LCQ2: Feed-in Tariff Scheme

Following is a question by the Hon Lau Kwok-fan and a reply by the Secretary for Environment and Ecology, Mr Tse Chin-wan, in the Legislative Council today (November 20):

Question:

Under the Feed-in Tariff Scheme (the Scheme), which was introduced by the Government in collaboration with the two power companies in 2018, people who install solar energy generation systems (solar energy systems) at their premises can sell the power they generate to the two power companies. The Scheme will end in 2033. In this connection, will the Government inform this Council:

(1) since the introduction of the Scheme, of the volume of electricity respectively purchased by the two power companies and their proportion to the electricity demand in Hong Kong; of the gap between such volume and the target set under the Hong Kong's Climate Action Plan 2050 that solar energy would be able to meet around 1 per cent to 2 per cent of Hong Kong's electricity demand by 2035;

(2) as it has been reported that the payback period for investment in solar energy systems spans at least six to seven years, whether the Government has assessed if the public's incentive to invest in solar energy systems will be affected in the next few years as the Scheme is set to end in nine □years, and whether it will consider extending the Scheme; whether the Government has compiled statistics on the number of solar energy systems with generating capacity over the cap of 1 megawatt under the Scheme, and whether it will consider removing such cap, with a view to encouraging individuals and even large enterprises to continuously participate in the Scheme and scale up their solar energy systems; and

(3) given the current height restriction of 2.5 metres on solar photovoltaic systems installed on rooftops of village houses and the height restriction of 1.5 metres on those in general private buildings, whether the Government will consider again relaxing the relevant height restrictions so that more members of the public may participate in the Scheme; if so, of the details; if not, the reasons for that?

Reply:

President,

The objectives of the Government's energy policies are to ensure energy needs of the community are met safely, reliably and efficiently at reasonable prices, to minimise the environmental impact of energy production and use, and to promote the efficient use and conservation of energy. Under the targets of halving carbon emissions by 2035 and achieving carbon neutrality

by 2050, the Government will review and take forward measures for promoting renewable energy (RE) having regard to actual circumstances, and will explore the development of a diversified fuel mix and increase the supply of zero-carbon energy and its share in the fuel mix for electricity generation, taking into account four important factors, namely safety, reliability, affordability and environmental performance.

Moving towards "net-zero electricity generation" is one of the four major decarbonisation strategies set out in the Hong Kong's Climate Action Plan 2050. Under this strategy, the Government's target of developing local RE is to increase the share of RE in the fuel mix for electricity generation to 7.5-10 per cent by 2035 and to 15 per cent gradually thereafter.

In consultation with the Development Bureau, the reply to the question raised by the Hon Lau is as follows:

(1) The Government launched the Feed-in Tariff (FiT) Scheme in collaboration with the two power companies in 2018. The power companies purchase the RE generated by members of the public at a rate higher than the normal electricity tariff rate. In the decade prior to the launch of the FiT Scheme, only some 200 private RE systems were connected to the power grid in Hong Kong. Following the launch of the Scheme, some 26 000 applications have been approved by the CLP Power Hong Kong Limited (CLP) and the Hongkong Electric Company Limited (HKE) as at September 2024. Upon completion of installation of the systems approved, it is estimated that about 399 million and 15 million kilowatt hour (kWh) of electricity can be generated for the CLP and the HKE respectively each year, accounting for about 0.85 per centand 0.03 per cent of the two power companies' fuel mix for electricity generation, which is sufficient to meet the electricity demand of about 126 000 households.

In respect of the public sector, the Government has been optimising the favourable conditions of government buildings or premises to take the lead in developing RE, including raising the requirements of applying RE in new government buildings, as well as taking forward large-scale solar energy generation projects at restored landfills and other suitable locations. Besides, the Government has earmarked a total of $3 billion for installing RE facilities at government buildings and facilities since 2017-18, of which about $2.2 billion has been approved for more than 250 projects, which are expected to generate a total of about 26 million kWh of electricity annually. In 2024, the Electrical and Mechanical Services Department has also launched the Pilot Scheme on Building-Integrated Photovoltaics at its headquarters to explore the application of relevant technologies on the facades of buildings.

