public consultation on Hong Kong's climate change strategy occurred over a decade ago. In addition, no step was taken to define climate-vulnerable communities, nor consultation specifically targeted at these communities was carried out. Climate Action Plan 2050 also fails to address such gaps in ensuring public engagement in designing adaptation and resilience plans. Recognising these principles, we urge the government to expand its current vulnerability assessment approach and enhance its public engagement strategies to promote justice in all planning processes. The government should take reference from best practices around the globe such as the Technical guidelines for the National Adaptation Plan process and Adaptation Good Practice Checklist. The government should also actively foster community involvement to ensure that adaptation strategies are truly reflective of and responsive to the needs of different communities.

3.3 Enabling more community-led adaptation projects

The impacts of climate change are felt locally, yet adaptation projects are rarely community-led. Yet, locally led adaptation initiatives have proven to have better efficiency and effectiveness, because they are locally appropriate, thus reducing duplications or mistakes. Nonetheless, most adaptation and resilience measures in Hong Kong as laid out in the Hong Climate Action Plan 2050 are directed by government departments like the CEDD and DSD in a top-down manner, without actively involving or even consulting the local communities. The inadequate amount and location of temporary heat shelters as reported by a local NGO is a clear example of that, underscoring the critical need for community engagement and the benefits of a bottom-up approach. To address these challenges, the government should collaborate with local NGOs and provide accessible funding, following the principles established by the Global Commission on Adaptation to strengthen locally-led adaptation efforts.

3.4 Mandate regular monitoring, evaluation, and transparent reporting of adaptation and resilience actions

Effective monitoring and reporting are essential components of successful adaptation plans, as highlighted in the study by C40 Cities and McKinsey Sustainable. Despite numerous infrastructure projects under the Hong Kong Climate Action Plan 2050, there is neither a clear roadmap, nor concrete timelines, not to mention regular public reporting. To ensure

timely delivery and public accountability of adaptation actions, the government must define key performance indicators and mandate regular monitoring and evaluation based on scientific assessments, while also ensuring that data and information are accessible to the public. Additionally, establishing a clearer timeframe for updating the climate strategy is imperative; for instance, Lima, Peru, has committed to reviewing its adaptation strategy every two years. The Hong Kong government should similarly refine its plans periodically based on evaluation results, fostering a more responsive and transparent approach to climate adaptation.

3.5 Review financing of adaptation and allocate adequate resources

Successful climate action relies on the provision of long-term, continuous funding. Public finance, specifically annual budget allocations, serves as a primary resource and indicates the government's priority. Therefore, it is worrying that no new initiatives or funding have been introduced in the 2024-25 budget since last year, given the increasing severity and frequency of extreme weather events. To ensure that sufficient resources have been allocated to climate adaptation and resilience, the government must regularly review its budget together with the long-term climate strategy. Additionally, to diversify funding sources, the government should actively seek partnerships with the private sector, including the issuance of green bonds, to enhance financial support for climate resilience efforts.

4. Climate Finance

4.1 Establish a clear and standardised vision of transition finance and clarify its contribution to the government's decarbonisation goals

As an international finance centre, sustainable finance is one of Hong Kong's key levers to support global action on climate change, with the aim to channel capital flows towards sustainable investments and away from high-emitting industries. Transition finance, as a subcategory of the sustainable finance market, aims to cover the financing of activities with a decarbonisation pathway towards net zero and the "hard-to-abate sectors" which confront formidable economic and technological obstacles that make their decarbonisation process complex and demanding.

Transition finance is crucial in supporting economies, especially those with high-emitting and hard-to-abate industries, to transition to a low-carbon economy. While it is expected that the Hong Kong Monetary Authority will cover transition activities in the future following the recent publication of Hong Kong Taxonomy for Sustainable Finance, currently the transition finance market is still lacking universally-agreed definition and the Hong Kong government has yet to identify key transition activities to be invested in the local context and how these assets shall contribute to Hong Kong's overarching goal of net-zero emission by 2050.

In the absence of a detailed pathway and a clear sunset date for transition assets, there is insufficient direct correlation between investing in assets aligned with taxonomy criteria and effectively addressing specific environmental challenges in Hong Kong. This leads to not only market confusion, allegations of greenwashing, but also inconsistent funding allocations and increased difficulty in tracking progress.

