LCQ13: Addressing climate change

Following is a question by Dr the Hon Chiang Lai-wan and a written reply by the Secretary for the Environment, Mr Wong Kam-sing, in the Legislative Council today (September 1):

Question:

In its report released last month, the Intergovernmental Panel on Climate Change of the United Nations has pointed out that climate change is widespread, rapid and intensifying, and that carbon dioxide is the main driver of climate change. The Panel warns that stabilising the climate will require strong, rapid and sustained reductions in greenhouse gas emissions, as well as reaching net zero carbon dioxide emissions, which includes the cessation of coal-fired electricity generation and the use of renewable energy (RE). In this connection, will the Government inform this Council:

(1) whether it will expedite the pace of cessation of coal-fired electricity generation in Hong Kong, including expediting the increase in the shares of natural gas, RE (i.e. hydropower, wind power, solar power and waste-to-energy) and nuclear energy in the fuel mix for electricity generation in Hong Kong; if so, of the details; if not, the reasons for that;

(2) whether it will further step up the application of RE technologies in government buildings and facilities in order to reduce carbon emissions; if so, of the details (including the relevant targets); if not, the reasons for that; and

(3) as city greening is conducive to addressing the challenges relating to climate change, of the work progress for implementing city greening in Hong Kong in the past decade, including the annual average increase in greening area in the city and the annual rate of increase?

Reply:

President,

(1) The Government attaches great importance to addressing climate change. To pursue deep decarbonisation, the 2020 Policy Address announced that Hong Kong would strive to achieve carbon neutrality before 2050.

As electricity generation accounts for about two-thirds of Hong Kong's carbon emissions, changing the fuel mix for local electricity generation is the primary way to reduce carbon emissions.

The Government has seen to it that the two power companies replace their coal-fired generating units with gas-fired ones. In 2020, the share of coal only accounted for less than one quarter of the fuel mix for electricity generation, substantially lower than its share in 2015 at about 50 per cent, while the share of natural gas increased to around 50 per cent. The power companies will continue to phase out their existing coal-fired generating

units, and gradually replace coal-fired electricity generation with natural gas and non-fossil sources.

The Government's another focus is the development of renewable energy (RE) in both the public and private sectors. Apart from taking the lead in developing RE (see part (2) below for details), the Government is also committed to creating favourable conditions for the private sector to use more RE. The Government's initiatives include launching the Feed-in Tariff Scheme and other supportive measures.

Currently, zero-carbon energy accounts for 28 per cent of our fuel mix for electricity generation, and the Government plans to increase that proportion to around 30 per cent to 35 per cent by 2025, thereby enabling Hong Kong to achieve the 2030 carbon emission reduction target as much as five years earlier.

Nevertheless, for Hong Kong to achieve carbon neutrality before 2050, a wider application of zero-carbon energy is needed. The Government will press ahead with the local development of RE, keep abreast of the latest technologies in new energy (such as hydrogen energy), and stay open to all options that may reduce carbon emissions from electricity generation. The Government will formulate long-term decarbonisation strategies and set the required targets comprehensively when updating the Hong Kong's Climate Action Plan later this year.

(2) Promoting the development of RE is a key aspect to mitigate climate change. The Government has been taking the lead in developing RE to reduce local carbon emissions.

For new government buildings, the Government issued a circular on Green Government Buildings in 2009 to promulgate, inter alia, the arrangements on RE adoption and subsequently updated the circular in 2017 to upgrade the targets of the use of RE technologies in government buildings as follows:

(i) require government buildings to allocate at least 10 per cent of available roof space to incorporate RE technologies;

(ii) upgrade the target of electricity consumption powered by RE in new schools and educational buildings from the existing one per cent to 1.5 per cent;

(iii) upgrade the RE target in new open space and public park projects from 15 per cent of general public lighting to 25 per cent;

(iv) require existing government buildings undergoing major retrofitting and/or renovation to incorporate RE technologies wherever practicable; and

(v) install display panels, where appropriate, at prominent locations in new schools and educational buildings, as well as open space and public parks to show the amount of electricity generated by RE, with a view to promoting the concept of RE to the public.

Apart from introducing RE to new government buildings, the Government

has earmarked a total of $3 billion to install small-scale RE systems at existing government premises since 2017-18. More than $1.5 billion has been approved so far for over 130 projects, of which about 50 have been completed. These 130-odd projects include waste-to-energy projects, solar power systems and hydropower systems, which are expected to generate a total of about 21 million kWh of electricity each year.

The Government will continue to actively roll out RE projects at different premises. The Water Supplies Department has installed pilot floating photovoltaic (PV) systems at the Shek Pik Reservoir and Plover Cove Reservoir to collect useful reference data for the future implementation of large-scale floating solar farms on reservoirs in Hong Kong. Moreover, RE will be developed at suitable landfills through using landfill gases to generate electricity and exploring the installation of PV systems at landfills. For example, the Environmental Protection Department (EPD) is planning to launch a pilot solar energy generation project at the South East New Territories Landfill in Tseung Kwan O to lay a foundation for the development of large-scale solar energy generation systems at landfills. The Government will also spare no efforts in developing more waste-to-energy facilities. They include the sludge treatment facility Tï¼ŽPark and the Organic Resources Recovery Centre Phase 1 Oï¼ŽPark 1 that are commissioned, as well as the Organic Resources Recovery Centre Phase 2 Oï¼ŽPark 2 and the Integrated Waste Management Facilities Phase 1 Iï¼ŽPark that are under construction and planning. The EPD and the Drainage Services Department will continue to conduct food waste/sewage sludge anaerobic co-digestion at suitable sewage treatment works in order to enhance the biogas yield and Hong Kong's capacity for treating food waste.

(3) Forests and the like in the urban and rural areas are carbon sinks which can absorb and store carbon from the atmosphere. They play a part in mitigating climate change. In 2019, the total greenhouse gas (GHG) uptake by carbon sinks in Hong Kong is 465 000 tonnes of carbon dioxide equivalent, which is about one per cent of the total GHG emissions in Hong Kong. Besides, urban greening can improve and beautify the environment, hence making the densely built-up city of Hong Kong more liveable.

The Government has been incorporating quality landscape and greening in public works projects. Circulars and guidelines have been promulgated regarding the incorporation of greening elements at the planning and development stages of such projects. For example, new government building projects should have greening measures on 20 per cent to 30 per cent of the site area, new at-grade road projects should allow for space for quality greening and landscape works, and soft landscape provisions should be integrated in highway structure projects to enhance Hong Kong's street environment.

The Government has also proactively carried out planting across the territory, in which about 70.9 millions of plants (including trees, shrubs and herbaceous plants) have been planted in total in the past 10 years. However, the Government does not maintain statistics of plants on greening area.