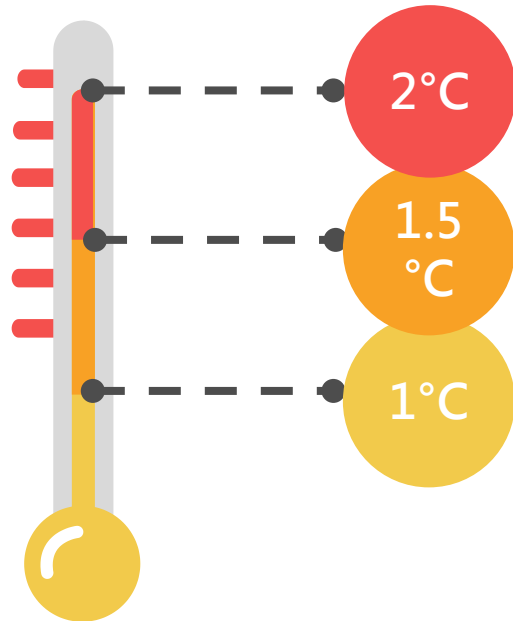
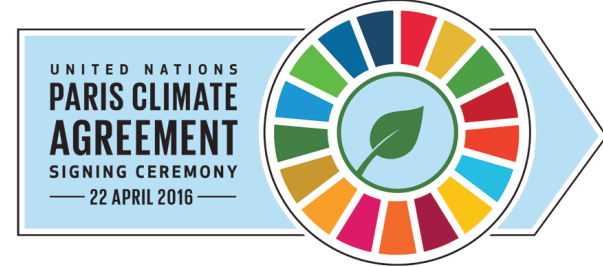


# How can Sustainability and Carbon Neutrality Contribute to Climate Resilience

Dr Samuel Chui  
Director of Environmental Protection  
Hong Kong SAR Government



# Extreme Weather and Carbon Neutrality



- **Extreme heat** which will directly affect human health, agriculture and ecosystems
- **The Paris Agreement** : limit global warming preferably to 1.5°C compared to pre-industrial levels
- **IPCC** : reach net zero by 2050 to keep within the 1.5°C target
- **7% increase** in extreme rainfall

Countries have to strengthen efforts

CO<sub>2</sub>  
Reduce GHG emissions

Build climate resilience

Provide green finance

And more...



