

2

CARBON EMISSIONS AND HONG KONG

Hong Kong will reduce its carbon intensity by 65% to 70% by 2030 using 2005 as the base

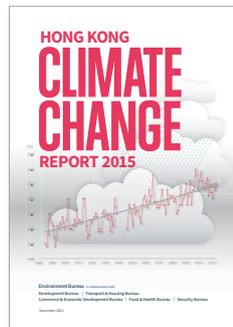


We have set an ambitious carbon intensity target of 65% to 70% by 2030 using 2005 as the base, which is equivalent to 26% to 36% absolute reduction and a reduction to 3.3-3.8 tonnes on a per capita basis.

Hong Kong's 2030 Target

Hong Kong will reduce its carbon intensity by 65% to 70% using 2005 as the base. While we are not ready at this stage to set a target beyond 2030, we can share some perspectives to further stimulate community discussion and action.

This report will not repeat details on how we prepare and account for Hong Kong's carbon emissions as these have been presented in the *Hong Kong Climate Change Report 2015*.¹



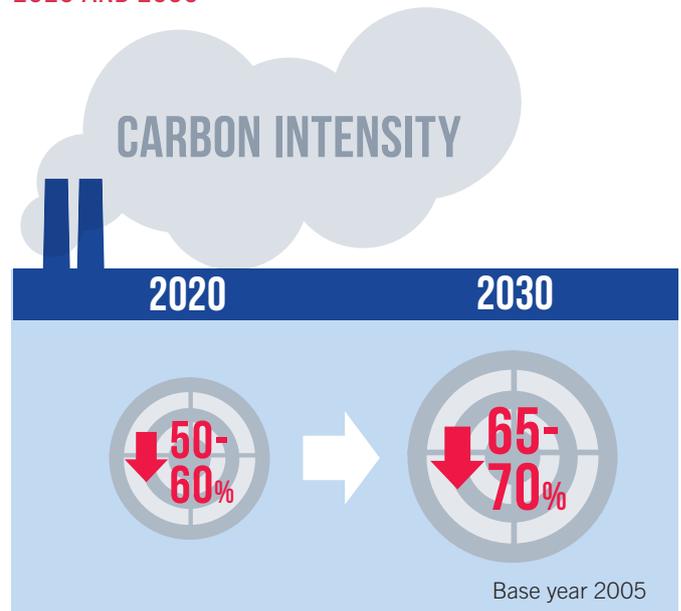
Importance of peak carbon

The Paris Agreement's peak carbon goal and the 1.5°C-2°C target are based on sound science. The impact of 2°C would already result in increases in human mortality, extreme climate events, loss of biodiversity, decrease in food production in some regions of the world etc. Should global temperatures rise beyond that, the impacts would result in even greater increases in risks and vulnerabilities.

Since global carbon emissions is already on track such that the 2°C target will be exceeded, the Paris Agreement aims to reduce emissions as quickly as possible through collective, concerted and sustained global efforts. To limit global warming to less than 2°C relative to the pre-industrial levels, the world will need to reduce absolute carbon emissions

FIGURE 3

HONG KONG'S CARBON INTENSITY TARGETS FOR 2020 AND 2030

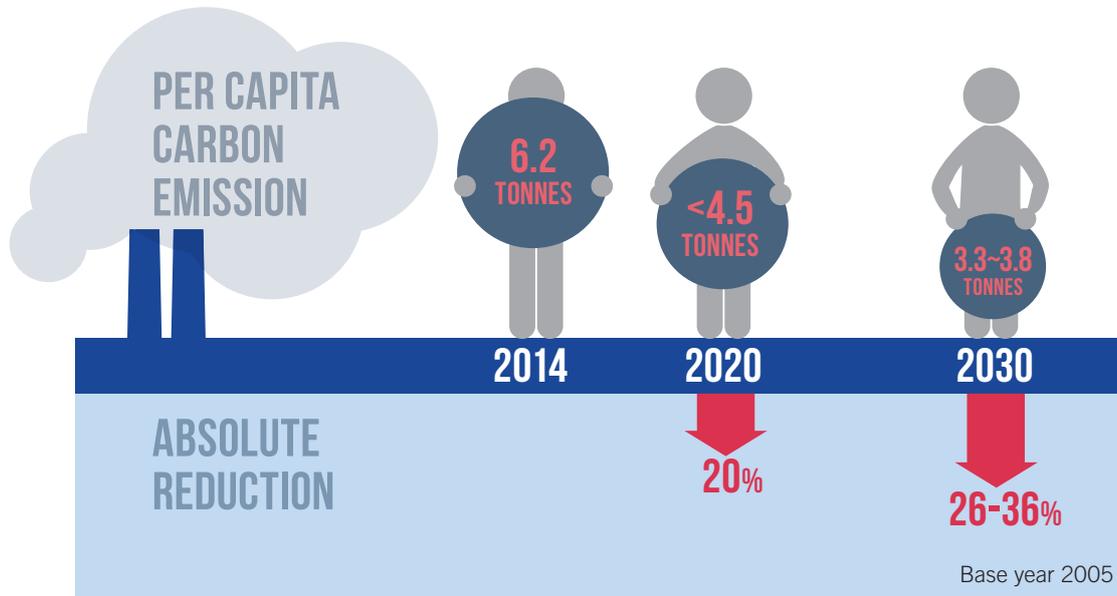


between 40% to 70% by 2050 and to achieve net zero emissions of CO₂ and other GHG before 2100.² Some jurisdictions, mainly developed countries and certain international cities, are broadly aiming to reduce their carbon emissions by 80% by 2050. This may be referred to as the “80 x 50” mid-century decarbonisation challenge.

