

Hong Kong SAR's Economy in the Face of Climate Change: Risks and Prospects

Fozan Fareed

SIP/2025/051

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on January 13, 2025. This paper is also published separately as IMF Country Report No 25/16.

**2025
MAY**



IMF Selected Issues Paper
Asia and Pacific Department

Hong Kong SAR's Economy in the Face of Climate Change: Risks and Prospects
Prepared by Fozan Fareed

Authorized for distribution by Thomas Helbling
May 2025

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on January 13, 2025. This paper is also published separately as IMF Country Report No 25/16.

ABSTRACT: Hong Kong SAR is facing ongoing challenges from climate change, with projections indicating that these issues will remain prevalent or even intensify in the future. In response, Hong Kong SAR has embraced a comprehensive three-pronged climate strategy—the Climate Action Plan 2050—that focuses on mitigation, adaptation, and building resilience, and sets ambitious goals of reducing carbon emissions by 50 percent before 2035 and achieving carbon neutrality before 2050. Simultaneously, there is a concerted effort to bolster infrastructure and community resilience against natural disasters. Although significant strides have been made towards decarbonizing the economy and building resilience in the last few years, sustained action is pivotal to reach carbon neutrality, including by reducing emissions in hard-to-abate sectors and improving energy efficiency across industries. It would also be crucial to continue strengthening resilience against extreme weather events, further integrate climate into systemic risk analysis, and foster a green finance ecosystem.

RECOMMENDED CITATION: : Fareed, Fozan. Hong Kong SAR's Economy in the Face of Climate Change: Risks and Prospects (SIP/2025/051). Washington, D.C.: International Monetary Fund.

JEL Classification Numbers:	Q50, Q54, Q58, G21.
Keywords:	Climate risks, climate adaptation, mitigation, Hong Kong.
Authors' E-Mail Addresses:	ffareed@imf.org

SELECTED ISSUES PAPERS

Hong Kong SAR's Economy in the Face of Climate Change: Risks and Prospects

Hong Kong SAR

Prepared by Fozan Fareed ¹

¹ The author(s) would like to thank the national authorities for their useful comments and discussions.

HONG KONG SAR'S ECONOMY IN THE FACE OF CLIMATE CHANGE: RISKS AND PROSPECTS¹

Hong Kong SAR is facing ongoing challenges from climate change, with projections indicating that these issues will remain prevalent or even intensify in the future. In response, Hong Kong SAR has embraced a comprehensive three-pronged climate strategy—the Climate Action Plan 2050—that focuses on mitigation, adaptation, and building resilience, and sets ambitious goals of reducing carbon emissions by 50 percent before 2035 and achieving carbon neutrality before 2050. Simultaneously, there is a concerted effort to bolster infrastructure and community resilience against natural disasters. Although significant strides have been made towards decarbonizing the economy and building resilience in the last few years, sustained action is pivotal to reach carbon neutrality, including by reducing emissions in hard-to-abate sectors and improving energy efficiency across industries. It would also be crucial to continue strengthening resilience against extreme weather events, further integrate climate into systemic risk analysis, and foster a green finance ecosystem.

A. Introduction

1. Climate change threatens long-term economic prosperity and human livelihoods globally, creating extensive macroeconomic challenges across different sectors. Its widespread effects can stifle economic growth, intensify poverty, and increase income inequalities, especially in regions ill-prepared for environmental shifts ([IMF, 2023](#)). For instance, the rising frequency and intensity of natural disasters—such as floods, cyclones, and wildfires—result in substantial economic costs due to infrastructure damage, supply chain disruptions, and higher insurance premiums. Furthermore, transitioning to a low-carbon economy, although essential, presents additional challenges, demanding significant investments in green technologies and infrastructure. Therefore, the macroeconomic impacts of climate change call for a unified effort from policymakers, businesses, and communities to adopt sustainable practices, invest in climate resilience, and drive innovation.

2. Hong Kong SAR has started to experience the effects of global warming, and the trend is expected to continue in the future.² The annual mean temperature in Hong Kong SAR has shown a significant upward trend, rising by 0.14°C per decade from 1885 to 2023. The rise accelerated to 0.30°C per decade during the period from 1994 to 2023, with projected increases ranging from about 1.2 to 3.6 degrees Celsius under different greenhouse gas emission scenarios by 2100 (Figure 1). The city's dense urban environment can intensify this warming trend, creating an “urban heat island” effect where urban areas become notably warmer than their surroundings, posing risks to human health and escalating energy consumption from cooling ([Aflaki et al., 2017](#)). The annual rainfall has also shown an increasing trend, with 2023 recording the heaviest rainfall

¹ Prepared by Fozan Fareed.

