COP30 Hong Kong Youth Statement on Climate Actions

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Introduction

As we progress through 2025, the mounting evidence of climate change's devastating effects, both globally and on the city, grows clearer and more urgent. Global mean surface temperature records show that the first half of 2025 is the second hottest first half of the year (Hausfather, 2025). In Hong Kong, historically, we experience six typhoons annually (Lee & Cheng, n.d.). Yet from January to late September 2025, nine typhoons triggered warning signals of level 1 or higher, including Wipha, Tapah and Ragasa, with two of them reaching warning signals of No.10. The devastation caused by Typhoon Ragasa remains fresh in the public memory. The record-breaking typhoons in September and the intense rainstorms experienced in July are not isolated incidents, but stark reminders that extreme weather events are increasing in frequency and severity due to climate change. Scientific consensus led by the Intergovernmental Panel on Climate Change warns that surpassing the 1.5°C global warming threshold greatly accelerates risks of irreversible tipping points, leading to cascading consequences, creating positive feedback loops that amplify global warming and extreme weather events (Hoegh-Guldberg et al., 2018). We, the youth of Hong Kong, are faced with a sobering reality—that extreme weather events are no longer anomalies, but poignant symbols of a broader climate crisis demanding our Government and our society's immediate attention and decisive action.

With climate-related disasters becoming more frequent and severe, Hong Kong's governance must urgently rise to match the complexity and immediacy of these challenges. Effective response demands robust coordination across all government departments, not only through existing working groups, but also through constant public updates, shared risk assessments, and open channels for citizen engagement. Beyond simply reducing emissions and developing adaptive infrastructure, the Government must address climate injustice and the severe threats facing vulnerable groups. For instance, residents in inadequate housing, such as subdivided flats, experience dangerously higher indoor temperatures, with over fifty percent reporting heatstroke symptoms (CarbonCare InnoLab, 2024). These unequal impacts require immediate, targeted action and comprehensive strategies to build holistic climate resilience.

To align with the Climate Action Plan 2050 (CAP2050) update, we urge the Government to use this opportunity to begin formally recognising climate justice in Hong Kong. This public

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admission is increasingly important as it helps shift the narrative to one that demands a more urgent response and centers the needs and voices of vulnerable populations. We recommend including a dedicated section in the next CAP2050 update to be more human-centric, focusing on the needs and protection of vulnerable communities—such as outdoor workers, low-income residents, and communities in flood-prone areas. This Climate Action Plan should clearly outline planned actions, commitments, and support measures for those most at risk, ensuring Hong Kong's climate policies move towards greater inclusivity and resilience.

As youth delegates gearing up for COP30, 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. A unifying signal by the Government is needed, making it clear that climate change is not an abstract, distant issue, but a direct, imminent threat affecting all sectors of society. We strive to advocate for climate justice and catalyse impactful change that resonates across generations, and enhance collaboration within and beyond our city to showcase a resolute commitment to climate stewardship and the global Sustainable Development Goals. In this youth statement, we will call for actions regarding (1) human-centric adaptation, (2) empowerment of youth participation and development, (3) nature-based solutions, (4) climate-resilient urban development, (5) energy transition and (6) climate finance. Our youth statement not only highlights the gaps 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.

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1. Institute a human-centric adaptation and climate resilience framework to safeguard lives, protect vulnerable communities, and strengthen social wellbeing

1.1 Incorporate comprehensive signal and warning systems into social services and communities to protect vulnerable groups and enhance public safety

Effective human-centric adaptation requires clear, actionable guidance that empowers individuals and communities to respond swiftly and appropriately to climate hazards. To this end, the Government should develop detailed adaptation action cards or checklists that clearly outline what actions to take at each warning level issued by Hong Kong's established alert systems. For example, specific guidance aligned with Amber, Red, and Black rainstorm warnings, as well as Heat Stress at Work warnings, would help workers, families, and community members understand how to stay safe, protect their health, and reduce risk during extreme weather events. Cities such as London have successfully implemented heat-health alert action cards that provide the voluntary and community sectors with step-by-step actions at each warning level, helping to integrate health and safety responses with official meteorological warnings (UK Health Security Agency, 2025). These cards emphasize joint working across agencies and clear communication to the public, which Hong Kong can adapt to improve community preparedness and resilience in the face of extreme heat and heavy rain events. Building on these proven examples will help Hong Kong tailor its public guidance tools to local needs while fostering coordinated, integrated responses during climatic emergencies.

In parallel, the existing warning systems should be enhanced to provide greater granularity, such as incorporating district-based wet bulb temperature data to better monitor urban heat and manage heat risks. More localized weather information will enable more targeted warnings and better preparation, helping especially vulnerable populations avoid heat-related illnesses. For example, New York City utilizes a Heat Vulnerability Index that maps neighborhood-level variations in heat exposure, sensitivity, and adaptive capacity by analyzing localized temperature data along with demographic and socioeconomic factors (NYC GOV, n.d.). This tool allows the city to issue precise heat alerts and strategically locate cooling centers and resources in the most vulnerable communities. Hong Kong could benefit greatly from adopting a similar approach to capture its urban microclimates and socio-demographic vulnerabilities, enabling tailored, district-level heat warnings and focused outreach to protect at-risk populations more effectively.

Another critical element in strengthening climate resilience is improving public awareness of flood-prone areas through visualization and signaling. The government's pilot flood-warning scheme—involving the display of red wavy lines on roads, water level markers, and

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real-time flood monitoring equipment at hotspots like Chai Wan Road, Lung Cheung Road in Wong Tai Sin, and other sites—is a strong example of how technology can both inform and protect the public. This system not only helps prevent vehicles from being stranded but also triggers rapid government response, with drainage officials dispatched promptly to clear blockages and divert traffic when needed (RTHK, 2025). Expanding such visual flood warnings into pedestrian areas and community spaces is highly encouraged to further enhance preparedness at street level.

It is imperative to increase and promote access to cooling and shelter facilities for climate vulnerable communities. Currently, Hong Kong provides 19 temporary shelters available during Tropical Cyclone No. 8 or above warnings and Very Hot Weather Warnings, along with 8 Community Halls and Centres offering refuge during daytime heat (The Government of the Hong Kong Special Administrative Region, 2025). However, with 18 districts in Hong Kong, the number and distribution of shelters remain insufficient, particularly for elderly residents, people with disabilities, and others who face mobility challenges traveling to these sites. Expanding shelter availability, improving their accessibility, and actively promoting their use will ensure vulnerable individuals have safe refuge during extreme climate conditions, reducing health risks and saving lives.

1.2 Empower community-based adaptation to fill policy implementation gaps

While the government plays a crucial role in implementing climate adaptation measures, it is increasingly clear that top-down approaches alone cannot fully address the complex and localized nature of climate risks. Community wisdom and bottom-up adaptation efforts fill critical gaps in policy and reach populations that may otherwise be underserved or overlooked. Nonetheless, most adaptation and resilience measures in Hong Kong as laid out in the Hong Kong 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. Soft adaptation actions—such as support provided by volunteers, Care Teams, and aid provided by NGOs like Hong Kong Red Cross and YWCA—offer timely, flexible, and contextually appropriate support that can reduce response delays and improve resilience at the grassroots level. For example, the Tai O community, which consists mostly of elderly residents, receives timely help from various parties, including the YWCA, Hong Kong Red Cross, CAS and Care Teams during typhoons. Residents in stilt houses are escorted to temporary shelters before typhoons, with volunteers helping to elevate items away from floor level as a precaution against flooding. They also actively check on residents after they return to their homes and immediately offer cleaning and electrical appliance inspection services to assess any damages caused by flooding.

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Another past example is that during months with intense heat levels in Hong Kong, groups such as the Community Climate Resilience Concern Group coordinated with local shops and NGOs to open spaces as “Summer Resting Stations.” These stations provide the public with more air-conditioned areas to rest without requiring any form of payment. This initiative helps fill the gaps in the current insufficient distribution of temporary shelters in Hong Kong, as there are only 19 shelters across 18 districts.