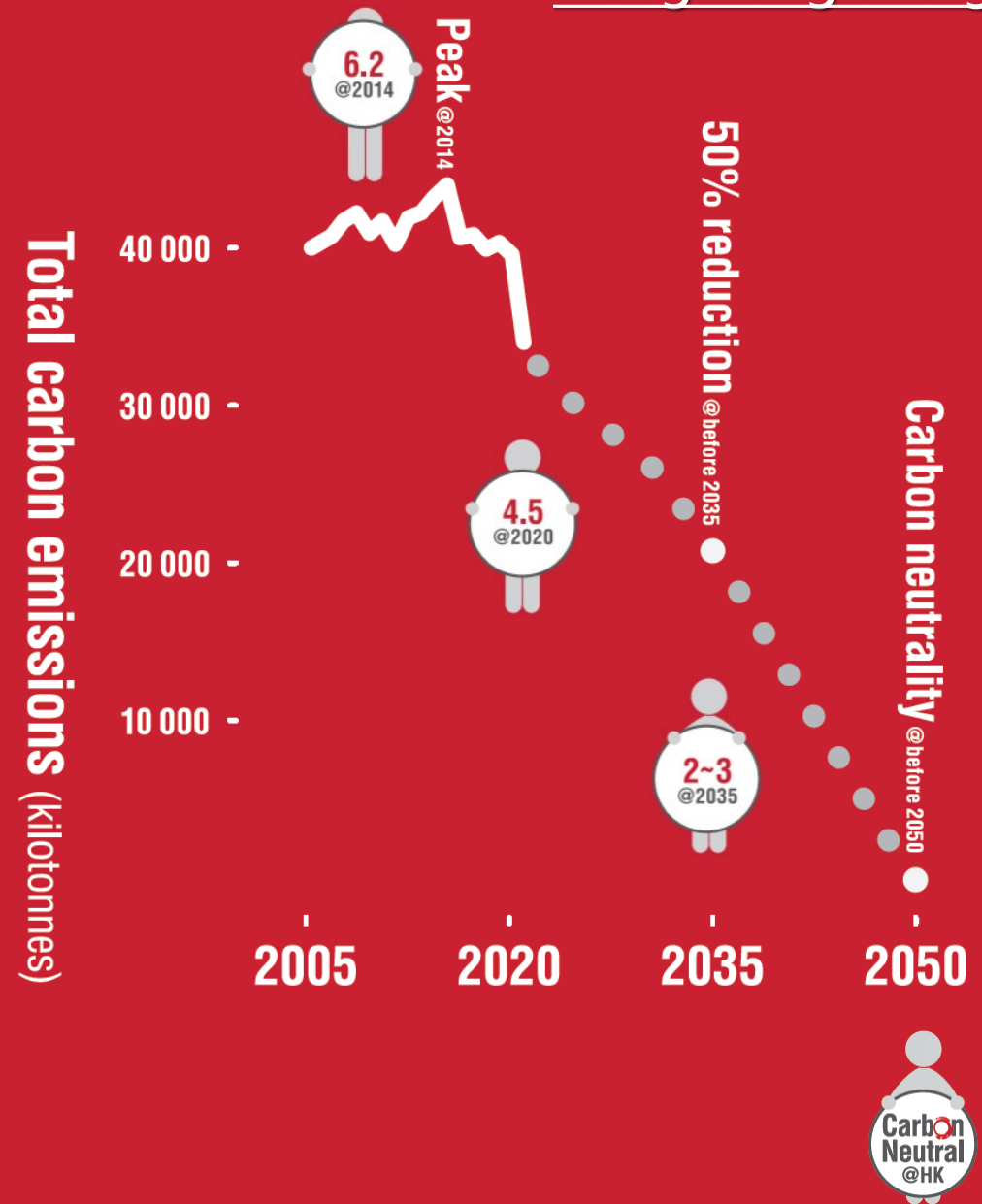
# National and Local Targets

## CO<sub>2</sub> 3060 Dual Carbon Targets

China will scale up its Intended Nationally Determined Contributions by adopting more vigorous policies and measures. We aim to have CO<sub>2</sub> emissions peak before 2030 and achieve carbon neutrality before 2060.

Extracted from *President Xi Jinping's* statement at the General Debate of the 75th Session of the United Nations General Assembly