We therefore demand a clear definition around the set-up of transition finance, with consideration of the following key elements: (i) Reliable, time-sensitive decarbonization pathway modelled based on science-based scenarios and pathways; (ii) Key transition activities, with quantitative threshold, for each economically important sectors & sectors with largest GHG emissions in each time horizon; (iii) Prescribed Sunset Date - no more transition activities allowed to be financed after 2040; and (iv) Exclusion of transition investment in any new activities.

4.2 Disclose a detailed breakdown of climate budgeting and how the budget spent is contributing to Hong Kong's climate mitigation and adaptation goals

The Hong Kong Government has been pledging investment towards the region's climate mitigation and adaptation goal, including Hong Kong's Climate Action Plan 2050's commitment to invest \$250 billion over the next 15 to 20 years to combat climate change; and recently in 2024-25 budget plan to expand the borrowing ceiling of the Government Green Bond Programme (renamed as Government Sustainable Bond Programme ("GSBP") thereafter) from HKD \$200 billion to HKD \$500 billion shared with the new Infrastructure Bond Programme ("IBP").

However, there is a lack of visibility on the breakdown of the budget between the GSBP and IBP, in particular, a very limited disclosure on investment allocation specifically towards climate mitigation or adaptation, and how the planned spending and investment of Hong Kong government's overall budget planning will contribute to Hong Kong's adaptation and mitigation aspirations.

We recommend that the Government provide a detailed and widely shared breakdown of the previously announced HKD \$240 billion climate budget and governmental borrowings, and how this capital would be allocated in the short (outlining 1-3 years roadmap), medium (5-10 years) and long (10-20 years) term. This breakdown should clearly outline the financial resources assigned to both climate mitigation and adaptation efforts with time-bound goals for ease of tracking progress and accountability.

The Government shall also regularly assess and provide environmental impact reporting for assessing the effectiveness of these initiatives to ensure real progress is made and that enhancements or prioritizations can happen when needed.

4.3 Align climate finance budget planning to international practices such as the C40 climate budgeting framework

Hong Kong currently lacks a climate budget framework, which severely undermines its efforts to address climate change. Without a cohesive and globally comparable budgeting strategy, the city struggles to connect initiatives to specific climate goals and their financial requirements. This gap leads to fragmented efforts, making it difficult to track progress or measure impact. Inconsistent reporting standards further hinder accountability and meaningful comparisons with other cities, limiting opportunities for collaboration and innovation.

To enhance climate action effectiveness and accountability, and as one of the C40 cities, we request the Hong Kong Government to adopt the C40 climate budgeting framework and align it with international standards. The C40 framework provides comprehensive guidelines for cities to develop transparent and integrated climate budgets that align financial resources with ambitious climate goals.

New York City, one of C40's Climate Budgeting Pilot cities, could serve as an example for Hong Kong. In April this year, New York City Mayor Eric Adams released the city's Fiscal Year 2025 Executive Budget, along with a detailed climate budgeting and a dedicated publication that included an analysis of the city's new and ongoing climate investments and progress toward emissions goals. In determining emission reduction targets and financial resources required, New York City's climate budgeting drew on leading climate science from IPCC and aligned the city's 2030, 2035 and 2040 emissions reduction targets to what would be required to meet the Paris Agreement's 1.5°C goal. The budgeting also comes with forecasts of how the city's various climate actions or investments will contribute to the expected emissions reductions, as well as indicators of progress to ensure accountability and that "climate justice" has been kept at the core of planning and decision making.

4.4 Increase project investment for Hong Kong's climate adaptation and community resilience

There is a strong and growing need for fiscal resources for adaptation and emergency responses to climate disasters. Yet, there is a lack of visibility on overall government funding towards climate adaptation and resilience, especially as a part of the Government's commitment to invest HK \$240 billion in climate mitigation and adaptation.