These community-led initiatives have demonstrated efficiency and effectiveness by leveraging intimate local knowledge and trust, helping to minimize misalignments with residents’ real needs. The Government should proactively support and enable these community-based adaptation measures through accessible funding, capacity building, and map collaboration frameworks. Doing so would not only enhance Hong Kong’s overall climate resilience but also empower its communities to take ownership of their safety and wellbeing in the face of increasing climate hazards. Encouraging community participation in adaptation ensures more inclusive, responsive, and sustainable solutions that align with the spirit and principles advocated by global climate adaptation bodies.

1.3 Establish legal protections for workers exposed to extreme weather to safeguard health, prevent fatalities, and enhance workplace safety

Extreme heat is an often-overlooked form of severe weather in Hong Kong. While the Heat Stress at Work Warning System with Amber, Red, and Black levels and the “Guidance Notes on Prevention of Heat Stroke at Work” provide guidelines to employers, they remain advisory without enforceable legal protections. Even when the Heat Stress at Work Warning is in effect, the Labour Department issues only a “reminder” for employers to take measures. However, because of the lack of legal or economic consequences, the effectiveness of these measures is questionable.

Unlike typhoons and heavy rains, extreme heat is not included in the Code of Practice in Times of Adverse Weather and “Extreme Conditions” of the Labour Department, despite its severe risks to workers’ health and safety. According to a report by the World Meteorological Organization and World Health Organization this year, “workplace heat stress” can lead to dangerous and fatal health impacts such as heat stroke, dehydration, and long-term issues like kidney dysfunction and neurological disorders. Rising temperatures also reduce worker productivity by 2–3% for every degree above 20°C (WMO & WHO, 2025).

Recent tragedies highlight the urgency of this issue. In May 2025, a 42-year-old worker collapsed and died of suspected heat stroke during a heat stress warning, while in

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September 2025, a 64-year-old worker died in Kwu Tung, suspected of suffering from heat stroke (The Standard, 2025). These cases are not independent events but point to the urgent need for laws to protect outdoor workers from heat stress. Other jurisdictions, such as Japan, have already enacted laws this year to safeguard workers from extreme temperatures. The Hong Kong government should also consider the legislation to prevent more similar incidents.

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2. Empower Youth Participation and Development in the Face of Climate Change

2.1 Empowering youth-led and climate social innovation projects through targeted grants to unlock youth talent and accelerate the just transition

Youths embody the rights and interests of future generations and are disproportionately impacted by climate change risks due to increasing exposure to extreme weather events, heat stress and health risks (Weiss, E.B., 2008). Yet, youths play a vital role as agents of change, driving continuous innovation and decarbonization through persistent advocacy within the climate change context (Shujat, S.H., 2023). While Hong Kong youths have been aiming to shape the future of climate action through bridging the gaps in the green jobs market, social innovations and public education projects, the lack of technical and financial support hinders their ability to scale their efforts.

Grants such as the Environment and Conservation Fund has available fundings for charities, companies and education institutions to conduct “Publicity and Education Projects”, where some of the approved projects are relevant to children and youth education (Environment and Conservation Fund, 2025). However, there is no specific grant for youth-led climate innovation and initiatives. Since the government has no specific funding for youth-led initiatives as part of its sustainable or youth development policies, the Hong Kong government should emulate the policies of countries worldwide to promote youth-led climate solutions through specific grants.

For example, the United Nations Development Programme partnered with the Government of Italy to launch a *Youth4Climate Call for Solutions* to provide USD$2.5 million (around HKD19.5 million) in grants and development opportunities for youth in order to promote youth participation and innovative climate solutions in local communities (Shujat, S.H., 2023). Similarly, since 2020, Ireland has funded €3 million (around HKD27.4 million) for youth-led climate justice projects on education, awareness and training to empower youth’s agency (Government of Ireland, 2025). Funding was provided for education programmes on renewable energy awareness and training programmes to help younger generations develop the required skills to succeed in their career in a transitioning economy.

The government should also ensure the targeted funding support is available to all types of climate initiatives, and not just for climate technology and green finance. Social innovations, such as youth climate leadership programmes and educational workshops should receive similar support, as bottom-up localized approaches can bridge the gap in current policies and strengthen the community’s climate resilience by addressing social and environmental challenges for underserved communities (United Nations Development Programme, 2025).

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Therefore, the government should establish youth specific climate action grants to foster climate innovation, entrepreneurship and enable just transition in the Hong Kong economy.

2.2 Formalizing youth participation in the climate decision making process to implement holistic and effective climate policies

Avenues for formal youth participation in Hong Kong's climate decision making process are limited. While some youth members are engaged through the Member-Self Recommended Scheme for Youth in environment-related committees, the current mechanism's ability to effectively communicate a diverse youth perspective on climate matters is questionable due to the lack of transparency and accessibility. Due to unclear outcomes of youth involvement combined with limited formal participation opportunities, the government does not meet the standard of enabling meaningful and effective youth participation in climate decision making as required by the Rio Declaration Agenda 21 and Paris Agreement Article 12 (Rajamani, L., & Peel, J., 2021). The government should avoid surface level youth inclusion and selective representation, and incorporate youth's view in accordance with its duties under UNFCCC, to demonstrate that the substance of youth participation has been reasonably considered and integrated to safeguard intergenerational equity (Popovic, N.A.F., 1993).

To demonstrate its compliance with international duties, the government should observe international best practices as suggested by the United Nations Development Programme to empower youth participation in climate governance and law-making process. For example, Brazil, Netherlands, Chile and three other states established a Youth National Climate Council (YNCC). The YNCC is an independent youth body advising on climate-related policy to the states' environmental departments through scheduled meetings (Ingaruca M., 2022). This form of formalized youth engagement fosters intergenerational dialogue and ensures youth are engaged in the early stages of the climate decision making process. In addition, the youth participation process and outcomes should be transparent and effectively communicated to the public. For instance, the Brazil YNCC publishes their proposals and demands to the public before the officials meeting with the Ministry of Environment (Ingaruca M., 2022). Formal proposals and engagement from youth representatives should be publicly available to showcase effective youth engagement in shaping climate-related policy. Based on the aforementioned examples, the government should publish any engagement or consultation work by current youth members to improve transparency and consider increasing the diversity and number of youth representatives in the current committees to ensure effective youth participation.

Institutionalization of youth participation offers the government a formal and organized avenue to review public opinion on current climate policy. It ensures that youth from all

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backgrounds, particularly those from vulnerable communities, are able to access policy-making. Increasing these opportunities can empower younger generations by fostering intergenerational dialogue, thereby, filling in the gaps of the current climate policy-making process.

2.3 Develop climate-related professional development programmes and funding support for young climate professionals to enhance the sustainability sector

There is a need for young professionals to build a unique skillset to meet the needs of an emerging green market. Currently, there are sustainable finance and green technology support schemes, such as the Pilot Green and Sustainable Finance Capacity Building Support Scheme, which aim to support young professional development by providing reimbursement for selected green finance programmes (Financial Service and the Treasury Bureau, 2025). The government should expand such schemes and consider the expansion of said schemes to other industries, such as in the education, research, aviation, maritime trade and healthcare sectors. This can ensure Hong Kong has the talents and expertise to realize deep and rapid decarbonization.

In the latest policy address, the government proposed further youth development through a "Young Talent Training Programme" to promote participation in overseas and international conferences (The Government of Hong Kong Special Administrative Region, 2025). While there is no clear scope or roadmap available for the proposed programme, the government should include climate-related training as part of the programme to empower youth in all sectors. In particular, the government should encourage young climate professionals in hard-to-abate industries to develop green transition skill sets to lead industry transformation through programme expansion and funding support. The government may also incorporate climate change related training in existing professional development programmes, as part of the $2 billion Teaching Professional Development Fund proposed in the 2024 Policy Address, to provide climate-related training for teaching professionals to deliver up-to-date and accurate climate knowledge to emerging talents, which is crucial to further youth development in the local community (The Government of Hong Kong Special Administrative Region, 2024).