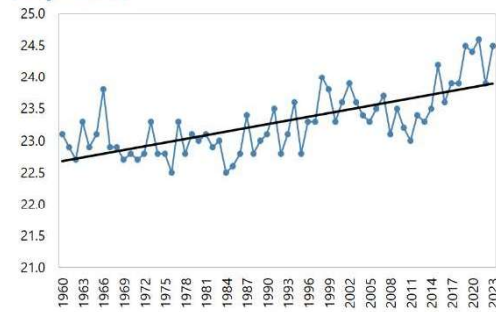
² Hong Kong SAR is affected by both acute and chronic climate hazards. Acute climate hazards are sudden, short-term events like storms or floods, while chronic climate hazards are long-term, ongoing issues such as rising sea levels.

recorded in the city. Ongoing challenges with air quality and population density exacerbate health risks, while the frequency of extreme weather conditions has also risen over the last decade (Figure 1).

Text Figure 1. Hong Kong SAR: Climate Change Effects: Temperature and Precipitation

Annual Mean Temperature

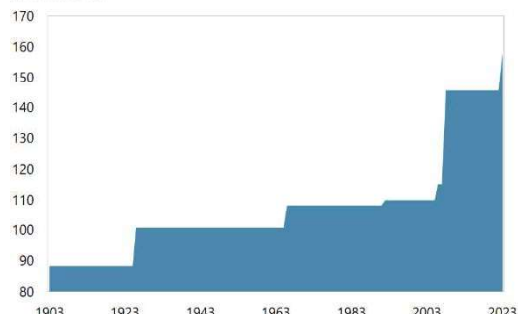
(In degrees Celsius)



Source: Hong Kong Observatory.

Highest Hourly Rainfall Record

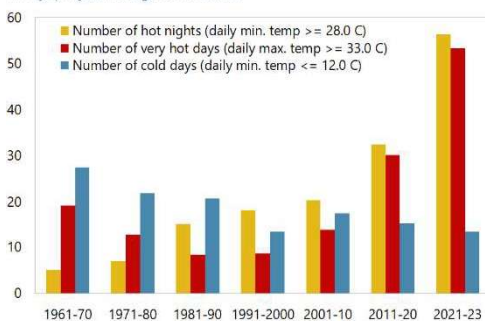
(In millimeters)



Sources: Hong Kong Observatory, and IMF staff calculations.

Frequency of Extreme Weather Conditions

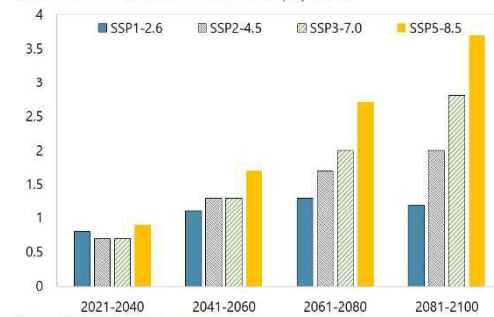
In days per year, average over a decade



Sources: Hong Kong Observatory, and IMF staff calculations.

Projected Increase in Temperature

(Relative to 1995–2014 level; Based on mean projections)



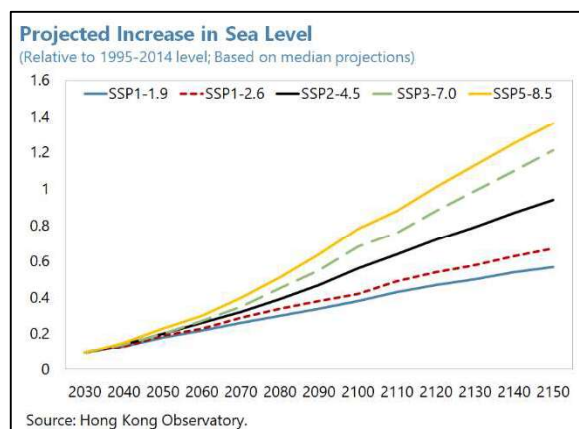
Source: Hong Kong Observatory.

Note: SSPs refer to Shared Socioeconomic Pathways climate scenarios. SSP1 describes a sustainable future with low challenges to mitigation and adaptation, SSP2 envisions a middle-of-the-road scenario with moderate challenges, SSP3 depicts a fragmented world with high challenges to both mitigation and adaptation, and SSP5 represents a fossil-fueled development pathway with severe mitigation challenges.

3. The rise in sea level also poses a risk to Hong Kong SAR's coastal and low-lying areas, exacerbating the threat of flooding and the potential for damage to infrastructure and livelihoods. On average, the mean sea level around Hong Kong SAR rose at a rate of 0.03m per decade during 1954–2023,³ and future projections indicate a significant increase by the end of the

³ Based on the tide gauge records in Victoria Harbor (Hong Kong Observatory).

century (2100), with expected rises ranging from about 0.4 to 0.8 meters under median projection of mean sea level for different greenhouse gas emissions scenarios (text Figure). The increasing sea level coupled with more frequent and severe storm surges will increase the exposure of both coastal infrastructure and populations to sea flooding risk. In the past, severe tropical cyclones and storm surges in Hong Kong SAR have led to significant economic losses due to damage to property, public infrastructure, and business interruptions ([Choy et al., 2020](#)).



