

**WWF-Hong Kong's view on
Long-term Decarbonisation Strategy**





SUMMARY

This paper sets out WWF-Hong Kong's (WWF) views on an all-rounded and feasible long-term decarbonisation strategy for Hong Kong. In order to achieve the goal of limiting global heating to 1.5°C, all 7 key elements below should be adopted and implemented by policymakers:

1. HKSAR Government should show strong leadership to limit global heating to 1.5°C through setting a legally-bound, science-based target by 2022

The Chief Executive should lead all government departments, public bodies, and agencies to develop and commit to legally-bound, science-based targets aimed at limiting global heating to 1.5°C.

2. Meet 10% renewable energy (RE) target by 2030, achieve net zero emission by 2048 through global and regional cooperation

It is necessary to innovate, diversify, and magnify the application of solar PV technology. In the long-term, explore global and regional cooperation for RE trade and avoid trade-offs. The Government should not construct new additional gas-fired generating units in the next Scheme of Control agreement. Avoid further sourcing of nuclear energy. Stricter rules should be applied to the application of bioenergy.

3. Realise a 50% energy saving improvement roadmap to 2050

It is essential to establish a mandatory climate change mitigation and adaptation building scheme to all new building and introduce a carbon budgeting mechanism for existing buildings.

4. Introduce decarbonisation financing scheme and put a true cost on carbon

Replicate energy efficiency and renewable energy projects within government properties to open spaces and privately-owned buildings. Open for public acquisition and allocate complementary shares to the public. Conduct studies on the economic, social, and financial implications of the climate crisis, and design a progressive carbon charging system.

5. Establish a global extensive native-species reforestation program for extant grassland areas

Reforestation can contribute to carbon sequestration and make Hong Kong more carbon neutral. Subtropical forests can sequester 10 to 30 metric tonnes of carbon per hectare. It can also reduce erosion and bolster freshwater supplies.

6. Rethink urban planning and transform Hong Kong into one of Asia's most walkable cities

Mandate district cooling systems in the urban planning process. Develop underground pedestrian commute paths to promote a low carbon lifestyle. Phase out sales of petrol and diesel cars by 2030. Roll out a "no-car-day" in city centers. Provide incentives for electric vehicle acquisition and operation.

7. Healthy and wealthy, people-centric strategy

It is essential to put people at the heart of the decarbonisation policies. Set up a public engagement team to regularly collect public feedback on long-term strategy. Introduce a compulsory climate crisis course for kindergarten, primary and secondary school. Promote home office, community working center and community-based job creation to avoid long distance commute. Avoid inequalities when forming a new scheme.

The climate crisis is a challenge unprecedented in human history. Science has shown the current rate of global heating that has not been documented in human history. Under the Paris Agreement, Hong Kong has the obligation to formulate a long-term decarbonisation strategy up to 2050 to limit the global average temperature to well-below 2°C above pre-industrial levels. In October 2018, The Intergovernmental Panel on Climate Change (IPCC) launched a Special Report on Global Warming of 1.5°C provided scientific evidence that limiting warming to 1.5°C could further reduce climate risks compared with limiting it to 2°C.

If HKSAR government does not take immediate action, the city will face the consequence of losing Hong Kong airport, West Kowloon Cultural District, Mai Po Ramsar site from rising seas. The costs of exceeding 1.5°C could be overwhelming in terms of financial losses due to natural disasters, health problems, death, and infrastructure destruction. Staying below 1.5°C is still possible, and the window of doing so is closing rapidly. IPCC estimates are probably now below 66%. This means that urgent action at an unparalleled scale is now essential. Traditional understanding of what is politically impossible must be re-examined. WWF believes that the Hong Kong's new long-term decarbonisation strategy should:

- 1. Show a strong leadership to limit global heating to 1.5°C through setting a legally-bound, science-based target by 2022**

The Chief Executive is responsible to lead all government departments, public bodies, and agencies to develop and commit to science-based targets in line with limiting global heating to 1.5°C. These targets have to be reviewed and, if necessary, revalidated every five years from the date of the original target approval.

It is essential to set up a legally-binding framework followed by legislation to tackle climate change for a paradigm shift towards a zero carbon economy. Once a legal framework is set for a scientific-based target, carbon emission reduction target will be taken into account during the tightening of existing energy efficiency policy, such as Building Energy Efficiency Ordinance (BEEO) and Mandatory Energy Efficiency Labelling Scheme (MEELS). Such legally-binding legislation will favour the formulation process of climate action related bills in the legislative council.

In order to promote a low carbon spending culture, Hong Kong should set up a central procurement policy aligned to science-based targets under the new decarbonisation legal framework. For example, phase out foods with a high carbon footprint, such as beef in the government canteen and banquet menu by 2020.

2. Meet 10% renewable energy (RE) target by 2030, achieve net zero emission by 2048 through global and regional cooperation

To reach the ambitious 10% renewable energy goal by 2030, one of the solutions will be for Hong Kong to diversify and magnify solar photovoltaic (PV) technology by placing solar PV systems on government and community buildings, in open spaces, along vertical faces of buildings, and on highway infrastructure with large surface areas, such as noise enclosures. The Government can leverage solar energy innovations in vertical solar panels and curtain walls that suit the unique skyscraper city design in Hong Kong. HKSAR Government should study the feasibility of floating PV system in the ocean environment.

For the long-term, explore global and regional cooperation for RE trade through a certificate scheme to help phase out fossil fuel energy during the transition period. Expanding the power grid capacity and technology should be mandatory. Avoiding trade-offs from different forms of energy sources is important. Stricter rules are needed to ensure that bioenergy used in the city delivers genuine climate benefits over the fossil alternative. Careful study of the potential impact of offshore wind farms on migratory birds has to be carried out and high impact localities avoided. The Government should reduce reliance on nuclear energy due to its inherent operational risk and challenges in managing the nuclear waste.