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3. Advancing Nature-based Solutions and Ecosystem Conservation in Hong Kong

3.1 Integrate Nature-based Solutions into Hong Kong's climate and urban strategies, enhance city resilience to climate change, and preserve biodiversity

Hong Kong's environmental planning, including the ongoing discussion of the Northern Metropolis and the update of the Biodiversity Strategy and Action Plan (BSAP), presents an opportunity to advance the adoption of nature-based solutions (NbS) as an essential approach to address climate change and biodiversity loss. NbS are especially important in Hong Kong due to the city's high urban density, vulnerability to coastal flooding, and rich yet threatened biodiversity. NbS should be a cornerstone of climate mitigation, adaptation, urban planning, and sustainable development, delivering environmental, social, and economic benefits in harmony.

Existing NbS in Hong Kong include mangrove restoration, wetland conservation in places like Mai Po Nature Reserve, and the protection of marine protected areas (Gov of HKSAR, 2025). Despite all these efforts, the recent report from NGOs shows that over 78 hectares of wetland were destroyed since the announcement of the Northern Metropolis plan (Lee, 2024), between July 2021 and December 2023, which demonstrates the insufficiency in the consideration of nature conservation in urban development. Despite the important role of NbS in climate actions, the absence of a concept and the related policies in Hong Kong Climate Action Plan shows that NbS are unvalued and neglected by the government.

The government must align all NbS initiatives with internationally recognized standards, such as the IUCN Global Standard for Nature-based Solutions. This framework ensures NbS addresses climate change, reduce biodiversity loss. By aligning with the standards in planning and decision-making process, for example, by updating the Hong Kong Planning Standard Guideline (HKPSG), it ensures the development projects are designed at appropriate scales, incorporate NbS in the development, to enhance city's resilience, and address societal challenges through NbS (Civic Exchange & The Nature Conservancy, 2024).

To ensure continued effectiveness, NbS projects must incorporate adaptive management practices, which are the iterative process of planning, implementing, monitoring, evaluating, and adjusting actions based on real-world outcomes and evolving conditions. Adaptive management enables decision-makers to learn from experience, tweak interventions, and respond to unexpected challenges such as extreme climate events or changing ecological dynamics (Frontiers, 2025). Such a cycle of continuous learning and optimization is essential in dynamic urban and environmental contexts, helping NbS to remain resilient and

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deliver sustained benefits over time. This approach has been advocated by leading experts and guidelines, including the IUCN Global Standard for NbS and the UN's Nature-based Solutions guidelines, and is critical for Hong Kong as it advances its ambitious climate adaptation and biodiversity goals. By mainstreaming nature-based solutions into urban planning, climate adaptation and conservation policies, Hong Kong can safeguard its natural capital, enhance ecosystem services such as carbon sequestration and coastal protection, and foster inclusive, sustainable growth that benefits both people and nature.

3.2 Enforce the principles of "responsible travel" when promoting ecotourism development, to minimize ecological disturbance and protect the natural habitats

In the 2025 Chief Executive Policy Address, the government highlighted the importance and potential of merging ecology with tourism development, known as "ecology + tourism" in the Address. This emphasis shows that it is high time for Hong Kong to adopt a clear and rigorous approach to ecotourism, one that aligns with the United Nations definition, which distinguishes ecotourism from broader terms like "green tourism" or general "eco-tourism." According to the UN (UN Tourism, 2025), ecotourism refers to nature-based tourism where the primary motivation is the observation and appreciation of natural environments and traditional cultures. It involves educational and interpretative experiences and generally caters to small groups, often operated by locally owned businesses. Ecotourism minimizes negative environmental and socio-cultural impacts while generating economic benefits for host communities, supporting both cultural and environmental conservation efforts, and providing alternative and sustainable livelihoods.

Sites like Tsim Bei Tsui and Pak Nai have been highlighted in future tourism development plans (Development Bureau, 2025), which represent invaluable natural assets that require careful and respectful stewardship to protect their unique habitats and species. The government should promote and enforce the principles of "Responsible Travel" and "Leave No Trace," prevent overtourism, avoid over-commercialization and overbuilt problems when developing ecotourism. By ensuring tourism development is planned with consultation engaged with local communities, we could minimize ecological disturbance while maximizing social equity. Not only does this approach to ecotourism protect nature, it also empowers rural communities, fosters environmental stewardship, and helps embed sustainability deeply into the city's development path.

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4. Integrating Climate Considerations into Urban Development for a Sustainable and Resilient Future

4.1 Develop a comprehensive city-wide climate risk assessment to improve urban resilience

While the existing climate resilience strategy in Hong Kong prioritizes strengthening critical government infrastructure, recent incidents such as damages to glass curtain walls of residential and commercial units, severe flooding disrupting Accident & Emergency services in hospitals, and damages to hotels, have revealed the inadequacies of a solely infrastructure-led approach. These events expose significant safety and health vulnerabilities of both citizens and visitors to climate hazards, hampering the city's progress toward becoming a liveable, sustainable and competitive city. Current strategies lack thorough risk assessments that encompass all potential climate impacts, such as flooding, heat waves, and typhoons. This limitation is evident when compared to cities like New York (NYC Department of City Planning, 2025) and Tokyo (Tokyo Metropolitan Government, 2021), which conduct detailed vulnerability assessments and risk mapping to inform their climate adaptation plans.

To enhance climate resilience comprehensively, there is an urgent need for a comprehensive city-wide climate risk assessment that covers all potential climate impacts while particularly addressing public health risks associated with extreme heat and climate conditions. This assessment should identify vulnerabilities across all districts and demographics, especially for vulnerable groups like the elderly and individuals with physical challenges, ensuring that no community is overlooked. Transparency and community engagement in these assessments are essential, with regular updates made publicly available.

Integrating climate resilience into all planning and decision-making processes is imperative. Climate impact assessments should also guide development decisions and must be publicly accessible to ensure transparency and community involvement. Moreover, the integration of real-time climate data into urban planning represents a crucial opportunity to enhance adaptation efforts.

Hong Kong can draw inspiration from cities like Amsterdam, which effectively leverages real-time climate data and advanced analytics to inform infrastructure development and ensure resilience against extreme weather events (City of Amsterdam, 2020). By establishing a centralized climate data platform that is accessible to all stakeholders, this would enable data-driven decision-making and facilitate the design of resilient infrastructure and development. This approach not only enhances the city's preparedness for

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climate-related hazards but also aligns with global best practices, setting a strong example for sustainable and climate-resilient urban development.

4.2 Integrate climate resilience into land-use planning strategies to minimize climate hazards

To effectively address the pressing urban climate challenges, embedding climate resilience into land-use planning and development strategies is essential. While the 2025 Policy Address emphasizes accelerating development in the Northern Metropolis, it lacks specific provisions for climate-resilient planning, leaving new developments vulnerable to future climate impacts. This oversight is particularly concerning given Hong Kong's exposure to sea-level rise, intensified typhoons, and storm surges that have already impacted coastal communities. The absence of mandatory coastal setback zones and climate-informed zoning regulations represents a critical vulnerability.

A thorough baseline assessment of climate risks and vulnerabilities specific to development sites and their surrounding areas must be conducted as a foundational step. This assessment will facilitate the design of developments that not only meet current needs but also anticipate future climate challenges. Establishing a centralized climate data platform is critical for collecting and analyzing data on storm surges, flood risks, and heat vulnerabilities. This platform can guide the implementation of mandatory guidelines for establishing buffer zones in new developments, ensuring that high-risk areas are effectively protected. Restrictions on development within high-risks areas are essential to protect coastal settlements and infrastructure from flooding hazards, thereby providing a crucial buffer against coastal flooding.

Moreover, coastal setback zones should not be limited to open spaces; they could be enhanced through the integration of green infrastructure. Incorporating vegetation, such as urban parks with forests and wetlands, will provide ecological benefits while beautifying the area. Tall vegetation can serve as a natural barrier, reducing the impact of storm surges and flooding while improving air quality and promoting biodiversity. One example is in the Mediterranean, the Protocol on Integrated Coastal Zone Management of the Barcelona Convention identifies a setback zone with a minimum 100 m width from the shoreline as an agreed measure (Adriadapt, 2022). By adopting such strategies, Hong Kong can not only safeguard its coastal communities against climate risks but also foster a sustainable and resilient urban environment.

