

An aerial photograph of a city, showing a winding road with several cars, surrounded by dense green trees and modern buildings. The text is overlaid on the left side of the image.

Chapter 4

DECARBONISATION STRATEGIES • TARGETS • ACTIONS

Overall Strategies

4.1.1 The Hong Kong economy is predominately supported by the tertiary industry without major energy-intensive industries. In 2019, electricity generation was the largest source of carbon emissions (66%), followed by transport (18%) and waste (7%). These three major emission sources together accounted for over 90% of the total emissions, and are therefore the three most critical areas of our decarbonisation work.

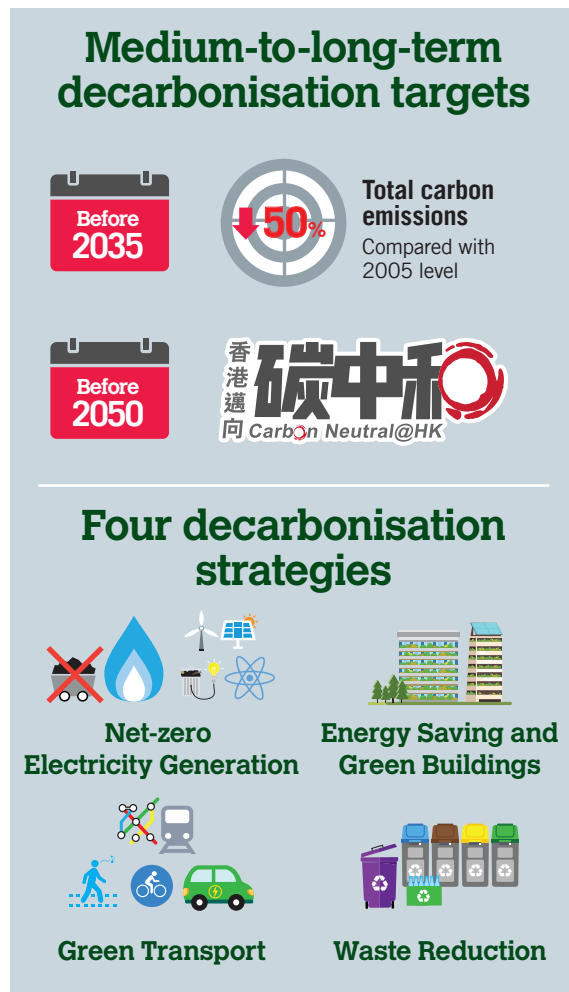
4.1.2 Currently, the local fuel mix for electricity generation mainly relies on fossil fuels such as coal and natural gas. We can remove most of the carbon emissions if we increase the use of zero-carbon energy for electricity generation and gradually phase out fossil fuel vehicles by electrifying the transport sector. For carbon emissions from waste, they are mainly GHGs generated by the decomposition of municipal waste in landfills. As such, we will have to break away entirely from landfilling for municipal waste disposal in order to reduce carbon emissions and avoid utilising our precious land for developing new landfills. As for the remaining carbon emission sources, such as non-road vehicles and refrigerants, we have to identify suitable zero-carbon energy or alternative technologies.

4.1.3 Increasing the use of zero-carbon energy requires the support of technologies as well as finance and land resources. On the other hand, reducing the energy demand can lower the total cost of switching to zero-carbon energy and lessen the financial burden on the public. At present, buildings account for about 90% of the electricity consumption in Hong Kong. As such, improving energy efficiency of buildings to reduce the energy demand will be our top priority in future energy saving efforts.

4.1.4 Based on the above analysis, the strategies for Hong Kong to achieve carbon neutrality before 2050 should comprise: “net-zero electricity generation”, “energy saving and green buildings”, “green transport” and “waste reduction”.

Medium-term Decarbonisation Targets

4.2.1 Between now and 2050, different technologies and zero-carbon energy that can help achieve carbon neutrality are being developed around the world. Examples include the application and storage technologies of various RE,



blue and green hydrogen energy, ammonia nitrogen, carbon capture and storage, carbon-neutral natural gas, and various carbon sinks, etc. It is uncertain which of the technologies will eventually be developed into more mature, reliable and cost-effective ones suitable for large-scale application in Hong Kong. To press ahead with deep decarbonisation for the purpose of proactively mitigating climate change, we need to set a more ambitious medium-term target. Adopting the prevailing technologies that are relatively mature and cost-effective, we aim to reduce the total carbon emissions by half before 2035 from the 2005 level, i.e. from about 40 million tonnes in 2005 to nearly 20 million tonnes in 2035.

4.2.2 In the meantime, we need to prepare for the development and trials of various technologies and solutions that may be suitable for Hong Kong in future, with a view to achieving carbon neutrality before 2050 through the adoption of mature, reliable and cost-effective solutions in a timely manner.

Hong Kong's Roadmap to Carbon Neutrality