## Hong Kong's Targets



# Four Decarbonisation Strategies



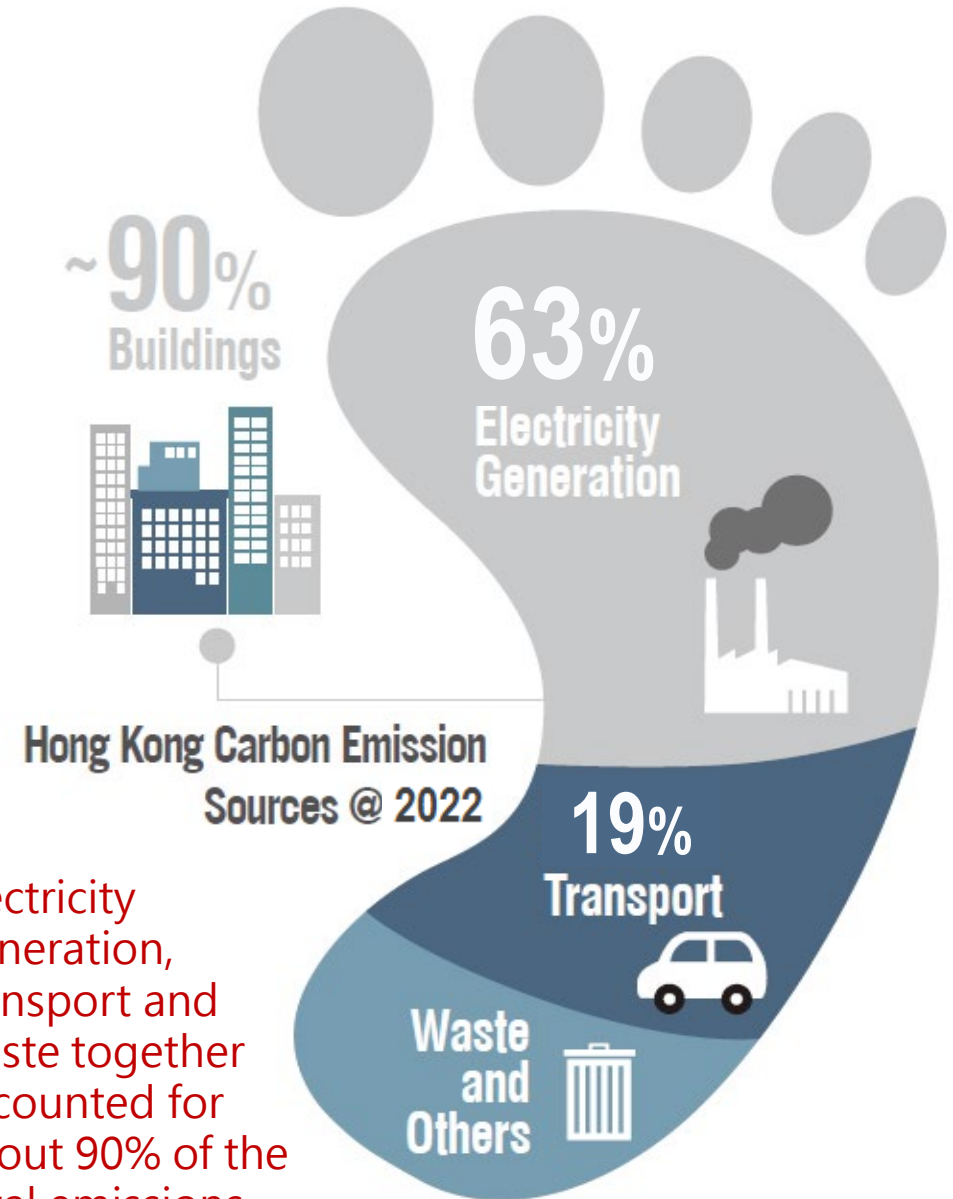
Net-zero Electricity Generation

Energy Saving and Green Buildings

Green Transport

Waste Reduction

## Sources of Carbon Emissions in Hong Kong





## Reduce coal for electricity generation

- Stopped building new coal power plants since 1997
- The share of coal for electricity generation reduced from about half in 2015 to about a quarter at present



# Net-zero Electricity Generation



Cease using coal



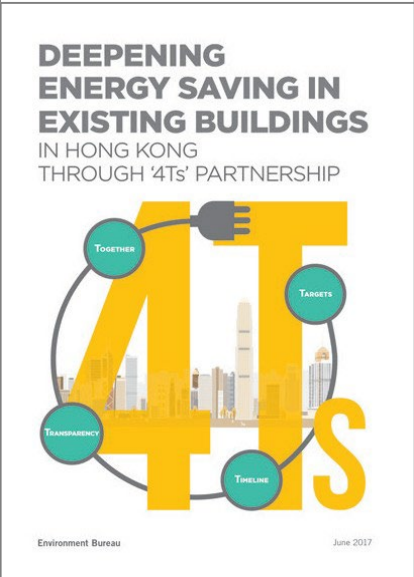
Renewable energy (RE)  
7.5 – 10% (increase to 15% subsequently)



Zero-carbon energy  
Through regional cooperation  
trial of new energy

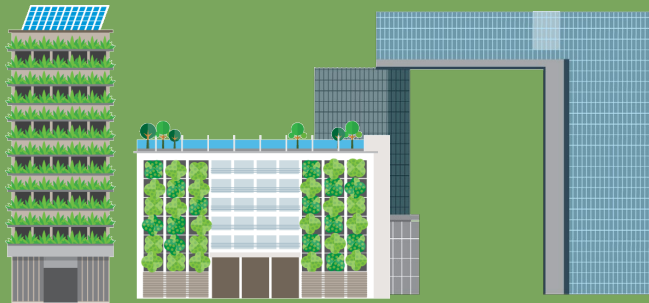


Net-zero carbon emissions  
before 2050



## Electricity Saving

- Improve the overall energy performance of government buildings and infrastructure by more than 6% by 2024-25
- As at 2021-22, the overall energy performance of government has improved by around 3.2%



# Energy Saving and Green Buildings

## Ambitious energy saving targets



Electricity Consumption  
(Compared with 2015)