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4.3 Enhancing building resilience through comprehensive standards

The absence of building resilience standards specifically addressing climate impacts means that current building infrastructure in Hong Kong often falls short in coping with challenges like flooding and extreme heat, lacking essential development and maintenance requirements. Recent incidents have exposed the inadequacies of the existing building infrastructure in withstanding climate hazards. Moreover, despite the 2025 Policy Address highlighting plans to accelerate the development of the Northern Metropolis by simplifying statutory procedures, there is a notable lack of emphasis on strengthening building resilience against extreme climate conditions. This oversight reveals a significant gap in the planning and development processes that leaves communities in both established neighborhoods and the newly designated Metropolis vulnerable to climate hazards.

To prevent further damage by extreme climate events, it is crucial to revise building guidelines to incorporate climate resilience criteria, supported by appropriate government funding. A comprehensive system of building resilience standards is necessary to ensure that both new and existing structures can withstand the challenges posed by climate change. Private developers should be mandated to disclose potential climate impacts and enhance the resilience of their buildings. Furthermore, new developments should include comprehensive resilience plans that identify potential climate risks, establish evacuation routes, and provide temporary shelters for those most affected by climate hazards.

Hong Kong can learn from cities like San Francisco, which have implemented stringent building codes and retrofitting programs to enhance infrastructure resilience (San Francisco Environment, n.d.), showcasing a proactive approach to climate adaptation. By integrating these recommendations, Hong Kong can significantly enhance its urban resilience, ensuring that building infrastructure is better prepared for the challenges posed by climate change.

4.4 Develop a comprehensive climate emergency action plan for strengthening community preparedness

Adaptation and resilience strategies extend beyond government infrastructure; they hinge on the community's ability to respond to increasingly frequent and intense climatic hazards. Recent flooding events in Hong Kong highlighted the inadequacies of the emergency response framework, revealing a lack of a comprehensive and well-communicated evacuation plan that left residents without clear guidance or safe refuge options. The contingency plans outlined in the Climate Action Plan are insufficient, lacking the specificity, resources, and public engagement necessary for effective crisis management.

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To bridge this gap, it is essential to establish a territory-wide emergency evacuation and shelter system with clearly marked evacuation routes and climate-resilient shelters equipped with essential supplies and backup power. Regular community drills should be implemented to familiarise residents with evacuation procedures, while multilingual public education campaigns are vital to ensure that all individuals, especially vulnerable groups including the elderly and those with physical challenges, receive timely updates and can respond effectively during climate hazards.

Hong Kong can draw valuable lessons from Japan (Tokyo Metropolitan Government, 2021), where extensive evacuation drills and clear communication strategies have proven successful in preparing communities for natural disasters. By prioritizing the development of a robust evacuation and shelter system, Hong Kong can significantly enhance community readiness for climate-related emergencies, ultimately safeguarding the health and safety of all its residents.

4.5 Mandate climate-sensitive building designs and incentivize climate resilient support to subdivided flats, improve energy efficiency and improve the thermal comforts of the vulnerable groups

Given Hong Kong's dense urban environment dominated by high-rise buildings, the climate-sensitive buildings are the inevitable parts to cope with climate change. One of the climate-sensitive building designs should be the integration with the requirements of renewable energy facilities. For example, the solar-ready rooftops. The orientation of the roof space should be optimized, and the potential shading from adjacent structures to the rooftops should be evaluated (Lisell, et al., 2009), so that the largest roof section can maximize the sun exposure, as well as the efficiency of decentralized solar energy system. While BEAM Plus encourages the use of renewable energy by criteria of overall energy consumption, it does not include a requirement for the solar-ready building design (HKGBC, 2019).

Other considerations for a climate-sensitive building also include the building materials for thermal comfort. For instance, the Phase Change Materials (PCMs). It is a type of heat insulating building materials which can absorb and release the excessive heat as passive temperature control, can regulate indoor comfort and reduce the dependence on air-conditioning (Ghamari, et al., 2024). The application of this material is still limited in Hong Kong. Not to mention that Beam Plus does not specify the use of building materials for thermal comfort.

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Addressing climate vulnerabilities is equally important, particularly for residents of subdivided flats, who are among the most climate-vulnerable groups in Hong Kong. On summer nights, the temperature they feel indoors can reach up to 44°C (CCIL, 2025). In the short-term, the government should subsidize the application of insulating cooling coating, high-performance glazing to the windows of the subdivided-flats.

It is suggested that the government should consider expanding and strengthening the criteria of climate-sensitive designs in the BEAM Plus framework, and provide financial subsidies to incentivize the developers to build a more sustainable building. At the same time, mandating key measures are also important. It is advocated that the Buildings Department should introduce new Code of Practice, Design Manual, or Guidelines for building designs related to renewable energy integration, advanced cooling technologies and building materials, as well as Code of Practice specifically for the subdivided flats.

4.6 Build “bicycle-centric” communities for a low-carbon transport future

According to the Planning Department (2024), the concept of a “15-minute neighbourhood” will be adopted in the Kwu Tung North New Development Area, with promises of a comprehensive pedestrian and cycling network. To ensure this vision succeeds and encourage active cycling in the neighbourhood after construction, it is crucial to move beyond simply constructing cycling paths.

Take reference to the Technical Guideline for Bicycle Infrastructure Design in Urban Area by the Ministry of Construction in Vietnam (2023), the government should consider the connectivity of the cycling paths. A continuous bicycle network should not only connect to the major transportation hubs, but also the popular destinations in the neighbourhood, such as bus stops, schools, shopping malls, local market, and other services. Additionally, the network should emphasize directness, prioritizing the shortest possible routes between destinations to make cycling a convenient and practical choice for daily transportation. Indirect or fragmented bicycle routes should be avoided.

Under the extremely hot summer in Hong Kong due to climate change, the implementation of climate adaptation measures for cycling paths is also essential. Building artificial shading, tree planting along the bicycle path can provide shade for the cyclists, reducing their sun exposure. The materials used for the cycling paths are also important, for example, using the coats with higher solar reflection (Merforth, 2023). In addition, the design of rest areas, including providing more pavilions along the paths, drinking stations, and shaded or indoor areas for parking, to improve the comfort and usability of the cycling infrastructure.

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The Kwu Tung North New Development Area offers a unique opportunity to pilot a bicycle-centric community. We advocate to adopt the “bicycle-centric” concept in other planned developments, such as the Tung Chung New Town Extension, Yuen Long South Development, future projects, and the developed new towns.

4.7 Enhancing urban green spaces for climate adaptation and urban resilience

Urban parks and green spaces play a vital role in climate resilience, biodiversity conservation, and the provision of essential ecosystem services, extending beyond city planning and design. These spaces offer free and equitable access, addressing climate justice while helping to regulate the urban heat island effect and mitigate rising city temperatures. However, Hong Kong currently falls short in providing adequate open space, significantly lagging behind other major cities. Although the Hong Kong 2030+ recommended the enhancement of open space provision to not less than 3.5 square metre per person, this number is still far lagging behind the nearby cities like Singapore (7.4), Tokyo (5.8), Seoul (6.1) (Civic Exchange, 2019), and Shanghai (8.8) (Wang, et al., 2025).

In terms of the quality, most of the parks in Hong Kong are serving for active and passive recreational purposes, often neglecting their potential for ecosystem services and biodiversity support. Enhancing both the quantity and quality of urban parks is crucial for fostering biodiversity and improving public health outcomes. Implementing the “natural ecology parks” concept could significantly benefit park management. For instance, in the US, wild animal reserves are set up inside the parks to attract migratory birds. Not only does it provide an ecological corridor for wildlife, but it also serves as a bird-watching spot for the public (New York State Parks, 2021). By prioritizing the development of urban parks as nature-based solutions, Hong Kong can enhance its climate adaptation and mitigation efforts, benefiting both the environment and its residents.