B. Climate Risks and Potential Economic Implications

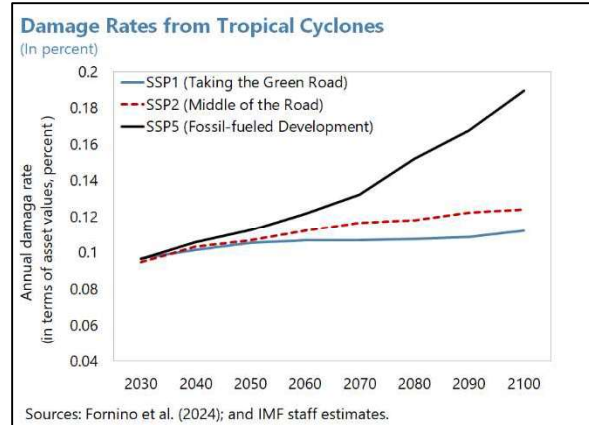
4. To better assess the economic implications of damages from tropical cyclones—one of the most critical climate hazards for Hong Kong SAR—forward-looking damage estimates are analyzed based on [Fornino et al. \(2024\)](#). Damages are determined as the interaction of three components: the projections of individual hazards (hazard severity), the exposure of economic assets to these hazards, and the vulnerability in the event the hazard materializes. Damage rates are defined as the loss of value of assets, expressed in percent of the value of those assets before being hit by tropical cyclones. These exclude indirect damages, for example, those arising from business interruption, spillovers, and, more generally, second round effects. The hazards data reflect wind speeds, produced by Jupiter Intelligence using data from global circulation models and a synthetic tropical cyclone model, and available for various return periods.

5. The analysis also considers three climate scenarios with distinct underlying assumptions about future socio-economic developments, emission pathways, and policy responses, each leading to varying levels of global warming and associated impacts. SSP1-2.6 refers to a “taking the green road” scenario with low emissions and limited warming, SSP2-4.5 refers to middle of the road scenario with medium emissions and moderate warming, and SSP5-8.5 refers to a fossil fueled development scenario with high emissions leading to severe warming. The damage functions used in this analysis to calibrate economic damages caused by tropical cyclones come from [Eberenz et al. \(2017\)](#). These functions are regionally calibrated by using simulated damages from CLIMADA and reported damages.⁴ Economic exposures are incorporated through downscaled GDP data from [Murakami and others \(2021\)](#).

6. The results show that damages from tropical cyclones could vary significantly. Under the “taking the green road” (SSP1-2.6) scenario, damages from tropical cyclones in Hong Kong SAR

⁴ Additional details of the model, underlying assumptions, and description of climate scenarios are available from [Fornino et al. \(2024\)](#).

are estimated to be around 0.1 percent of asset value per year. Conversely, in a scenario that envisions a fossil fuel-dependent world with high carbon emissions (SSP5-8.5), the damages from tropical cyclones are projected to increase substantially and reach about 0.19 percent of asset value per year, indicating close to a 100 percent increase by 2100 compared to SSP1-2.6. The SSP2-4.5 ("middle-of-the-road") scenarios also shows increases in damage rates, however, much smaller compared to SSP5-8.5 scenario ([Fornino et al., 2024](#)).



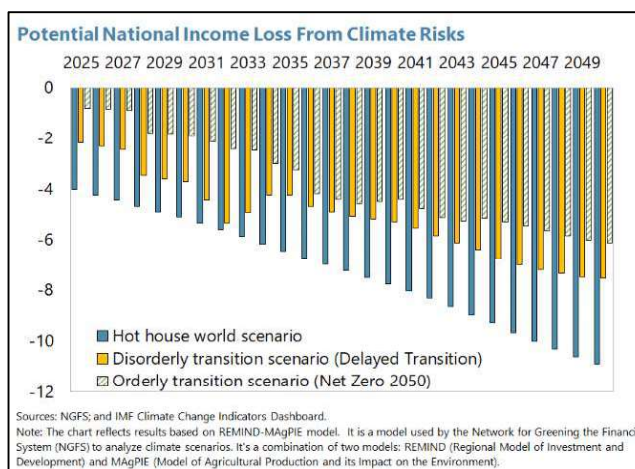
7. The economic effects of climate risks can be also analyzed using the Network for Greening the Financial System (NGFS) scenarios. NGFS Climate Scenarios (Phase IV) provide a detailed framework to help policymakers assess the economic and financial risks associated with climate change. These scenarios are designed to model a range of potential climate futures, considering varying levels of policy stringency, technological advancements, and societal behaviors. The main assumptions include different levels of global warming (e.g., 1.5°C, 2°C, and higher pathways), the pace and scale of the transition to a low-carbon economy, and the extent of physical risks like extreme weather events and sea level rise. The scenarios also account for regional differences, capturing how climate impacts and transition efforts vary across different regions. All NGFS scenarios are based on the assumptions from the Shared Socioeconomic Pathway 2 (SSP2), known as the "Middle of the Road" scenario, which represents a balanced scenario that is neither overly optimistic nor pessimistic. Table 1 provides a brief description of the three NGFS scenarios under consideration.⁵