(Reduce by 30-40% subsequently)



(Reduce by 20-30% subsequently)

## District cooling System

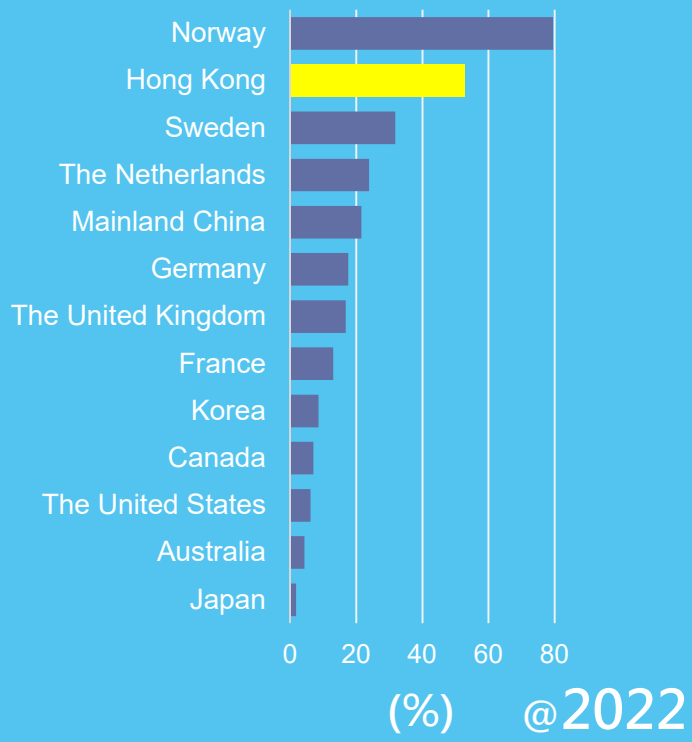


## Solar farm on Shek Pik Reservoir

Hong Kong  
**ROADMAP ON  
 POPULARISATION  
 OF ELECTRIC  
 VEHICLES**  
 March 2021



Electric private car  
 market shares of  
 major economies



> 60% EVs among  
 new private cars



# Green Transport



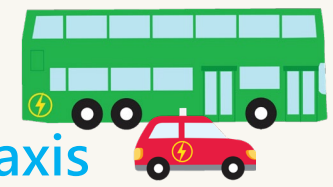
Test out hydrogen fuel cell electric buses and heavy vehicles



Test out electric ferries



700 e-buses and 3000 e-taxis



Cease the new registration of fuel-propelled and hybrid private cars



Zero vehicular emissions before 2050



## GREEN@COMMUNITY

160+ outlets as of Dec 2022  
In 18 districts over the territory

5,200,000+  
visitors in  
2022

~20,300  
tonnes 

## Smart Recycling

## GREEN Collect

## New generation of WtE facilities



# Waste Reduction



Implement municipal solid waste charging

Regulate disposable plastic tableware and other plastic products in phases



Stop landfilling of municipal waste and develop more waste-to-energy facilities



Achieve carbon neutrality in waste management



# Planning of Carbon Neutral Communities

## Hong Kong's Climate Action Plan 2050

... two **strategic growth areas (SGAs)** under planning (i.e. New Territories North & artificial islands in the Central Waters) will indeed **adopt the target of carbon neutrality**. As Hong Kong continues to switch to clean energy for electricity generation and electrify transport, **all NDAs** and the two SGAs are aspired to be further enhanced to **carbon-neutral communities in the medium and long run**...

## Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030

...to adopt a **SGR city strategy** that permeates all aspects of land use, transport and infrastructure planning for building a future-proofing city...