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5. Develop a RE-centred Energy Transition Roadmap

5.1 Reposition Hong Kong's energy strategy to actively support renewable energy integration

Hong Kong has a clear sign of underinvestment in renewable energy infrastructure, with its energy mix dominated by carbon-intensive imports of nearly 73% sourced from fossil fuels, in contrast to intermittent renewables like solar and wind contribute less than 1% (EMSD, 2024). This misalignment with the Climate Action Plan 2050 is noted with the recent investment in hydrogen that remains unsustainable without a solid base of renewable generation to support it. Key reforms should prioritise upscaling renewable generation capacity, deploy smart grid and storage technologies, and reposition energy policies to align with international climate goals.

Since 2021, oil and gas imports have increased at a CAGR of 1.77% with the troubling reliance on fossil fuels (Census and Statistics Department, 2025). This "buy more, burn more" trajectory contradicts HK's stated commitment with higher energy reliance on Mainland China while externalising emissions through production-based accounting, obscuring environmental injustice and local accountability. Instead of doubling down on fossils, HK should set a clear renewables capacity to restructure the energy mix framework to enable local generation and grid decarbonization. Singapore's Nationally Determined Contribution (NDC), which sets a goal to cut emissions to 60 $MtCO_2e$ by 2030, aligns with the principles of the Global Stocktake (GST) under the Paris Agreement's Article 4(2) (ASEAN Green Future, 2024). The strategy to meet this target hinges on aggressive solar energy deployment and essential grid modernisation, an approach Hong Kong should emulate by stating renewable targets and system upgrades into its own NDC framework to accelerate decarbonisation.

We advocate for the Hong Kong government to recalibrate its energy strategy by setting explicit renewable capacity targets and measurable carbon reduction benchmarks within its energy transition roadmap in alignment with the COP28 Global Stocktake's call to "accelerate the shift away from unabated fossil fuels" (S&P Global, 2023). Hong Kong must shift away from its import-heavy fossil fuel model toward a renewables-led framework, focusing on development in solar PV, offshore wind, and hydropower infrastructure, supported by data-driven policies to enhance grid flexibility and maximise local generation potential.

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5.2 Guarantee grid compatibility for renewables, and refinement in Feed-in Tariff (FiT) Scheme

As Hong Kong targets to achieve 15% of renewable energy share for electricity generation by 2050 under the Climate Action Plan, strengthening grid connectivity is essential to integrate distributed sources including solar and wind power, and enhance energy security (Environment and Ecology Bureau, 2021). The current FiT supports the integration of clean power from decentralized sources, such as rooftop solar installations and offshore wind farms, into the main electricity network. However, the persistent challenges in limited grid compatibility, restrictive connection standards that hinder integration, as well as policy uncertainty and low financial incentives that deterred private investment, reinforced the urgent need for a structural policy reform to address these barriers to expand its future plan beyond 2033 (Next City, 2025).

Since 2022, Hong Kong's renewable energy momentum has slowed due to capacity constraints, reduced FiT tariff rates, and the termination of the Solar Harvest Scheme in 2024. Power companies face challenges in connecting large-scale renewable facilities to the grid, while lengthy approval processes, such as taking 6–9 months for upgrading systems over 10 kW with HK$6,000 , along with 1–2 years for costly Alteration and Addition works, have created significant barriers for property owners and developers (CLP Holdings Limited, 2025). Although the current FiT scheme supports cost recovery by allowing renewable producers to sell electricity at premium rates, its 2033 expiry has discouraged long-term investment. The lack of infrastructure upgrades, combined with policy uncertainty and procedural delays, has weakened public interest and compromised environmental targets, prompting urgent calls to revise FiT rates and reform grid integration policies to align with market realities (Lo et al., 2018).

We advocate for the Hong Kong government to incentivize power companies to prioritize grid upgrades for full compatibility with solar and wind systems. This includes integrating smart grid technologies and energy storage solutions to manage intermittency and enable at least 300 MW of additional renewable capacity by 2030. To support this, FiT approval processes should be streamlined with mandatory timelines for infrastructure agreements and third-party audits aligned with standards such as ISO 14001 to ensure transparency. Extending the FiT scheme to 2043 would guarantee a decade-long commitment for all renewable energy projects, regardless of their start date, providing predictable incentives, promoting equitable access, and strengthening investor confidence. This approach is essential to sustaining momentum in renewable adoption and achieving Hong Kong's net-zero goals by 2050.

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5.3 Develop a waste-to-energy (WtE) performance framework to drive environmental accountability to boost low emission energy recovery solution

Despite over a decade of strategic investment in WtE infrastructure in Hong Kong, existing facilities have consistently operated below 100% capacity since commissioning (CNSD, 2022). The operational performance remains suboptimal with a lagging treatment rate of just 0.4 kg/person/day, less than one-third of the waste each person generates daily, far behind regional counterparts of Singapore (2.7).and ShenZhen (1.3). Compounding this inefficiency is the absence of transparent energy recovery metrics and standardised performance disclosures. As the government prepares to seek Legislative Council approval for the construction of I·PARK2, it must address systemic underperformance through policy recalibration and developing a monitoring framework.

Under the Marrakech Partnership for Global Climate Action, WtE is mentioned as the mitigation instrument within the “Enable Action” pillar, encouraging the cross-sectoral collaboration to adopt best-in-class practice and share operational data. Integrating the best practices through knowledge transfer to Hong Kong, we should develop the performance framework to enable granular tracking of emissions, energy recovery, and waste diversion. Such a system not only ensures compliance with Hong Kong’s climate commitments but also to transform WtE from a waste solution into a revenue-generating pillar to facilitate waste recycling and recovery locally.

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6. Accelerating Climate Finance for Resilience and Net-Zero in Hong Kong

6.1 Advancing Hong Kong's adaptation and transition funding roadmap: Achieving resilience and net zero by 2050

As a leading international financial hub, Hong Kong is uniquely positioned to drive climate finance through structured roadmaps that mobilize capital for adaptation and transition efforts, ensuring vulnerable communities and high-emitting sectors are supported in building resilience and decarbonizing. Adaptation funding addresses climate risks like extreme weather events and sea-level rise, while transition funding targets hard-to-abate industries with pathways to net-zero, collectively channeling resources to meet the Paris Agreement's goals and enhance economic sustainability. Following the HKMA and SFC roadmap for fixed income and currency markets released in September 2025, developing a robust adaptation and transition funding roadmap can take a step further to operationalize ambitions such as the HKMA's Sustainable Finance Action Agenda 2024, which aims to support regional transition through investment, by integrating clear, measurable targets to drive impactful change across the region.

Currently, Hong Kong's climate budgeting lacks a cohesive, time-bound framework for adaptation and transition finance, with fragmented disclosures on the HKD 240 billion commitment under the Climate Action Plan 2050 (Environment and Ecology Bureau, 2021) leading to inconsistent allocations and limited accountability for impacts on mitigation and resilience. The absence of integrated planning risks underfunding adaptation needs, such as infrastructure for flood-prone areas, and delays in transitioning sectors like energy and transport, exacerbating market confusion and greenwashing concerns amid rising climate vulnerabilities. For instance, the recent Super Typhoon Ragasa in September 2025 inflicted severe damages, including massive waves and storm surges that battered coastal restaurants and infrastructure, with economic losses potentially running into billions of HKD and highlighting the pressing need for robust adaptation finance to safeguard communities against increasingly frequent and intense typhoons. This event, one of the strongest storms of the year, also caused widespread disruptions, which halted city operations, underscoring the human and financial toll of inadequate resilience measures.

To address these challenges, developing a robust adaptation and transition funding roadmap aligned with the Hong Kong Sustainable Finance Taxonomy Phase 2A prototype consulted in September 2025 is recommended, featuring scalable, transparent mechanisms with impact-driven metrics (Hong Kong Monetary Authority, 2025). This roadmap is suggested to incorporate the following key elements from short run to long run:

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1. Time-bound allocation plans for short-term (1-3 years) pipelines: Focused on immediate resilience projects to combat pressing climate vulnerabilities, such as enhancing flood defenses in low-lying coastal areas which have been repeatedly impacted by storm surges and extreme rainfall events, and implementing urban cooling systems to mitigate heat islands in densely populated districts amid rising temperatures and frequent heat waves.