Referencing the Government's green project funded under the Capital Work Reserve Fund ("CWRF") via the Government Sustainable Bond Programme as an indication, the Government include the "Climate Change Adaptation" category only after the 2022 Green Bond Framework update; and proceeds allocated towards "Climate Change Adaptation" environmental objective predominantly allocated to projects that enhance the resilience of water and wastewater management facilities, and failed to invest in other climate adaptation-related priorities as identified by the HKSARG (e.g. slope safety, urban forestry), indicating a lack of recognition of the importance and priorities in the funding strategy towards climate adaptation.

Therefore, we suggest the Government enhance tracking and disclosure of government spending towards climate adaptation. On the funding side, we recommend conducting a

regular review of the Green Bond Framework and exploring the expansion of eligibility criteria under each existing project category that contributes to the environmental objective of "Climate Change Adaptation", so as to allow more climate change adaptation projects to be earmarked under the GSBP.

Furthermore, upon an improved visibility over government spending on climate change (i.e. climate mitigation and climate adaptation), we suggest the Government to increase the percentage of investment into climate adaptation projects to reach 10% by 2025, and 50% by 2035, in line with the recommendation of a 50/50 split between climate mitigation and adaptation fundings by United Nations Green Climate Fund and to ensure funds are channelled to improve vulnerable communities' climate resilience.

5. Climate Innovation Ecosystem

Over the years, we have witnessed the transformative potential of technological innovation across sectors like renewable energy, carbon capture, and sustainable agriculture to address climate change. The Paris Agreement underscores the critical role of advancing technology development and transfer in both enhancing resilience to climate impacts and reducing greenhouse gas emissions. Following this, COP28 and the UNFCCC have reaffirmed the criticality of harnessing technology to build a more sustainable future for all.

5.1 Deepening Hong Kong's Climate Innovation Strategy

As Hong Kong continues to define its role in the global fight against climate change, there is an urgent need to rethink and deepen the government's approach to funding and supporting climate innovation. While initiatives such as the Green Tech Fund and the Financial Services and the Treasury Bureau (FSTB) Green and Sustainable Fintech PoC Fund are steps in the right direction, significant gaps remain in supporting the entire lifecycle of climate innovations—from pre-incubation and market validation to commercialisation and expansion. To truly accelerate climate innovation, in line with the central theme of our paper, we advocate for a whole-of-government, proactive approach that fosters the development and implementation of sustainability technologies at every stage of their lifecycle. This approach would provide continuous support for climate innovators, promoting a more comprehensive ecosystem for climate technology in Hong Kong. The ecosystem could bring together governments, along with public, private, and philanthropic stakeholders, to form a unified front in driving and supporting climate innovations to address climate challenges.

We propose a multi-pronged strategy that draws on successful models from around the world, with a focus on:

1. Government-backed venture capital investment to ensure emerging climate tech startups have access to capital

- 2. Centralised, one-stop platform to consolidate existing and new resources from diverse public and private channels, streamlining their flow to climate enterprises throughout the entire innovation lifecycle
- 3. Promotion of advanced technologies like AI and other digital innovations in research and development (R&D)

Countries such as Canada, the UK, and Australia have pioneered similar frameworks. In Canada, Sustainable Development Technology Canada (SDTC) provides funding across the innovation chain, ensuring that climate innovations can scale from early R&D to commercialisation. The UK's Clean Growth Fund and Energy Entrepreneurs Fund (EEF) offers venture capital investment to early-stage companies working on decarbonisation, while Australia's Clean Energy Finance Corporation (CEFC) has de-risked climate technologies through its direct and indirect (i.e via Clean Energy Innovation Fund) investments. These examples illustrate how government backing can transform an industry and position a country as a leader in sustainability.

5.2 Introduce a government-backed climate venture vehicle

We encourage the government to adopt a more proactive stance in driving climate innovation and ultimately constructing a holistic climate innovation ecosystem. To address existing gaps, the government could first establish a climate venture fund to provide ongoing support. This approach would go beyond traditional project-based, time-limited funding, fostering sustained growth for climate technologies and positioning Hong Kong as a leader in global climate innovation. Additionally, this strategy offers several benefits:

- 1. It could more effectively channel support and accelerate the development of prioritised climate technologies such as photovoltaic (PV) systems, green hydrogen, and energy storage solutions that were highlighted in our Action Plan 2050
- 2. It helps create an ecosystem for these technologies, anchored in Hong Kong, but expanding regionally and internationally
- 3. Like China's Clean Development Mechanism Fund, which receives regular capital injections from levies on clean development projects, such a fund could reinvest its proceeds and insights into further advancing climate innovation. This revolving fund model aligns government equity with long-term technology development, ensuring support throughout the entire innovation lifecycle