In addition, to complement the FiT Scheme, the Government has introduced a series of supporting measures, such as relaxing the requirements for the installation of solar energy generation systems on the rooftops of New Territories Exempted Houses (village houses), as well as facilitating the installation of solar energy generation systems at open car parks by the private sector, etc, with a view to providing incentives and facilitation to encourage the private sector to develop RE projects. Coupling these with the

projects implemented through inter-departmental collaboration and optimising the use of space in the public sector, we are confident in achieving the target of meeting 1-2 per cent of Hong Kong's electricity demand with solar energy by 2035.

(2) The FiT Scheme is implemented under the Scheme of Control Agreements (SCAs) entered into between the two power companies and the Government. As the SCAs run till December 31, 2033, FiT is offered throughout the project life of the RE systems that have joined the FiT Scheme until the day when the term of the SCAs expires.

As RE technologies are becoming mature, the trends in the Mainland and the international arena are to gradually reduce and cease subsidies for RE. For instance, our country has cancelled the central financial subsidies for various newly-constructed RE projects and implemented RE grid parity three years ago since 2021, whereby the FiT rates are determined according to the prices of local coal-fired electricity generation or by the market, while state subsidies are no longer available. The FiT in Hong Kong will last until 2033, and the prevailing rates range from $4 to $2.5 per kWh. In contrast with the local tariff, the FiT Scheme in Hong Kong is currently one of the most attractive schemes among similar ones worldwide. Looking ahead, as the Mainland and many places in the world have completely ceased subsidising RE, the chance of the FiT Scheme being extended beyond the expiration of the SCAs in 2033 is believed to be slim. Nevertheless, individuals who have installed RE systems can generate electricity to offset their expenditure on electricity tariff. Apart from helping reduce carbon emissions, it is believed to continue to bring about economic benefits in the future in view of the development trend of RE technologies.

As regards RE systems exceeding one megawatt, they are not merely small-scale distributed RE systems, but perform the functions of power-generating infrastructure and normally involve additional laying of the power grid or reinforcing the support to it. In considering such systems, we need to balance their impact on electricity tariff and power supply. Therefore, instead of straightforward implementation through the FiT Scheme, a case-by-case approach must be adopted. Currently, the Government has four initial RE systems exceeding one megawatt in operation or under planning. They include the solar energy generation system already installed by the Drainage Services Department at the Siu Ho Wan Sewage Treatment Works and the solar energy generation system planned to be installed at the Yuen Long Effluent Polishing Plant, which is under construction. The Water Supplies Department is also studying the development of a large-scale solar farm at the South East New Territories Landfill. All these systems would not join the FiT Scheme and the electricity so generated would be self-used by the government facilities, thereby offsetting the corresponding electricity tariff. So far, the two power companies have not formally received any FiT applications with RE systems exceeding one megawatt.

(3) There are statutory requirements on height and covered area of village houses (Note). Therefore, building design is relatively simple and uniform, and are of lower risks in terms of building safety. Having taken into account the above, the Government relaxed the height restriction for the installation

of solar energy generation systems on the rooftop of village houses to 2.5 metres (m) in October 2018. No prior permission from the Lands Department (LandsD) or the Buildings Department (BD) is needed as long as this height restriction and other requirements are met. Nevertheless, certification and submission of a safety certificate to the LandsD for record by authorised person (AP) is still necessary.

Private buildings other than village houses vary in height, area and design and the surrounding environment is more complicated. Thus, the risks of installing solar energy generation systems on rooftop of the buildings are higher than those of village houses and these would involve more considerations, such as impact on the building structure (e.g. allowable load imposed on the rooftop), fire safety (e.g. effects on the means of escape), effect on the environment and whether it will cause nuisance to residents in the vicinity (mainly in terms of light reflection and visual impact etc). At present, for the installation of solar energy generation systems not exceeding 1.5 m in height on rooftop of private buildings, works can be commenced in accordance with the simplified requirements under the Minor Works Control System (MWCS) without prior approval from the BD. For cases exceeding 1.5 m in height, an AP and a registered structural engineer should be appointed to submit plans, and works may commence upon the BD's approval. In other words, the current approval regime has not set an insurmountable threshold in respect of the height of installation of solar energy generation systems in private buildings other than village houses.

Taking into account the situation of village houses and private buildings, the BD considers the current arrangement appropriate and does not intend to revise it at this stage.

Thank you, President.

Note: The Building Ordinance (Application to the New Territories) Ordinance stipulates restrictions on the height and roofed-over area of village houses, i.e. height not more than three storeys and not more than 8.23 metres, and roofed-over area not exceeding 65.03 square metres.