2. Medium-term (5-10 years) thresholds for decarbonizing specific sectors, particularly those aligned with HKSAR's 4 key decarbonisation strategies: net-zero electricity generation, green transport, energy efficiency and green buildings, and waste reduction. The degree of capital allocation and priorities for climate finance can be determined by sector-specific decarbonization trajectories and science-based metrics, developed with reference to the Science Based Targets initiative (SBTi), to ensure alignment with Hong Kong's interim 50% emissions reduction target by 2035.

3. Long-term (10-20 years) vision and milestones for achieving carbon neutrality by 2050: Define comprehensive, science-based pathways, referencing the Science Based Targets initiative (SBTi), to achieve HKSAR's target of full carbon neutrality by 2050, extending beyond hard-to-abate sectors to drive economy-wide decarbonization. Climate finance priorities, guided by sector-specific trajectories and metrics, should clearly outline the financial resources assigned to advanced clean technologies and durable resilience infrastructure that the government deems as the cornerstone to decarbonize in coming decades to counter escalating extreme weather events.

6.2 Establishment of resilience and recovery fund for a sustainable future

While the Hong Kong government has set ambitious goals, such as the HKMA's commitment to achieve net-zero emissions for the Exchange Fund's Investment Portfolio by 2050 under its Sustainable Finance Action Agenda 2024 and its effort to advance transition finance through the Hong Kong Sustainable Finance Taxonomy Phase 2A launched in September 2025, Hong Kong lacks operationalized funds for resilience measures and loss and damage mitigation beyond its decarbonization roadmap. Although the establishment of a government steering committee on extreme weather marks progress toward a more organized response to enhance resilience against climate impacts, the Emergency Relief Fund (ERF) primarily focuses on immediate cash aid, leaving gaps in long-term property recovery, mental health support, and infrastructure rebuilding.

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In alignment with positioning Hong Kong as a resilient, climate-leading hub beyond decarbonization, the HKMA and HKSAR are suggested to establish a comprehensive Resilience and Recovery Fund, drawing inspiration from New York City's Resiliency Program. International examples demonstrate the effectiveness of such comprehensive support systems, from which Hong Kong can draw insights. For instance, after Hurricane Sandy, New York City established its Resiliency Program, a robust recovery framework that provided financial aid, mental health support, and community engagement initiatives to rebuild affected neighborhoods (City of New York, 2013). Additionally, New York's Build it Back program successfully partnered with private developers to implement shared-risk mechanisms, reducing financial burdens and accelerating reconstruction of over 8,000 homes and businesses by 2017, demonstrating a model Hong Kong can replicate to enhance recovery and build a resilient urban environment.

To achieve this, the fund should include dedicated "Use of Proceeds" to provide immediate financial and technical assistance for repairing and rebuilding private properties, enabling property owners to navigate recovery complexities without relying solely on private insurance. Additionally, integrating financial support for mental health services into this framework will address the psychological impacts of climate-related disasters, fostering a holistic approach to recovery, as a comprehensive strategy is vital for ensuring affected individuals receive the necessary support to rebuild their lives and build a truly resilient, thriving, and sustainable community.

6.3 Promote Sustainability-Linked Insurance (SLI) as a strategic climate finance tool

Hong Kong's record-breaking number of tropical cyclones this year exposes its acute vulnerability to climate-related financial risks. While leading real estate players across the Asia-Pacific region have begun assessing their Climate Value at Risk and implementing resilience strategies, traditional insurance models remain inadequate, as they often penalize climate-vulnerable assets with escalating premiums, rather than incentivizing proactive adaptation (Link Asset Management Limited, 2025). This emphasizes the need for sustainability-linked insurance (SLI), which ties coverage terms, premiums, and deductibles to the achievement of predefined sustainability performance targets such as emissions reduction, energy recovery, and climate adaptation, transforming physical climate risk into a strategic financial advantage through negotiating improved terms for developments (AXA, 2025).

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As Hong Kong strengthens its role as a regional asset management hub, SLI offers a strategic edge by integrating climate risk into investment decisions and expanding ESG-linked asset classes. Drawing from Munich Re's climate risk insurance model, in Honduras, they use advanced climate modeling and risk tools to design real-time coverage, exemplified by its flood early warning system that enabled rapid disaster response and saved lives during Storm Sara (Munich Re Foundation, 2024). In Hong Kong, the first SLI product launched by AXA and Link Asset Management marks a shift toward performance-based coverage (AXA, 2025). Backed by the Green and Sustainable Finance Cross-Agency Steering Group, co-led by the Insurance Authority and the Environment and Ecology Bureau, this initiative lays the regulatory groundwork to scale SLIs and de-risk climate-resilient infrastructure across sectors.

To accelerate adoption, we call for a strategic roadmap for climate-resilient insurance innovation, led by the Steering Group in formal partnership with the Insurance Authority under Hong Kong's Climate Action Plan 2050. This coordinated effort across insurers, regulators, and businesses must embed the four key pillars of insurer action—client engagement on climate risk, incentivizing adaptation, refining underwriting methodologies, and innovating product design. Priority actions include introducing government-backed incentives such as premium subsidies for climate-smart coverage and tax relief for insurers investing in green underwriting and enabling data-sharing partnerships with climate scientists and ESG auditors to enhance risk modeling and transparency, to de-risk innovation and accelerate market adoption, in order to position Hong Kong as Asia's leader in climate-resilient insurance and sustainable finance.

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References

Introduction

CarbonCare InnoLab. (2024, August 12) *Press Release: Inadequate Housing Units Survey under Extreme Heat 2024.* https://www.ccinnolab.org/en/climateblogPost/climateblog048

Hoegh-Guldberg, O., D. Jacob, M. Taylor, M. Bindi, S. Brown, I. Camilloni, A. Diedhiou, R. Djalante, K.L. Ebi, F. Engelbrecht, J.Guiot, Y. Hijioka, S. Mehrotra, A. Payne, S.I. Seneviratne, A. Thomas, R. Warren, and G. Zhou, 2018: Impacts of 1.5ºC Global Warming on Natural and Human Systems. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T.Maycock, M.Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 175-312. https://doi.org/10.1017/9781009157940.005

Lee, T. C., & Cheng, Y. Y. (n.d.). *Typhoon 5-6 (Average Number of Tropical Cyclones)*. https://www.hko.gov.hk/en/education/tropical-cyclone/classification-naming-characteristics/00161-typhoon-56-average-number-of-tropical-cyclones.html

Zeke Hausfather. (2025, July 29). *State of the climate: 2025 on track to be second or third warmest year on record*. Carbon Brief. https://www.carbonbrief.org/state-of-the-climate-2025-on-track-to-be-second-or-third-warmest-year-on-record/

1. Institute a Human-centric Adaptation and Climate Resilience Framework to Safeguard Lives, Protect Vulnerable Communities, and Strengthen Social Wellbeing

City of Amsterdam. (2020, February 20). City of Amsterdam launches Climate Adaptation Strategy. AMS Institute. https://www.ams-institute.org/news/city-amsterdam-launches-climate-adaptation-strategy/

Labour Department. (2023). *Guidance notes on prevention of heat stress at work*. https://www.labour.gov.hk/common/public/oh/Heat_Stress_GN_en.pdf

Unit 1101-1102, Times Tower, 928-930, Cheung Sha Wan Road, Kowloon, Hong Kong
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Phone: 3568 2244 | Fax: 3590 3775 | Email: info@ccinnolab.org | Website: www.ccinnolab.org

Labour Department. (2024). Code of practice in times of adverse weather and “extreme conditions”. https://www.labour.gov.hk/eng/public/wcp/Rainstorm.pdf

NYC GOV. (n.d.). *Interactive heat vulnerability index.* Environment & Health Data Portal. https://a816-dohbesp.nyc.gov/IndicatorPublic/data-features/hvi/