In creating the climate venture fund, the government is suggested to consult industry experts and draw on overseas experience regarding investment size, time horizons, return expectations, and target industries for the initial setup. A phased approach could be adopted, with support increasing progressively over time. The government may also consider leveraging the infrastructure and experience from institutions like the Hong Kong Monetary Authority (HKMA) and the Hong Kong Investment Corporation (HKIC) to facilitate the flow of capital and expertise into emerging ventures. These institutions, with their experience in international capital mobilisation and deployment, could be well-positioned to bridge the gap between government climate initiatives and private sector investments.

5.3 Establish a one-stop central function

To maximise the impact of climate investments, we propose establishing a one-stop central platform function to coordinate climate-related funding, investments, research, and project development. This centralised function would significantly improve the support system for climate tech startups by acting as a bridge between internal government resources and external stakeholders.

To implement such, the structure could include a dedicated working team with an advisory body—possibly building on the existing Steering Committee on Climate Change and Carbon Neutrality. The advisory body would oversee the creation and ongoing management of a climate venture fund, ensuring proper vetting and monitoring of investments. The working team, on the other hand, would be tasked with coordinating existing government resources, including funds like the Innovation and Technology Fund, and fostering collaboration with startup incubators such as Cyberport, Science Park, and InvestHK.

The office could also serve as a liaison hub for private enterprises and philanthropic organisations, fostering public-private-philanthropic partnerships (PPPs) that drive collaborative climate investments. Successful models can be found globally: Singapore's BCA SkyLab and floating solar PV projects have shown how PPPs can effectively deploy climate technologies at scale. Similarly, in the UK, the government co-funds a £40 million venture capital fund to accelerate the growth of next-generation low-carbon technologies.

By adopting this model, we could consolidate all public support with one central point, thereby streamlining internal processes to better assist climate tech companies, many of which are small-scale ventures with limited resources. Startups often face challenges in navigating funding applications, grants, and go-to-market strategies due to their limited workforce. A centralised function would help alleviate some of this burden, allowing these companies to concentrate on innovation.

5.4 Promote the adoption of cutting-edge technology through capacity building

In alignment with the Central Government's emphasis on high-quality workforce development, while complementing the introduction of the Pilot Green and Sustainable Finance Capacity Building Scheme, this central office could also lead partnerships with major technology companies to offer training programs and product trials on cutting-edge technologies like Generative AI and other digital tools to support capacity building for climate tech workforce and interested founders. Such partnerships would:

- 1. Accelerate the adoption of Al and other emerging technologies within the climate tech workforce.
- 2. Improve productivity by automating routine tasks such as proposal writing, marketing communication, and administrative work, which are typically labour-intensive.

3. Equip startups and project teams with advanced tools to scale rapidly, reducing their reliance on manual labour and administrative processes.

This initiative would not only help future-proof Hong Kong's workforce but also enable climate technology startups to access the tools and skills necessary for long-term success.

6. Increase youth and public engagement in climate actions

Youth and citizens are crucial in taking climate initiatives, yet Hong Kong currently provides inadequate support for encouraging youth and public participation in climate change. Much of the school education not only relies heavily on textbook-based learning but also does not directly mention the influences of and solutions to climate change, leaving young people feeling disconnected from climate issues. Although the government has organised activities such as the Sustainable Development School Award Programme to educate students about sustainability, they often do not have a direct linkage to climate change. While community-oriented activities aim to provide environmental knowledge, they frequently lack practical application, further distancing youth and the public from taking climate action. In contrast, school-based and community-based experiential learning can actively engage students and community members in climate actions through hands-on projects and collaboration with local experts. This approach not only empowers participants to apply their knowledge in real-world contexts but also deepens their connections to climate action.

The aforementioned government initiatives, in addition to public engagement activities about environmental policies, lack assessment tools to review the effectiveness in raising climate awareness in youth and the public, reducing people's accessibility to information. It is important for the government to include the general public, especially youth, in governance and policymaking processes to empower them to voice out their opinions, inspiring them to advocate for a sustainable future.