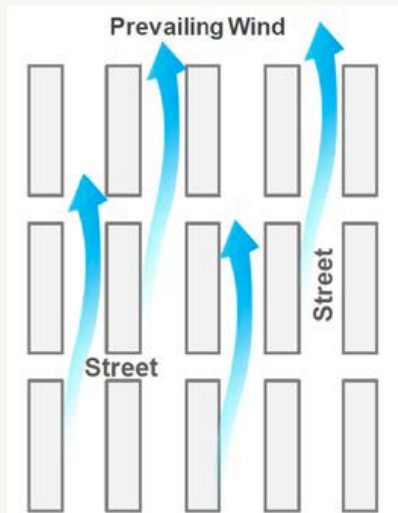


# Smart, Green and Resilient (SGR) City Strategy under Hong Kong 2030+



# SGR Strategy: Promoting Sustainable Planning and Urban Design

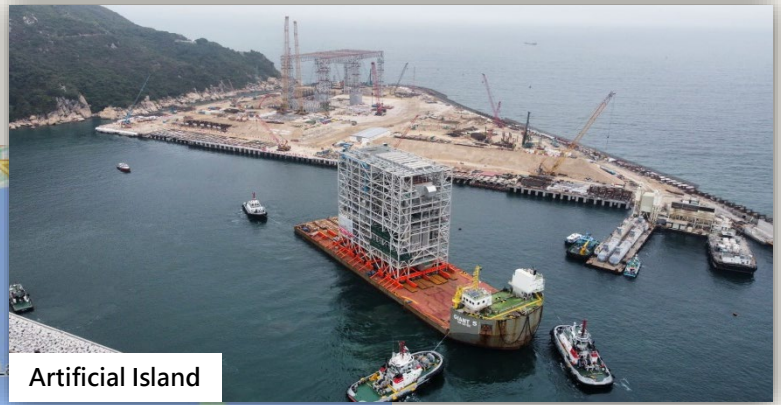
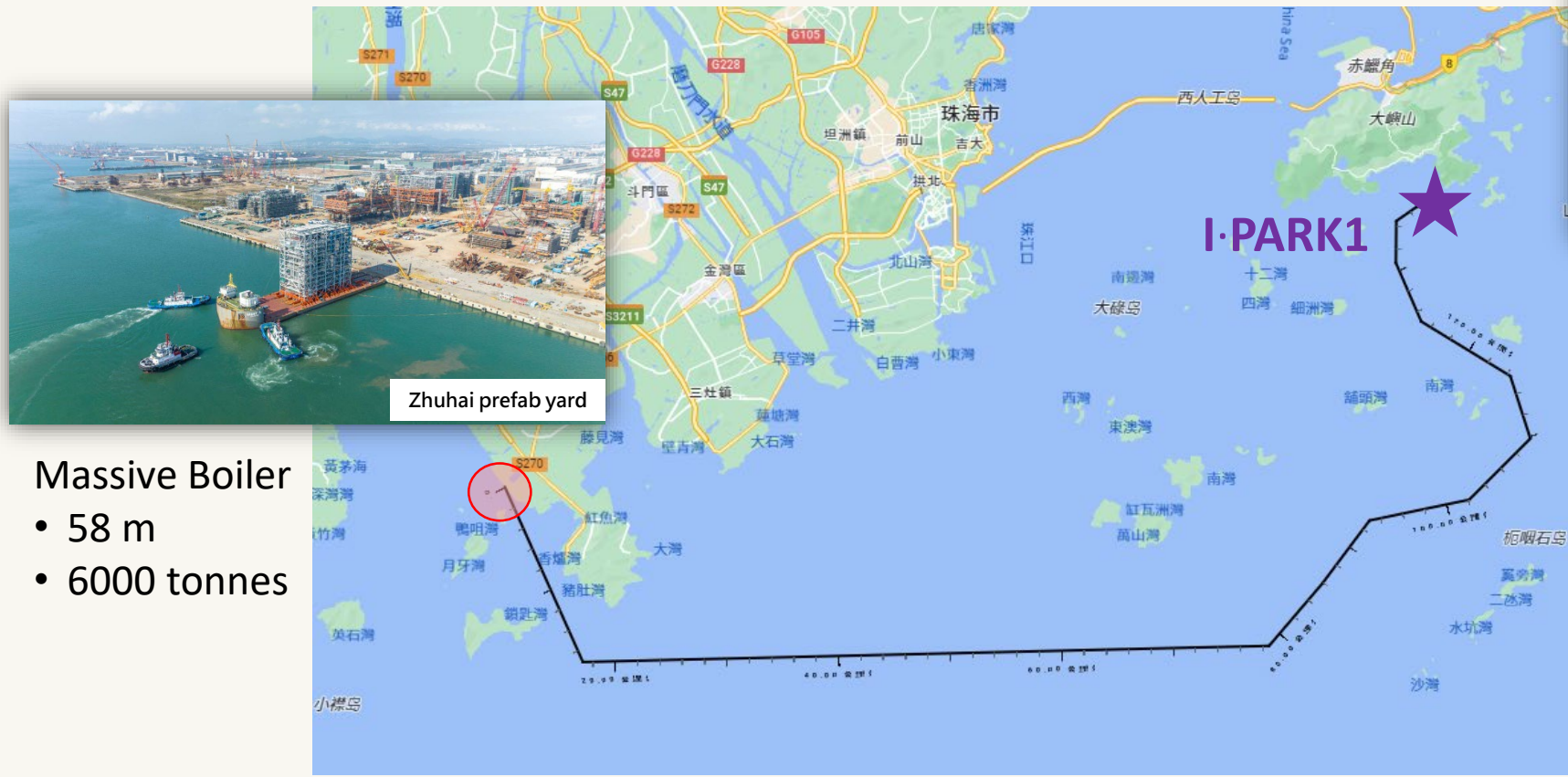
- Planning of convenient and resilient land use layout
- Enhancement of environmental performance of buildings and promoting green buildings
- Adoption of the Modular Integrated Construction (MiC) method