Use natural gas as a supplement to fill the gap on electricity generation during transition. As gas-fired generating unit has about 30 years of lifetime, if we want to meet a net zero emission goal by 2050, power companies and the Government have to commit not to construct new additional gas-fired generating unit in the 2024 development plan under Scheme of Control Agreement. A robust transition plan that supports regional development and leads to new jobs for workers leaving polluting and outdated industries is required to be ready by 2024.

3. Realise a 50% energy saving improvement roadmap to 2050

Under the legally-binding framework, establish a mandatory climate change mitigation and adaptation building scheme to all new buildings, incorporating criteria such as phase out gas supplies, mandatory building integrated photovoltaic (BIPV) and rooftop PV, and tighten BEEO to reduce energy use by 50%. Tighten the grading of MEELS. All compulsory electricity appliances in new buildings must be MEELS grade 1 label.

For existing buildings, adopt a carbon budgeting mechanism Cap-and-Trade

Program and start with conducting a city-wide energy audit in order to benchmark the buildings. By adopting this system, building owners and property management companies take the opportunity to improve operational practices and to continuously optimise building energy performance. Our recommended targets are: (1) by 2025, Government properties, large housing estates, and Grade A commercial building reach the 50% reduction target through the tightening of BEEO and (2) Grade B commercial and industrial building achieving the same reduction by 2030. The program can provide incentives for tenants to replace existing appliances with high energy efficiency appliances. Introduce mandatory close door policy for all commercial refrigeration appliance and store front.

It is critical for the Government to extend the regulation of electrical appliances under the MEELS from domestic to commercial appliances. In addition, the Scheme should have a broader spectrum of coverage and put priority on high energy consumption commercial appliances like refrigerating appliances, air-conditioning units, heaters and stoves. The Government should provide supportive measures to improve energy performance, mitigate the climate crisis, and meet the city's long-term decarbonisation targets. These transparent guidelines and legal regulations should be backed up by regular on-site investigation at retail spots to ensure comprehensive implementation.

4. Introduce decarbonisation financing scheme and put a true cost on carbon

Replicate energy efficiency and renewable energy projects within government properties to open spaces and privately-owned buildings by setting up a decarbonisation financing scheme. Such a scheme is open for public acquisition and complementary shares are allocated to qualified public at the launch of the scheme. Shareowners are empowered to decide how their shares are utilised in a range of global, regional, and local climate actions. Pilot low carbon villages in local communities by setting up a team of solar PV installation specialist to provide step by step installation guidance for village house units in local communities. The installation fee could be funded by the decarbonisation financing scheme.

Capital markets can advance the green economy, but stronger regulation also needs to be in place. Government should ensure an immediate switch to a green economy by putting in place strict sustainable investment regulations under the decarbonisation legal framework.

Conduct studies to assess the economic, social and financial implications of climate change, and design a progressive carbon charging system by 2025. The system should be tested within the context of high carbon products, electricity bills, and

aviation emissions. Charges received will be allocated to the funding pool of the decarbonisation financing scheme. Progressive pricing should be designed to reduce the burden of underprivileged during transition period. Through this scheme, showcase the economic cost and benefit for decarbonisation practice to incentivise business sector and individual to further decarbonise.

5. Establish a global extensive native-species reforestation program for extant grassland areas

Increase carbon removals by sinks, using environmentally sustainable approaches such as reforestation. Reforestation can contribute to carbon sequestration and make Hong Kong more carbon neutral. This should include implementing policies and incentives that reduce global, regional, and local deforestation or increase sinks and phasing out policies that are counterproductive in climate terms, namely incentivising the use of land for purpose-grown biofuel or energy crops and incentivising the burning of tree trunks and stumps for energy.

6. Rethink urban planning and transform Hong Kong into one of Asia's most walkable cities

Implement mandatory district cooling system in urban planning process. Improve walkability and introduce "Zero Emission Zone" in urban area. Develop underground pedestrian walkways and commute paths to promote a low carbon lifestyle. Enhance connectivity to promote cycling and other lightweight commute options. Foster bicycle-friendly environment by planning or upon urban renewal. Under the decarbonisation legal framework, relax law restrictions on electric bike. Connect current railway system into a loop with extra capacity for both cargo and passengers.

Our recommended targets for road transport are: By 2020, launch a pilot "no-car-day" in city centers such as Central, Tsim Sha Tsui, Mong Kok and Causeway Bay to promote "Zero Emission Zone". During the "no-car-day", private cars are not allowed on the road of the listed area. By 2022, launch "no-car-day" in city centers every Sunday. Replace road public transport with tram or light rail system in core urban area. Impose high private car license fee collected every 10 years for each license and provide discount on energy efficiency EV vehicles. Phase out any sales of petrol- and diesel-based private vehicles by 2030. Transit to all EV by 2050 with a carbon neutral transport goal. Government should consider existing major technological advances and rethink the decarbonised road use pattern during town planning processes.

Our recommended targets for marine navigation are: local ferries should upgrade to electric propulsion by 2050. By 2030, mandate all marine navigations use fuels with sulphur content not exceeding 0.1% in Hong Kong waters. By 2035, 50% of the ports include onshore power supply options.

7. Healthy and wealthy, people-centric strategy

It is essential to put people at the heart of the decarbonisation policies. Set up a public engagement team to continuously conduct dialogues with public on long-term decarbonisation strategy. Introduce a compulsory climate change and sustainability curriculum for kindergarten, primary and secondary school. Promote home office, community working center and community-based job creation to avoid long distance commute. Avoid inequalities when forming a new scheme.

Participate in global movement such as WWF One Planet City Challenge and showcase the success and celebrate with our society.