6.1 Integrate complete climate change education into Primary Humanities, Primary Science, and Citizenship and Social Development

Currently, primary and secondary school curricula lack comprehensive climate change education where the subjects only mention sustainable development, green lifestyles, and environmental protection, rather than providing a deeper understanding of the climate crisis. This limited perspective may hinder students from taking meaningful climate actions as they are not exposed to the full breadth of climate change issues beyond sustainability. Research suggests that students have the potential to influence adults' attitudes towards climate change. By sharing their knowledge, attitudes, and behaviours with parents and other adults, students can help break down misconceptions that often impede adult engagement with climate concerns.

By incorporating a more thorough climate change education into current subjects such as Primary Humanities and Science, as well as Citizenship and Social Development (CSD),

schools can empower students to take climate actions. To ensure students grasp the full scope of climate change and understand our city's vulnerability, the government should integrate a complete climate education curriculum into these subjects. The curriculum should not only provide basic climate knowledge but also emphasise the importance of youth engagement. Additionally, the government should periodically review the effectiveness of these subjects in disseminating climate knowledge. It is noteworthy that Cambodia, one of the most vulnerable countries to climate change, has integrated a "new and expanded Earth Science curriculum" for grades 10 to 12 in higher secondary education. This initiative enables students to learn about the causes of climate change, their country's vulnerability profile, as well as approaches and technologies to adapt to its impacts and reduce greenhouse gas emissions. Hong Kong, as a vulnerable city to climate hazards such as flooding, should also see the emergency of nurturing youth in response to the issue.

6.2 Incorporate climate experiential learning activities into schools' teaching curricula

Textbook-based learning, without sufficient linkage to practical applications, can fail to engage students fully with climate issues, potentially distancing them from envisioning and implementing climate solutions. Current experiential learning activities are often lecture-based without empowering students to apply their knowledge effectively, such as organising festivals or workshops that may lack substantive connections to climate concepts. Furthermore, there exists a lack of comprehensive data assessing the effectiveness of these activities in imparting in-depth and wide-ranging climate education.

To address this gap in addition to textbook-based learning, the government should integrate experiential learning activities into school curricula, enabling students to actively apply their climate knowledge by engaging in community projects with local NGOs or initiatives. This hands-on approach not only strengthens their understanding through practical experience but also encourages them to take meaningful climate actions. Globally, Cambodia has introduced the "eco-school" concept alongside the new Earth Science curriculum. This initiative allows students to receive additional teaching on climate change and collaborate with teachers on resilience projects like tree planting and climate-smart agriculture, further enriching their practical understanding of climate issues.

6.3 Increase public accessibility and transparency in environmental policies

The negative public response to Municipal Solid Waste (MSW) Charging highlights the government's shortcomings in explaining policies and providing education to the public. Lacking sufficient information about the underlying reasons and principles of the policies, people generally exhibited scepticism towards MSW policies. Moreover, current environmental campaigns lack comprehensive promotion of policies and actions, as well as the accessibility to their relevant information such as their locations, discouraging public participation.

The government should increase transparency and public accessibility for current and upcoming environmental policies. By minimising confusion and misconceptions, the government can increase public understanding and support for these policies. Additionally, comprehensive educational campaigns and supportive policies should be implemented to maximise the effectiveness of environmental initiatives. Encouraging meaningful public discussions and dialogue will further engage citizens and increase their likelihood of supporting these policies when they are well-informed.

6.4 Increase youth participation in governance and decision-making

Youth participation is inadequate in the decision-making process. The government organised public engagement events about MSW such as regional forums and meetings with Legislative Councils, yet their effectiveness in communicating with youth and the general public, other than key stakeholders such as District Councils and Rural Committees, were unclear. There does not exist concrete assessment tools to evaluate the effectiveness of events for youth participation such as the number of youth participants. Moreover, although the Member Self-recommendation Scheme for Youth allows some youth to enter environment-related committees, it lacks transparency where the public is unaware of information about youth participation in it.

The government should include more youth in governance and decision-making. Policymaking processes such as consultation with government officials can empower youth in voicing their opinions on climate issues. Even if youth can participate in these activities, it is necessary for the government to conduct regular assessments on them, evaluating whether there is sufficient youth participation.