Text Table 1. Hong Kong SAR: Key Assumptions behind NGFS climate Scenarios				
NGFS Climate Scenario	End of century (peak) warming	Technology change	Carbon Dioxide	Regional policy variation
Hot house world	2.9 °C	Slow change	Low use	Low variation
Disorderly (Delayed transition)	1.7 °C	Slow/Fast change	Medium use	High variation
Orderly (Net Zero 2050)	1.5 °C	Fast change	Medium use	Medium variation
Source: NGFS (2023)				

8. Overall, the economic implications of physical climate risks on Hong Kong SAR's growth are substantial. According to the NGFS estimates, in a "hot house world" scenario, where minimal climate policies and ongoing fossil fuel reliance lead to severe warming and impacts, GDP

⁵ Detailed description of the NGFS climate scenarios and all the underlying assumptions are available here ([NGFS Scenarios Portal](#)).

losses could be as high as 10.9 percent by 2050 compared to a scenario with no physical nor transition risks.⁶ In other words, this scenario suggests that climate risks could cause an additional 4.8 percent in GDP losses compared to an “orderly transition” scenario by 2050. In a “disorderly transition” scenario of the NGFS—characterized by delayed and abrupt climate policies leading to economic and financial instability—Real GDP losses are projected to be 1.4 percent higher by 2050 compared to an orderly transition scenario.



C. Climate Action Plan: Mitigation, Adaptation, and Resilience

9. Hong Kong SAR has developed a comprehensive three-pronged strategy to address climate change, focusing on mitigation, adaptation, and resilience enhancement. The authorities' Climate Action Plan 2050, announced in 2021, aims to reduce carbon emissions by 50 percent (relative to 2005 level) before 2035 and achieving carbon neutrality before 2050 by increasing the use of renewable energy sources, improving energy efficiency, and reducing reliance on fossil fuels, alongside other policy measures (Table 2). A full implementation of this action plan will help Hong Kong SAR to transform its infrastructure, economy, and society to be more resilient and environmentally conscious.

Mitigation Strategies

10. Hong Kong SAR has outlined four major decarbonization strategies to combat climate change and reach carbon neutrality (Table 2). These strategies include: i) achieving net-zero electricity generation, ii) promoting energy saving and green buildings, iii) advancing green transport, and iv) implementing waste reduction. Each of these strategies is designed to address specific areas of concern, focusing on reducing emissions, enhancing energy efficiency, and promoting sustainable development across various sectors:

⁶ This hypothetical scenario represents a world in which climate change does not occur. This scenario serves as a benchmark for understanding what might happen if no actions are taken to mitigate or adapt to climate change. Also, the scenarios are global and have no material impact from Hong Kong SAR's emissions. For further details, see [NGFS Scenarios Portal](#).

Text Table 2. Hong Kong SAR: Summary of Targets and Timeline

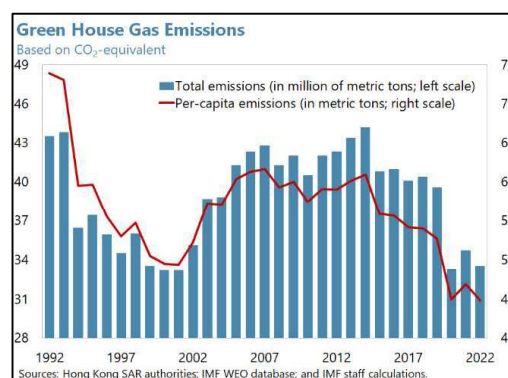
Theme	Targets	Target Year
Carbon neutrality	Achieve carbon neutrality	2050
	50 percent reduction in carbon emissions (from 2005 levels)	2035
1. Net-zero electricity generation	No coal for daily electricity generation	2035
	Increase the share of renewable energy in the fuel mix for electricity generation to 7.5 to 10 percent	2035
	Increase the share of renewable energy in the fuel mix for electricity generation to 15 percent	2050
	Increase the share of zero-carbon energy to 60 to 70 percent ¹	Before 2035
2. Energy saving and green buildings	30–40 percent reduction in electricity consumption in commercial buildings	2050
	20–30 percent reduction in electricity consumption in residential buildings	2050
	Achieve half of the above energy consumption reductions for commercial and residential buildings	2035
3. Green transport	Cease the new registration of fuel-propelled and hybrid private cars	2035 or earlier
	Implement strategies in the Clean Air Plan to promote adaption of new energy transport to expedite low-carbon transformation	2035
	Take forward measures set in the EV Roadmap to attain zero vehicular emissions	2050
4. Waste reduction	Implement the Waste Blueprint to move away from the reliance on landfills for municipal waste disposal	2035
	Regulation of disposable plastic tableware and other plastic products in phases, reducing plastic at source.	2025
	Develop adequate waste-to-energy facilities	2035
<p>Source: Hong Kong SAR's Climate Action Plan 2050</p> <p>¹ Zero-carbon energy refers to energy which does not generate carbon emissions during their production or usage. Zero-carbon energy under application in Hong Kong SAR includes solar, wind and nuclear energy. The authorities are also closely monitoring the development of new zero-carbon energy (e.g. green hydrogen), and plan to adopt such energy as the technologies become mature.</p>		

- **Net-Zero Electricity Generation:** The plan aims to transition to net-zero electricity generation by significantly reducing reliance on fossil fuels and increasing the share of zero-carbon energy sources. This includes investing in advanced technologies and infrastructure for cleaner energy production, such as solar power and exploring the use of green hydrogen energy.
- **Energy Saving and Green Buildings:** The plan focuses on enhancing energy efficiency through stricter building codes and promoting green building standards. Initiatives include retrofitting existing buildings to meet higher energy performance standards and encouraging the construction of new buildings with sustainable design features.
- **Green Transport:** Hong Kong SAR is committed to developing a low-carbon transport system by expanding electric vehicle (EV) infrastructure and promoting the use of public transportation.