FSD's Pak Shing Kok Married Quarters in Tseung Kwan O, the first high-rise concrete MiC building in Hong Kong

# SGR Strategy: Devising an Integrated Smart, Green and Resilient Infrastructure System

- Integrated Waste Management Facilities (I•PARKs)



Artificial Island



Greater Bay Area waters

- Massive Boiler
- 58 m
  - 6000 tonnes



# SGR Strategy: Devising an Integrated Smart, Green and Resilient Infrastructure System

- Organic Resources Recovery Centres (O•PARKs)
- Food waste/ sewage sludge anaerobic co-digestion facilities



Food waste and sewage sludge anaerobic co-digestion facility at Tai Po Sewage Treatment Works



# SGR Strategy: Fostering Smart Mobility

- Planning of comprehensive pedestrian and cycle network
- Provision of supporting facilities for electric and other new energy vehicles

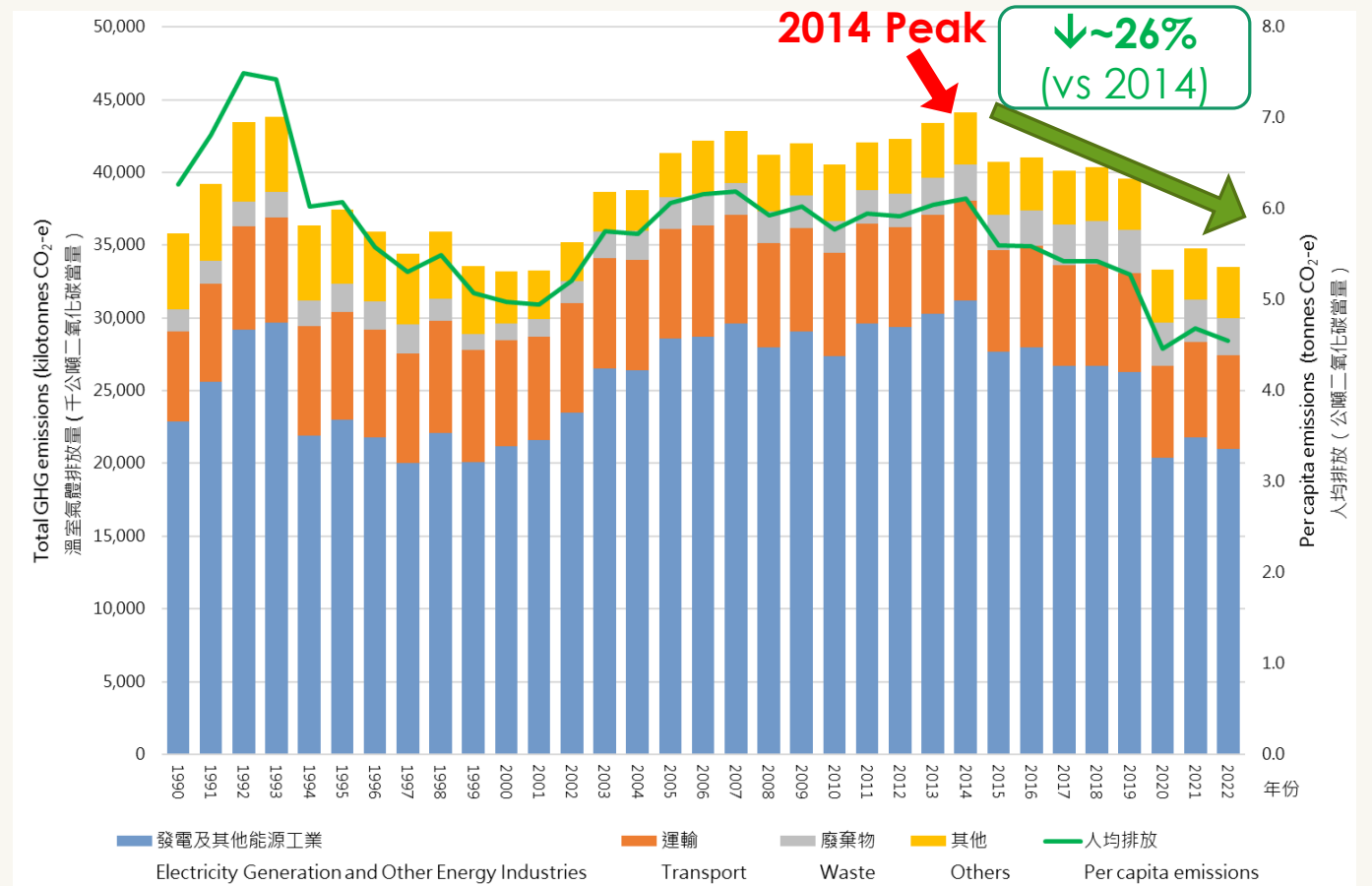


# Where we are

- With the implementation of measures under the four decarbonisation strategies, the GHG emissions in Hong Kong have been on a **downward trend** since its peak in 2014.
- As of 2022, the per capita carbon emission of Hong Kong was about 4.6 tonnes, **about 26% drop** from the 2014 level.

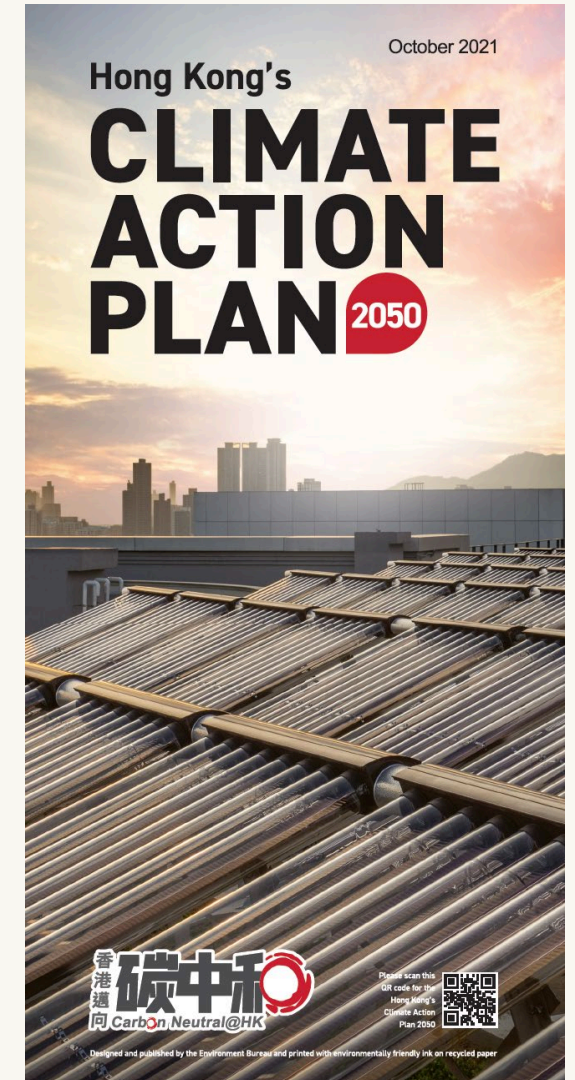
1990 年至 2022 年香港溫室氣體排放趨勢

Greenhouse Gas Emission Trends of Hong Kong from 1990–2022



# Looking forward

- More innovation and advancement in technologies
- Progression in trade practice and standards
- Continual capacity building in all sectors and levels of the community





Thank you



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