Reference

Raise Climate Ambition in line with the 1.5°C target of the Paris Agreement

- Bleby, A., & Foerster, A. (2023). A Conceptual Model for Climate Change Mainstreaming in Government. Transnational Environmental Law, 12(3), 623–648. doi:10.1017/S2047102523000158
- 2. CCIL. (2023, October 27). CCIL's response to the 2023 Policy Address: Hong Kong needs bolder climate action.
 - https://www.ccinnolab.org/en/climateblogPost/climateblog038
- 3. CCIL. (2022 November). Paris Watch: Hong Kong Climate Action Report. https://www.ccinnolab.org/uploads/media/pairswatch/Paris%20watch2022 EN action .pdf
- 4. CDP. (n.d.). Cities. Why disclose?. https://www.cdp.net/en/cities
- 5. IPCC. (2023). : Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.
- IPCC. (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability. Working Group II Contribution to the IPCC Sixth Assessment Report. Cambridge University Press. doi:10.1017/9781009325844.
- 7. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC AR6 SYR SPM.pdf
- 8. UNFCCC. (2024). Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from 30 November to 13 December 2023. Retrieved from https://unfccc.int/documents/637073
- Victoria State Government (n.d.) Climate Change Act 2017. Retrieved on 1 October 2024
 - https://content.legislation.vic.gov.au/sites/default/files/2024-06/17-5aa010-authorised.pdf

Adaptation and Resilience

- Ayeb-Karlsson, S., van der Geest, K., Ahmed, I., Huq, S., & Warner, K. (2016). A
 people-centred perspective on climate change, environmental stress, and livelihood
 resilience in Bangladesh. Sustainability Science, 11(4), 679–694.
 https://doi.org/10.1007/s11625-016-0379-z
- 11. Busch, L., & Petrik, D. (2022, November 1) *Cities Race to Resilience: driving action for locally-led adaptation and resilience building.* Race to Resilience. https://climatechampions.unfccc.int/cities-race-to-resilience-driving-locally-led-adaptation-and-resilience-building-action/
- 12. CarbonCare InnoLab. (2024, February 28) *CCIL's Response to The 2024-25 Budget of the Hong Kong SAR Government*. https://www.ccinnolab.org/en/climateblogPost/climateblog044
- 13. CARE International. (2016). *Adaptation Good Practice Checklist*. https://careclimatechange.org/wp-content/uploads/2019/06/Adaptation-Good-Practice-Checklist.pdf
- 14. Community Climate Resilience Concern Group. (2022). 提升社區氣候應變能力: 改善現時臨時避暑中心, 減低酷熱天氣和氣候變化引致極端天氣對社區的風險. https://www.ccrcghk.org/_files/ugd/a5f083_370f6bfbb9d9468391a16a5a8bbd8aab.pdf
- 15. International Insitute for Sustainable Development. & Climate Outreach. (2023,

- September). *Public Engagement on Climate Change Adaptation*. https://napglobalnetwork.org/wp-content/uploads/2023/09/napgn-en-2023-public-engagement-on-climate-change-adaptation.pdf
- 16. IPCC. (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability. Working Group II Contribution to the IPCC Sixth Assesment Report. Cambridge University Press. doi:10.1017/9781009325844.
- 17. McKinsey Sustainability. & C40 Cities (2021). Focused adaptation: A strategic approach to climate adaptation in cities. https://www.mckinsey.com/~/media/mckinsey/business%20functions/sustainability/our%20insights/how%20cities%20can%20adapt%20to%20climate%20change/focused-adaptation-a-strategic-approach-to-climate-adaptation-in-cities-vf.pdf
- 18. Meerow, S., & Woodruff, S. C. (2020). Seven Principles of Strong Climate Change Planning. *Journal of the American Planning Association*, *86*(1), 39–46. https://doi.org/10.1080/01944363.2019.1652108)
- 19. UNDRR. (2015, May 25). Hong Kong has the highest disasters risk in Asia Study. PreventionWeb. https://www.preventionweb.net/news/hong-kong-has-highest-disasters-risk-asia-study
- 20. UNFCCC. (2012, December). *Technical guidelines for the national adaptation plan process*.
 - https://unfccc.int/sites/default/files/resource/NAP_technical_guidelines_EN.pdf
- 21. United Nations. (2015). *Paris Agreement.* https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- 22. World Resources Institute. (n.d.) *Locally Led Adaptation: Principles for Locally Led Adaptation*. https://www.wri.org/initiatives/locally-led-adaptation/principles-locally-led-adaptation