Efforts include increasing the number of EV charging stations⁷ and investing in electric buses and taxis as well as hydrogen powered vehicles (such as busses) to reduce emissions from the transport sector. In June 2024, the Hong Kong SAR Government announced the *Strategy of Hydrogen Development*, focusing mainly on the commercial applications of hydrogen energy.

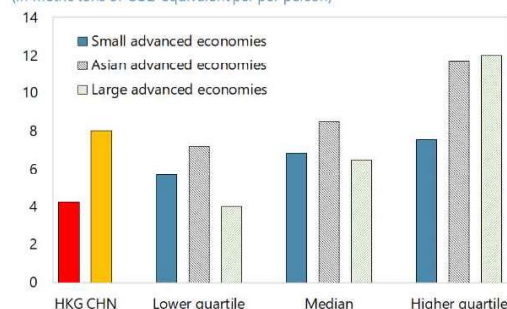
- **Waste Reduction:** Authorities are working to minimize waste generation through improved recycling programs and waste-to-energy technologies. Key actions include enhancing waste segregation, promoting recycling initiatives, and investing in facilities that convert waste into energy or reusable materials.

11. Significant progress has been made by Hong Kong SAR towards reducing carbon emissions in recent years as compared to global peers. Since peaking in 2014, total greenhouse gas emissions have been on a downward trend (Figure 2). In 2022, total emissions amounted to about 33.5 million metric tons of CO₂-equivalent, down from 44.2 million metric tons in 2014. Per capita, emissions have also been decreasing, dropping to 4.4 metric tons in 2023 as power plants transition from coal to natural gas for electricity generation. Compared to other advanced economies in 2022, Hong Kong SAR's per capita carbon emissions and carbon intensity were among one of the lowest. This relatively low level of carbon emissions reflects Hong Kong SAR's services-oriented economy, which is driven by less carbon-intensive activities.



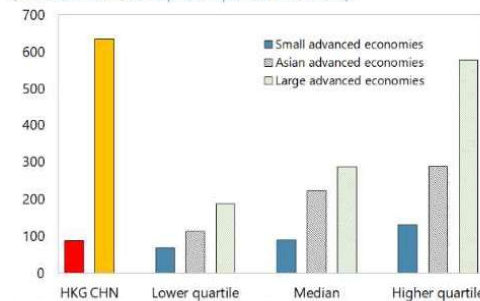
Text Figure 2. Hong Kong SAR: Greenhouse Gas Emissions and Carbon Intensity

Actual Carbon Emissions, 2022
(In metric tons of CO₂-equivalent per person)



Sources: Ourworldindata.org and IMF staff calculations.
Note: Major advanced economies include all G-20 advanced economies. Small advanced economies include Austria, Belgium, Denmark, Finland, Ireland, Luxembourg, New Zealand, Norway, Singapore, Sweden, and Switzerland.

Carbon Intensity, 2022
(In metric tons of CO₂-equivalent per one million USD)

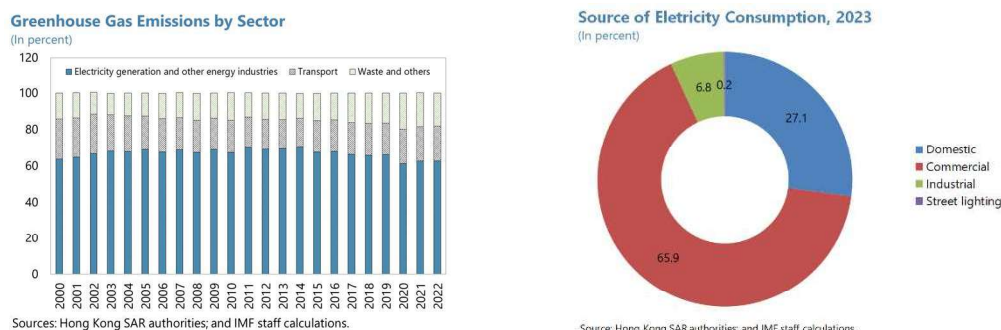


Sources: IMF, World Economic Outlook database; Ourworldindata.org; and IMF staff calculations.
Note: Major advanced economies include all G-20 advanced economies. Small advanced economies include Austria, Belgium, Denmark, Finland, Ireland, Luxembourg, New Zealand, Norway, Singapore, Sweden, and Switzerland.