NYC Department of City Planning. (2025). Climate Resiliency. https://www.nyc.gov/content/planning/pages/our-work/plans/citywide/climate-resiliency

RTHK. (2025). *Warning system in works for HK’s flood-prone roads* - RTHK. Rthk.hk. https://news.rthk.hk/rthk/en/component/k2/1799958-20250411.htm

The Government of the Hong Kong Special Administrative Region. (2025). *HAD opens temporary heat shelters*. Info.gov.hk. https://www.info.gov.hk/gia/general/202509/30/P2025093000607.htm

The Standard. (2025). *Third worker dies suddenly at Kwu Tung construction site in a week*. Retrieved from https://www.thestandard.com.hk/hong-kong-news/article/312842/Third-worker-dies-suddenly-at-Kwu-Tung-construction-site-in-a-week

The Strait Times. (2025). *Protect workers from extreme heat or face fines, Japan tells firms*. *The Straits Times*. Retrieved from https://www.straitstimes.com/asia/east-asia/protect-workers-from-heat-waves-or-face-fines-japan-tells-firms

Tokyo Metropolitan Government. (2021). Tokyo Climate Change Adaptation Plan. https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/asia-amp-indian-ocean/japan/Tokyo-Metropolitan-Gov.--2021.--Climate-Change-Adaptation-Plan.pdf

UK Health Security Agency. (2025, February 18). *Heat-Health Alert action card for health and social care providers.* GOV.UK. https://www.gov.uk/guidance/heat-health-alert-action-card-for-health-and-social-care-providers

World Meteorological Organization (WMO). (2025). *Climate change and workplace heat stress technical report and guidance*.

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https://library.wmo.int/viewer/69616/download?file=Climate-Change-and-Workplace-Heat-Stress_en.pdf&type=pdf&navigator=1

2. Empower Youth Participation and Development in the Face of Climate Change

Environment and Conservation Fund (2025) , Approved Projects - Publicity and Education Projects, Environment and Ecology Bureau,The Government of Hong Kong Special Administrative Region ecf.gov.hk/en/approved-projects/?view=education

Financial Service and the Treasury Bureau (2025), *Pilot Green and Sustainable Finance Capacity Building Support Scheme* https://www.fstb.gov.hk/fsb/en/business/funding_schemes/funding-schemes.html

Government of Ireland (2025), *Minister McEntee announces €498,000 for youth climate projects*, Department of Education and Youth https://www.gov.ie/en/department-of-education/press-releases/minister-mcentee-announces-498000-for-youth-climate-projects/

Ingaruca M. (2022), *Elevating Meaningful Youth Engagement for Climate Action,* United Nation Development Programme https://www.undp.org/sites/g/files/zskgke326/files/2022-05/UNDP-Elevating-Meaningful-Youth-Engagement-for-Climate-Action-2.pdf

Popovic, N.A.F. (1993), *The Right to Participate in Decisions That Affect the Environment*, 10 Pace Envtl. L. Rev. 683 https://doi.org/10.58948/0738-6206.1572

Rajamani, L., & Peel, J.(eds) (2021). *The Oxford Handbook of International Environmental Law* (2nd ed.), Oxford University Press https://doi.org/10.1093/law/9780198849155.001.0001

The Government of Hong Kong Special Administrative Region (2025), *Section D - Promote Youth Development, 2025 Policy Address*, 166-169 https://www.policyaddress.gov.hk/2025/public/pdf/policy/policy-full_en.pdf

The Government of Hong Kong Special Administrative Region (2024), *Section 33 - Enhance support for schools*, teachers and student, 2024 Policy Address, 80-82 https://www.policyaddress.gov.hk/2024/public/pdf/policy/policy-full_en.pdf

Unit 1101-1102, Times Tower, 928-930, Cheung Sha Wan Road, Kowloon, Hong Kong
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Phone: 3568 2244 | Fax: 3590 3775 | Email: info@ccinnolab.org | Website: www.ccinnolab.org

United Nations Development Programme (2025), *How young people are building skills for climate action and a resilient world*, Global Climate Promise https://climatepromise.undp.org/news-and-stories/how-young-people-are-building-skills-climate-action-and-resilient-world

Weiss, E.B. (2008) *Climate Change, Intergenerational Equity, and International Law*, 9 Vt. J. Envtl. L. 615-627, Georgetown University Law Center https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?params=/context/facpub/article/2637/&path_info=Climate_change_Intergenerational_Equality_and_Intl_Law.pdf

Shujat, S.H. (2023), *How today's youth are taking the lead in global climate action*, World Economic Forum https://www.weforum.org/stories/2023/07/empowering-tomorrows-climate-leaders-how-youth-influence-climate-action/

3. Advancing Nature-based Solutions and Ecosystem Conservation in Hong Kong

Development Bureau. (2025). *Invitation for Expression of Interest for Development of Eco-Tourism Nodes in Tsim Bei Tsui and Pak Nai*. https://www.nm.gov.hk/downloads/EOI.pdf

European Environment Agency. (2025). *Nature-based solutions – Climate adaptation in Europe*. https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/key-eu-actions/NbS

Frontiers. (2025). Application of a nature-based solution adaptive management framework: Learning from experience. https://www.frontiersin.org/journals/ecology-and-evolution/articles/10.3389/fevo.2025.1608372/full

Government of the Hong Kong Special Administrative Region. (2025). *Biodiversity strategy and action plan public consultation document.* https://www.gov.hk/en/residents/government/publication/consultation/docs/2025/biodiversity-strategy.pdf

UN Tourism. (2025). *Ecotourism and protected areas*. Retrieved from https://www.untourism.int/sustainable-development/ecotourism-and-protected-areas

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Civic Exchange & The Nature Conservancy. (2024). *Hong Kong nature-based solutions report*. Retrieved from https://civic-exchange.org/wp-content/uploads/2024/05/CEx_TNC_HK-Nature-based-Solutions-Report_20240328_EN_Full.pdf

Lee, J. (2024, January 18). *Over 78 hectares of wetland destroyed since Hong Kong gov't announced Northern Metropolis plan*. Hong Kong Free Press. Retrieved from https://hongkongfp.com/2024/01/18/over-78-hectares-of-wetland-destroyed-since-hong-kong-govt-announced-northern-metropolis-plan/

4. Integrating Climate Considerations into Urban Development for a Sustainable and Resilient Future

Casady, C. B., Cepparulo, A., & Giuriato, L. (2024). Public-private partnerships for low-carbon, climate-resilient infrastructure: Insights from the literature. Journal of Cleaner Production, 470, 143338–143338. https://doi.org/10.1016/j.jclepro.2024.143338

City of Amsterdam. (2020). Climate adaptation strategy. AMS Institute. https://www.ams-institute.org/news/city-amsterdam-launches-climate-adaptation-strategy/

Development Bureau. (2024, March). *Smart, green and resilient strategies for the Northern Metropolis* (LC Paper No. CB(1)345/2024(03)). Legislative Council of the Hong Kong Special Administrative Region. https://www.legco.gov.hk/yr2022/english/hc/sub_com/hs03/papers/hs0320240326cb1-345-3-e.pdf

Planning Department. (2023). *Reimagining public spaces in Hong Kong: Feasibility study consultancy report*. Government of the Hong Kong Special Administrative Region. https://www.pland.gov.hk/file/planning_studies/comp_s/ReimaginingPublicSpaces/reimagining_public_spaces_in_hong_kong_feasibility_study_consultancy_report_en.pdf

Ministry of Construction, Administration of Technical Infrastructure. (2023). *Technical guideline for bicycle infrastructure design in urban areas*. https://www.giz.de/en/downloads_els/Technical%20guideline%20for%20bicycle%20infrastructure%20design%20in%20urban%20area.pdf

Merforth, M. (2023). *Cycling in the heat: Overcoming challenges and promoting sustainable mobility*. Urbanet.

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https://www.urbanet.info/cycling-heat-sustainable-mobility/#:~:text=Integrating%20climate%20adaptation%20into%20cycling,experience%20even%20in%20warmer%20weather.