China to ‘peak’ around 2030

The Paris Agreement asks countries to move towards peaking as soon as possible. China, as a developing economy that is still expanding its energy generation and consumption, has pledged

1. Environment Bureau, Hong Kong Climate Change Report 2015, November 2015, <http://www.enb.gov.hk/sites/default/files/pdf/ClimateChangeEng.pdf>
 2. Zero emission of CO₂ should be achieved well before 2100 according to the 2°C warming scenario and there should be negative emissions after 2080. The reference of absolute carbon emissions reduction between 40% to 70% by 2050 is relative to emissions in 2010.

FIGURE 4**HONG KONG'S EXPECTED ABSOLUTE CARBON EMISSIONS REDUCTION AND PER CAPITA CARBON EMISSIONS LEVEL IN 2020 AND 2030**

to achieve 'peak carbon' around 2030. The Central People's Government has also encouraged provinces and cities to 'peak' as soon as possible.

Hong Kong's 'peak carbon'

Local electricity generation is by far the biggest contributor to carbon emissions making up about 70%. With rising population and economic growth, our emission levels have remained at around 40-45 million tonnes of CO₂-e in recent years. Hong Kong's emissions will peak by 2020 when we have more electricity generation from natural gas in our fuel mix.

Carbon intensity and absolute reduction

Our current decarbonisation path will help us reduce our carbon intensity by around 50% by 2020 using 2005 as the base. This reduction would be equivalent to about 20% in absolute terms, which is substantial. Our 2030 target would take us to 65% to 70% carbon intensity reduction from the

2005 level, which equates to about 26% to 36% in absolute terms. Figure 4 shows the absolute carbon emissions reduction we expect in 2020 and 2030.

In keeping with Hong Kong's contribution towards the 2°C target, we would need to continue to substantially reduce our carbon emissions beyond 2030. Chapters 3 to 6 discuss in detail our decarbonisation efforts by 2030 on both the supply and demand-side of energy.

Per capita carbon

Carbon emissions may also be seen from a per capita basis. The per capita calculation is done by dividing the total carbon emissions with the population, which works out to around 6.2 tonnes for Hong Kong in 2014.

Given that global population in 2050 is projected to reach around 9 billion (7.5 billion in 2015), if the world is to do better than the 2°C target, it implies

the per capita emissions for the world should average around 2 tonnes CO₂-e. Our 2020 target will reduce Hong Kong's per capita contribution to less than 4.5 tonnes; and our 2030 target could reduce it further to about 3.3-3.8 tonnes. There would still be a way to go for Hong Kong to reach 2 tonnes per capita further into the future.

Meeting the challenge beyond 2030

It is extremely difficult to set specific actions for 2050 at this stage as there are many uncertainties, including the development of innovation and technologies. What can be done today is to look at actions for 2030, where we can be more certain. With the Paris Agreement's stocktaking and ratchet mechanism, there is an obligation to consider and put forward new policies and actions every five

years, the purpose for which is to enable continuous review towards achieving the 1.5°C-2°C target. Cities and regions can use the Paris Agreement mechanism to shape their own plans towards 2050, which is what Hong Kong is doing.

No megacity has detailed strategies and plans yet for meeting the "80x50" challenge although a number of pioneering cities are beginning to work on how to develop long-term carbon reduction plans. What is obvious however is the magnitude of change that has to happen, which will require transformational systemic changes and also the development of new technologies, the timing for which is hard to predict at this stage.

CONSUMPTION-BASED EMISSIONS

Cities are large hubs of population and activities. The wealthier the city, the greater the consumption. For an externally-oriented economy like Hong Kong, most things need to be imported. The carbon emissions relating to the production and transportation of imported food, materials and products are external to the importing city. Higher income economies, such as ours, generally consume more and thus correlate with higher carbon emissions. Adjusting consumption demand can reduce carbon emissions.

We have started to look into what sustainable consumption means for Hong Kong since it has an overall impact on global emissions. Our daily lifestyle choices – such as in clothing, food, overseas travel – involve many hidden and externalised carbon emissions. Being more conscious about the resources we consume can help but this is a long journey for society to embark upon, and it would involve changing our choices. While saving energy and water, reducing food waste



and avoiding consuming endangered species etc have become somewhat familiar to Hong Kong people, we wish to see people commit firmly to those efforts but there is much more we can all do each and every day.

The Council for Sustainable Development has already started to engage the public in 2016 on the sustainable consumption of biological resources. That exercise will not only promote public awareness but will also provide valuable insights for the Government to continue to shape public education, as well as our policies.