⁷ The government aims to expand the electric vehicle (EV) charging network, with about 200,000 EV charging spaces expected by mid-2027 through the EV-Charging at Home Subsidy Scheme and gross floor area concessions. A new \$300 million scheme will subsidize the private sector to install 3,000 quick chargers by 2030.

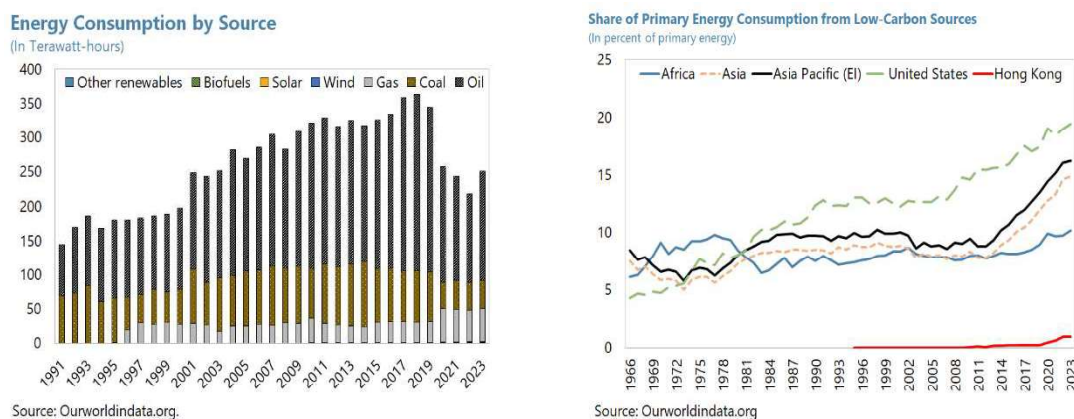
12. Electricity generation remains the primary source of carbon emissions in Hong Kong SAR, accounting for about 63 percent of total emissions (Text Figure 3). The majority of this electricity is consumed by commercial and residential buildings, accounting for about 66 and 27 percent of electricity consumption, respectively. The second largest source of carbon emissions is transportation, accounting for 19 percent of total emissions, followed by waste and other sectors (18 percent).

Text Figure 3. Hong Kong SAR: Greenhouse Gas Emissions by Sector and Sources of Electricity Consumption



13. The share of renewable energy remains less than 1 percent in the electricity fuel mix, which is significantly lower compared to global peers (Figure 4). While coal's usage in the electricity fuel mix has declined over the last decade and natural gas has gained prominence as a fuel source for electricity generation in recent years, Hong Kong SAR still maintains a significant reliance on fossil fuels (Figure 4). This underscores the urgent need for increased investment in renewable energy sources to reduce carbon emissions and align with international standards. The government aims to increase the share of renewable energy to 7.5-10 percent by 2035 and to 15 percent by 2050 and has earmarked a total of \$3 billion to install renewable energy facilities at government buildings and infrastructure since 2017-18. As of September 2024, about \$2.2 billion have been approved for more than 250 projects, including the installation of solar energy generation systems at government offices, schools, recreational grounds, and others.

Text Figure 4. Hong Kong SAR: Energy Consumption from Low-Carbon Sources



Adaptation and Resilience Building Measures

14. Hong Kong SAR is intensifying its adaptation and resilience initiatives to address the growing physical risks brought by climate change. The Climate Action Plan 2050 prioritizes robust adaptation strategies to safeguard residents and infrastructure. Simultaneously, the plan emphasizes resilience-building efforts aimed at enhancing societal readiness for extreme weather events. This includes a strong focus on community engagement, public education, and the development of comprehensive preparedness measures to ensure that the population is well-equipped to face the challenges of a changing climate.⁸

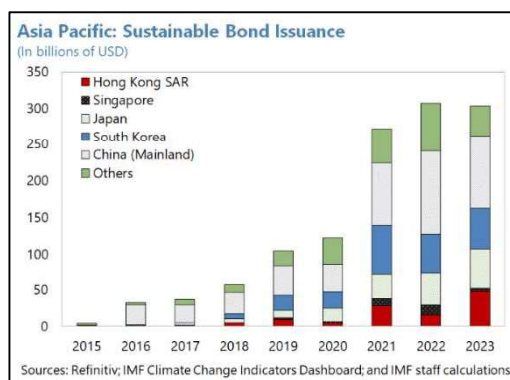
- **Managing Risks from Tropical Cyclones and Heavy Rainfalls:** To mitigate the impact of increasingly severe tropical cyclones and heavy rainfall, the plan includes upgrading drainage systems and enhancing building codes to ensure structures can withstand extreme weather. Additionally, the implementation of early warning systems and emergency response protocols is being strengthened. The government has implemented a three-pronged flood prevention strategy that includes stormwater interception in upstream areas, flood storage in midstream regions, and drainage improvement in downstream. Additionally, measures have been taken to ensure that critical public infrastructure, including railway and road infrastructure, are resilient to flood risks. The government is conducting a strategic study on flood management to address sea level rise and extreme rainfall, drawing on global expertise to develop a long-term prevention strategy. Moreover, to address landslide risks from extreme rainstorms, the government plans to keep enhancing slope safety through regular maintenance, risk-based strengthening programs, and expert-reviewed management improvements.
- **Combatting Sea Level Rise and Storm Surges:** Climate change causes sea level rise, and the intensification of tropical cyclones leads to increased waves and storm surges, amplifying the impact on coastal and low-lying areas. The government completed a coastal hazards study at end-2021, which identified 26 coastal low-lying or windy residential areas with higher risks for the formulation of improvement works and management measures to safeguard public safety. These improvement works are anticipated to be completed by 2027. The government also commenced a study on shoreline management plan with the aim to provide guidelines on planning and implementing urban coastal development and protection measures and formulate the related long-term strategies and preventive measures in order to enhance the capacity to combat climate change.
- **Adapting to Rising Temperatures:** The plan addresses rising temperatures by promoting sustainable management of urban forests, aiming to further enhance greenery and mitigate the urban heat island effect. Building designs are also being adapted to improve energy efficiency and reduce indoor heat. Moreover, following a study on the potential effects of extreme