Climate Finance

- 23. ASEAN Taxonomy Board (April 2024). *ASEAN Taxonomy for Sustainable Finance Version*3. https://www.theacmf.org/sustainable-finance/publications/asean-taxonomy-for-sustainable-finance-version-3
- 24. Bank of Thailand. (June 2023). *Thailand Taxonomy Phase* 1. https://www.bot.or.th/content/dam/bot/financial-innovation/sustainable-finance/green/Thailand Taxonomy Phase1_Jun2023_EN.pdf
- 25. Green Climate Fund. (n.d.). *Thematic brief: Adaptation*. https://www.greenclimate.fund/document/thematic-brief-adaptation
- 26. Government of the Hong Kong Special Administrative Region of the People's Republic of China (2024). *Green bond market in Hong Kong: A guide for issuers and investors. Financial Services and the Treasury Bureau.* https://www.hkgb.gov.hk/en/others/documents/FSTB GreenBond24 eBooklet EN.pd f
- 27. Government of the Hong Kong Special Administrative Region of the People's Republic of China (2022). *HKSAR Green Bond Framework* 2022. https://www.hkgb.gov.hk/en/sustainablebond/greenbondframework.html
- 28. Government of the Hong Kong Special Administrative Region of the People's Republic of China (2021). *Hong Kong's Climate Action Plan 2050* https://cnsd.gov.hk/wp-content/uploads/pdf/CAP2050 booklet en.pdf

- 29. Government of the Hong Kong Special Administrative Region of the People's Republic of China (September 2024). *HKSAR Infrastructure Bond Framework 2024*. <a href="https://hkgb.gov.hk/en/infrastructurebond/infrastructur
- 30. Government of the Hong Kong Special Administrative Region of the People's Republic of China. *HKSAR Green Bond Report 2020-2024.* https://www.hkgb.gov.hk/en/greenbond/greenbondreport.html
- 31. State of the Netherlands (September 2023). State of the Netherlands Green Bond Framework

 https://english.dsta.nl/subjects/green-bonds/documents/publication/2023/09/08/green-bond-framework---updated-8-september-2023
- 32. Monetary Authority of Singapore (December 2023). Singapore-Asia Taxonomy for Sustainable Finance | 2023 Edition https://www.mas.gov.sg/-/media/mas-media-library/development/sustainable-finance/singaporeasia-taxonomy-dec-2023.pdf
- 33. Ministry of Economic, Trade and Industry of Japan (November 2023). *Climate Transition*Bond

 Framework.

 https://www.meti.go.jp/policy/energy environment/global warming/transition/climate

 transition bond framework eng.pdf
- 34. The Hong Kong Monetary Authority (May 2024). Consultation Report: Prototype for a Green Classification Framework for Hong Kong. https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2024/20240503e1a1.pdf
- 35. The Hong Kong Monetary Authority (May 2024). Hong Kong Taxonomy for Sustainable Finance. https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2024/20240503e1.pdf
- 36. République Française (January 2017). *Framework for the Green OAT*. https://www.aft.gouv.fr/files/archives/attachments/25562.pdf
- 37. C40 Knowledge Hub. (n.d.). *Climate budgeting: A step-by-step guide for cities*. C40. Retrieved October 1, 2024, from https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities?language=en">https://www.c40knowledgehub.org/s/article/Climate-budgeting-A-step-by-step-guide-for-cities
- 38. New York City Office of Management and Budget. (2021). *New York City climate budget*. Retrieved October 1, 2024, from https://www.nyc.gov/assets/omb/downloads/pdf/exec24-nyccb.pdf
- 39. New York City Mayor's Office. (2024, October 1). Mayor Adams releases executive budget for fiscal year 2025, making significant sustainable investments. Retrieved October 1, 2024, from https://www.nyc.gov/office-of-the-mayor/news/304-24/mayor-adams-releases-executive-budget-fiscal-year-2025-making-significant-sustainable#/0
- 40. Global Climate Finance Database. (n.d.). Retrieved from https://www.climatepolicyinitiative.org/publication/global-climate-finance-database/
- 41. OECD. (n.d.). Climate finance from developed to developing countries. Retrieved from https://www.oecd.org/environment/cc/g20-climate-finance.htm
- 42. International Institute for Environment and Development (IIED). (n.d.). Retrieved from https://www.iied.org/climate-finance