He G., Wang Q., Hu V., Bi C., (2025) *Transform Climate Risks into Development Opportunities — Implications for Hong Kong's Economic Development in an Era of Climate Change,* Hong Kong University Business School https://www.hkubs.hku.hk/wp-content/uploads/2025/01/Green-Paper-Final_English.pdf

Lisell, L., Tetreault, T., & Watson, A. (2009). *Solar ready buildings planning guide* (NREL/TP-7A2-46078). National Renewable Energy Laboratory. Retrieved from https://docs.nrel.gov/docs/fy10osti/46078.pdf
Adriadapt. (2022). *Coastal setback zones*. http://www.adriadapt.eu/adaptation-options/coastal-setback/

Civic Exchange. (2019). *Open space opinion survey: District information kit* (in Chinese). https://civic-exchange.org/wp-content/uploads/2019/01/Open-Space-Opinion-Survey-District-Info-Kit-Cn.pdf
Wang, J., Jiang, H., Wang, M., Xiong, Y., Zhu, A., & Wang, F. (2025). Assessment of spatial equality and social justice of urban park distribution from park category perspective: Evidence from Shanghai, China. *Sustainability, 17*(12), Article 5474. https://doi.org/10.3390/su17125474

New York State Parks. (2021). *Celebrate a centennial at Allegany State Park 1921-2021*. Retrieved from https://nystateparks.blog/2021/07/27/celebrate-a-centennial-at-allegany-state-park-1921-2021/#:~:text=For%20birdwatchers%2C%20Allegany%20State%20Park%20contains%20a,Swainson's%20Thrush%2C%20Blackburnian%20Warbler%2C%20and%20Scarlet%20Tanager.

Myalkovsky, R., Plahtiy, D., Bezvikonnyi.B., Horodyska, O. (2023). *Urban parks as an important component of environmental infrastructure: Biodiversity conservation and recreational opportunities*. Ukrainian Journal of Forest and Wood Science 14(4):57-72. DOI:10.31548/forest/4.2023.57 https://www.researchgate.net/publication/377137345_Urban_parks_as_an_important_component_of_environmental_infrastructure_Biodiversity_conservation_and_recreational_opportunities

Ghamari, M., See, C. H., Hughes, D., Mallick, T., Reddy, K. S., Patchigolla, K., & Sundaram, S. (2024). Advancing sustainable building through passive cooling with phase

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change materials, a comprehensive literature review. *Energy and Buildings. Volume 312.* https://www.researchgate.net/publication/379840218_Advancing_sustainable_building_through_passive_cooling_with_phase_change_materials_a_comprehensive_literature_review_Advancing_Sustainable_Building_through_Passive_Cooling_with_Phase_Change_Materials_

Hong Kong Green Building Council. (2019). *BEAM Plus New Buildings Version 2.0*. Retrieved from https://www.hkgbc.org.hk/eng/beam-plus/file/BEAMPlus_New_Buildings_v2_0.pdf

San Francisco Environment. (n.d.). *San Francisco Green Building Code* https://www.sfenvironment.org/green-building-ordinance-sf-building-code

5. Develop a RE-centred Energy Transition Roadmap

ASEAN Green Future. (2024). Decarbonisation Pathways for Singapore | December 2024. https://files.unsdsn.org/AGF%20-%20Singapore%20-%202.1_2.2_Report%20-%20FINAL.pdf

Census and Statistics Department. (2025). 統計表. Censtatd.gov.hk. https://www.censtatd.gov.hk/tc/web_table.html?id=915-91001

CLP Holdings Limited. (2025). 2024 Sustainability Report. https://www.clpgroup.com/content/dam/clp-group/channels/sustainability/document/sustainability-report/2024/CLP_Sustainability_Report_2024_en.pdf.coredownload.pdf

CNSD. (2022). EPD to develop new waste-to-energy facilities to gradually phase out landfills. Carbon Neutrality and Sustainable Development. https://cnsd.gov.hk/en/press-release/epd-to-develop-new-waste-to-energy-facilities-to-gradually-phase-out-landfills/

EMSD. (2024). https://www.emsd.gov.hk/filemanager/en/content_762/HKEEUD2024.pdf

Environment and Ecology Bureau. (2021). Hong Kong's Climate Action Plan 2050. https://cnsd.gov.hk/wp-content/uploads/pdf/CAP2050_booklet_en.pdf

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Electrical and Mechanical Services Department. (2025, April 2). FAQ on Feed-in Tariff Scheme. https://re.emsd.gov.hk/english/fit/faq/files/250402_FAQ_FiT%20(Eng).pdf

International Organization for Standardization. (2024). ISO 14001:2015 Environmental management systems — Requirements with guidance for use. https://www.iso.org/standard/60857.html

Lo, K., Mah, D. N.-Y., Wang, G., Leung, M. K., Lo, A. Y., & Hills, P. (2018). Barriers to adopting solar photovoltaic systems in Hong Kong. Energy & Environment, 29(5), 649–663. https://doi.org/10.1177/0958305x18757402

Next City. (2025, August 15). Rooftop solar power is struggling to take off in Hong Kong. What went wrong?https://nextcity.org/urbanist-news/rooftop-solar-power-is-struggling-to-take-off-in-hong-kong.-what-went-wrong

S&P Global. (2023). COP28: Leaders agree to transition away from fossil fuels in final text. S&P Global Commodity Insights. https://www.spglobal.com/commodity-insights/en/news-research/latest-news/crude-oil/121323-cop28-leaders-agree-to-transition-away-from-fossil-fuels-in-final-text

6. Accelerating Climate Finance for Resilience and Net-Zero in Hong Kong

AXA (2025). Sustainability-Linked Insurance: Innovating to Inspire Investment in Climate Resilience. https://www.axa.com.hk/en/article/sustainability-linked-insurance-innovating-to-inspire-investment-in-climate-resilience

City of New York. (2013). One New York: The Plan for a Strong and Just City. Retrieved from https://www.nyc.gov/site/sirr/report/report.page

Environment and Ecology Bureau. (2021). Hong Kong's Climate Action Plan 2050. https://cnsd.gov.hk/wp-content/uploads/pdf/CAP2050_booklet_en.pdf

Hong Kong Monetary Authority. (2024, October). Sustainable Finance Action Agenda. https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2024/20241021e4a1.pdf

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Hong Kong Monetary Authority. (2025, September). Prototype of Hong Kong Taxonomy for Sustainable Finance (Phase 2A). https://brdr.hkma.gov.hk/eng/doc-ldg/docId/getPdf/20250903-11-EN/20250903-11-EN.pdf
Hong Kong Monetary Authority & Securities and Futures Commission. (2025, September). Roadmap for the development of fixed income and currency markets. https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2025/20250925e3a1.pdf

Insurance Authority. (2025). Insurance Authority - Cross-Agency Steering Group sets 2025 priorities to support growth of sustainable finance in Hong Kong. Ia.org.hk. https://www.ia.org.hk/en/infocenter/press_releases/20250206.html

KPMG. (2025). Insurers' sustainability- related disclosures _ KPMG. Make the Difference. 2. https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/ifrg/2025/isg-insurers-sustainability-related-disclosures-2024-reporting-cycle.pdf

Link Asset Management Limited. (2025). "Sustainability-Linked Insurance: Rewarding Climate Risk Adaptation". https://www.linkreit.com/-/media/linkreit/sustainability/esg-insights-and-collaboration/2025/link-white-paper_20250401.pdf?rev=8b7f0eaa5e4d492d8844278a54fae97e&hash=2AA3551CCC23953F2354517D01DDAF1E

Munich Re. (2022). Natural disaster risks - Rising trend in losses | Munich Re. Www.munichre.com. https://www.munichre.com/en/risks/natural-disasters.html

Munich Re Foundation. (2024). Munich Re Foundation 2024 Report. https://www.munichre-foundation.org/content/dam/munichre/foundation/publications/annual-report/MRF_Report2024_final_englisch.pdf/_jcr_content/renditions/original./MRF_Report2024_final_englisch.pdf

Science Based Targets initiative. (n.d.). Standards and guidance. https://sciencebasedtargets.org/standards-and-guidance

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