⁸ The government has put in efforts to prioritize climate-resilient infrastructure, with the Climate Change Working Group on Infrastructure (CCWGI) established in 2016 to coordinate adaptation efforts, support reporting, and study the impacts of extreme weather on critical infrastructure, among other priorities.

temperatures on government infrastructures (2020), the government largely completed a review of the design standards relating to public infrastructure and government buildings in 2023.

- **Addressing Droughts and Water Supply Issues:** The three major sources of water supply in Hong Kong SAR include imported water from Dongjiang in Mainland China, local yield, and seawater for flushing. In the face of the contemporary challenges of growing demand and climate change, the authorities have been implementing Total Water Management Strategy since 2008 to safeguard water sustainability. The strategy aims to control freshwater demand growth and enhance resilience by utilizing climate-resilient water resources. Key initiatives include promoting water conservation, encouraging water-efficient devices, and improving water loss management through 2,400 District Metering Areas (DMAs) in the Water Intelligent Network (WIN). Additionally, the use of alternative water sources, such as lower grade water (viz. seawater and recycled water) for non-poTable purposes and desalination, have enhanced the overall resilience of water supply.
- **Resilience Building Efforts:** Community resilience is an important aspect in the Climate Action Plan. Efforts include public education campaigns to raise awareness of climate risks and the development of neighborhood-based preparedness programs. These initiatives aim to empower residents to take proactive measures to reduce their vulnerability to climate-related hazards. Additionally, the authorities have established early warning systems, with the Hong Kong Observatory closely monitoring weather conditions and issuing alerts to help the public, particularly those in vulnerable areas, take precautions and seek shelter during extreme weather events.

15. In 2021, the government planned to allocate HKD240 billion over the next 15 to 20 years to support these mitigation and adaptation measures, indicating a robust financial commitment to achieving these targets. Additionally, significant efforts have been made to foster the growth of a green and sustainable finance ecosystem and to address climate-related financial stability risks. The Government Green Bond Programme (GGBP, which was renamed as the Government Sustainable Bond Programme in May 2024) was established in 2018 to fund government green projects. The inaugural bond was issued in May 2019, and, as of 2024Q3, the total value of green bonds issued under the GGBP has reached \$28 billion, supporting various green initiatives across Hong Kong SAR.



16. The financial sector, a cornerstone of Hong Kong's economy, is also stepping up its efforts to manage climate-related risks due to their potential impact on financial stability. Increased climate-related physical risks could lead to higher insurance claims, increased lending defaults, and substantial asset devaluations. For instance, according to the Insurance Authority, total claims incurred by Typhoon Saola and black rainstorm in early September 2023 amounted to HK\$1.9 billion of which more than 80 percent were related to property damages. Similarly, physical

risks have been linked to adverse effects on Hong Kong SAR insurers' equity prices and housing prices.⁹ These climate-related disruptions can undermine investor confidence and reduce capital inflows, potentially disrupting the economy. Furthermore, severe weather events can disrupt trade by affecting the flow of goods and services, causing supply chain interruptions, and increasing operational costs for businesses, thereby elevating operational and financial risks.

17. Financial regulators have implemented a robust set of initiatives to address climate change and promote green finance, underscoring their commitment to the climate action plan. Key initiatives include:

- The launch of Sustainable Finance Action Agenda in October 2024 which advances HKMA's efforts to facilitate sustainable fund flows and encourages banks to enhance transparency on climate-related risks and reach net-zero financed emissions by 2050 (Table 3).
- Other key initiatives include the Green and Sustainable Finance Grant Scheme and the launch of the Hong Kong Taxonomy for Sustainable Finance in May 2024 by HKMA, aimed at enabling informed decision-making and facilitating financial flows to scale up sustainable investments. The authorities also plan to expand the coverage of their Sustainable Finance Taxonomy to include more sectors and activities, including transition activities, which will further help to reduce risks of green or transition washing.
- In 2023, HKMA also enhanced its climate risk stress test, integrating it into regular supervisory stress tests to thoroughly evaluate banks' resilience and climate risk management capabilities.
- The authorities have also commenced preparatory work for implementing disclosure requirements of the ISSB Standards and Basel's Pillar 3 framework for climate-related financial risks. The HKMA is preparing to consult the industry on a new set of guidelines on transition planning and proposed changes to embed climate considerations into the supervisory review process.
- On the reserve management front, the Exchange Fund has set net-zero goals for the Investment Portfolio by 2050 and reduced the weighted average carbon intensity of the public equity holdings by 46 percent since 2017.