Climate Innovation Ecosystem

- 43. United Nations Framework Convention on Climate Change. (n.d.). COP28: 5 Key Takeaways. Retrieved from https://unfccc.int/cop28/5-key-takeaways
- 44. Sustainable Development Technology Canada. (n.d.). SDTC: Empowering Canadian Companies. Retrieved from https://www.sdtc.ca/
- 45. GREAT. (n.d.). Investment in Green Finance. Retrieved from https://www.great.gov.uk/international/content/investment/sectors/green-finance/
- 46. Clean Growth Fund. (n.d.). Clean Growth Fund: Investing in Low Carbon Technology. Retrieved from https://www.cleangrowthfund.com/
- 47. Clean Energy Finance Corporation. (n.d.). CEFC: Financing Clean Energy for Australia. Retrieved from https://www.cefc.com.au/

Increase youth and public engagement in climate actions

- 48. Education Bureau (March 2024). *Primary Humanities Curriculum Framework (Final Draft*). Retrieved from https://www.edb.gov.hk/attachment/en/curriculum-development/cross-kla-studies/ph-primary/Primary%20Humanities%20Curriculum%20Framework Eng.pdf
- 49. Education Bureau (2021). *Citizenship and Social Development Curriculum and Assessment Guide (Secondary 4 6)*. Retrieved from https://cs.edb.edcity.hk/file/C_and_A_guide/202106/CS_CAG_S4-6_Eng_2021.pdf
- 50. Lawson, D. F., Stevenson, K. T., Peterson, M. N., Carrier, S. J., L. Strnad, R., & Seekamp, E. (2019). Children can foster climate change concern among their parents. *Nature Climate Change*, 9(6), 458–462. https://doi.org/10.1038/s41558-019-0463-3
- 51. World Economic Forum (June 2019). Cambodia's schools are the new frontline in the battle against climate change. Retrieved from: https://www.weforum.org/agenda/2019/06/cambodia-schools-climate-change-education/
- 52. Karpudewan, M., & Mohd Ali Khan, N. S. (2017). Experiential-based climate change education: fostering students' knowledge and motivation towards the environment. *International Research in Geographical and Environmental Education*, 26(3), 207–222. https://doi.org/10.1080/10382046.2017.1330037
- 53. Environment and Ecology Bureau (n. d.). Sustainable Development School Award Programme. Retrieved from: https://www.eeb.gov.hk/tc/susdev/public/sap.htm
- 54. Environment and Ecology Bureau (n. d.). *Sustainable Development School Outreach Programme*. Retrieved from: https://www.eeb.gov.hk/en/susdev/public/sop.htm
- 55. Environment and Ecology Bureau (n. d.). Sustainable Development Ambassador Programme. Retrieved from: https://www.eeb.gov.hk/tc/susdev/public/sdambassador.htm
- 56. THE COLLECTIVE (April 2024). 垃圾徵費 | 民研三分二受訪者反對 8.1 實施「慎思」後支持徵費減廢者倍增. Retrieved from: <a href="https://thecollectivehk.com/%E5%9E%83%E5%9C%BE%E5%BE%B5%E8%B2%BB%E6%B0%91%E7%A0%94%E4%B8%89%E5%88%86%E4%BA%8C%E5%8F%97%E8%A8%AA%E8%80%85%E5%8F%8D%E5%B0%8D81%E5%AF%A6%E6%96%BD/

57. Council for Sustainable Development (December 2014). Report on the Public Engagement Process on Municipal Solid Waste Charging. Retrieved from: https://www.mswcharging.gov.hk/wp-content/uploads/2023/05/mswc_sdc_c.pdf