⁹ See Financial System Stability Assessment Report for Hong Kong SAR (IMF Country Report No. 21/102) and HKMA's Financial Stability Report 2024. In terms of physical risks, the HKMA has analyzed the impact of climate change on Hong Kong SAR's housing prices, focusing on physical risks such as temperature and typhoons. Their research echoes the international call for integrating climate-related risks into financial stability monitoring. For details, please see HKMA [Research Memorandum 2023/05](#).

- HKMA has also set up a physical risk assessment platform that allows banks to assess the impact of physical risk on residential and commercial buildings in Hong Kong SAR under different climate scenarios.

Text Table 3. Hong Kong SAR: Sustainable Finance Action Agenda 2024 - Main Pillars	
Theme	Goals
1. Banking for Net-Zero	All banks to strive to achieve net zero in their own operations by 2030 and in their financed emissions by 2050
	All banks to enhance transparency on climate-related risks and opportunities
2. Investment in a Sustainable Future	Achieve net-zero emissions for the Investment Portfolio of the Exchange Fund by 2050
	Support transition in the region through investment
3. Financing Net-Zero	Develop Hong Kong SAR into the go-to sustainable financing platform of the region and beyond
	Catalyze innovation in sustainable finance
4. Making Sustainability More Inclusive	Support high-quality and comprehensive sustainability disclosures
	Close talent and knowledge gaps in sustainable finance in the region
<i>Source: HKMA's Sustainable Finance Action Agenda. For additional details, please see here.</i>	

18. The Securities and Futures Commission (SFC) has also published its Agenda for Green and Sustainable Finance, which outlines its comprehensive strategy to support the transition to a greener economy. Key initiatives include working with the Stock Exchange of Hong Kong Limited to introduce sustainability reporting requirements, including new climate requirements based on IFRS S2 Climate-related Disclosures which will take effect starting 1 January 2025. Other measures include setting supervisory expectations for fund managers to integrate climate risk into their processes and disclosures, developing a regulatory framework for ESG funds, and working with authorities to establish a regulatory framework for carbon market business models.

D. Policy Discussion

19. While significant progress has been made in reducing greenhouse gas (GHG) emissions over the past decade, climate mitigation and adaptation efforts face several challenges.

Electricity generation remains the primary source of carbon emissions and although coal usage in the electricity fuel mix has declined over the last decade, renewable energy accounts for less than 1 percent of the electricity fuel mix, significantly lagging global benchmarks.¹⁰ To transition towards a low-carbon future, it is crucial to increase the adoption of zero-carbon energy sources. Additionally, Hong Kong SAR is burdened with many aging, poorly maintained buildings, where

¹⁰ Despite government efforts to promote renewable energy, Hong Kong SAR's realizable potential is likely to be modest due to geographical and environmental constraints.

improving energy efficiency is hindered by structural, financial, and legal obstacles, complicating the implementation of necessary upgrades.

20. To mitigate the risk of falling short of emissions reduction targets, more proactive measures may be needed. Prioritizing regional collaboration with Mainland China to increase the use of zero-carbon energy could help secure a reliable electricity supply while introducing additional carbon pricing mechanisms, such as mileage-based vehicle taxation scheme, could further incentivize the transition to a low carbon economy.¹¹ Given that Hong Kong SAR will probably face higher global carbon prices through imported goods over time, implementing supportive measures for low-income households could help mitigate the financial impact.

21. In addition to mitigation efforts, it is crucial for Hong Kong SAR to continue enhancing adaptation measures to combat the physical risks posed by climate change. Continued investments in robust infrastructure, coupled with regular reviews of infrastructure resilience and community preparedness, will help protect against rising sea levels and extreme weather events. A thorough assessment of investment needs for climate adaptation, coupled with its integration into the medium-term fiscal plan, would bolster the authorities' efforts to strengthen the economy's resilience against climate-related disasters.

22. Continued efforts are essential to ensure that climate risks are fully integrated into both financial institutions' risk management practices and the authorities' systemic risk analyses. Policy priorities include continued monitoring of climate-related risks, evaluating financial institutions' progress in managing these risks and adapting to the transition towards carbon neutrality, and enhancing systemic risk analysis. Moreover, further fostering collaboration between regulators and industry stakeholders to share best practices and develop robust frameworks for climate risk management will be crucial in strengthening overall financial stability.

¹¹ Hong Kong SAR currently imposes duties on hydrocarbon oil, which is a form of carbon taxation, and also has progressive electricity tariffs in place.