

LCQ13: Installation of solar energy generation systems on rooftops of private buildings

Following is a question by the Hon Leung Man-kwong and a written reply by the Secretary for Development, Ms Bernadette Linn, in the Legislative Council today (November 1):

Question:

It has been reported that after the Government's introduction of the Feed-in Tariff Scheme in collaboration with the two power companies in 2018, solar energy generation systems have been installed on the rooftops of quite a number of private buildings, and that during the earlier onslaught of super typhoon Saola in Hong Kong, accidents of falling solar panels occurred in many districts. In this connection, will the Government inform this Council:

- (1) whether it knows the current number of private buildings in various districts where solar panels have been installed, and the names of Tenants Purchase Scheme estates where solar panels have been installed;
- (2) of the number of cases of falling solar panels in each of the past three years and, among such cases, the respective numbers of those involving breaches of the relevant safety requirements and those in which prosecutions were instituted; and
- (3) whether it has formulated measures to conduct random checks regularly on private buildings where solar panels have been installed, so as to ensure that the installations are in compliance with the safety requirements; if so, of the details; if not, the reasons for that?

Reply:

President,

Having consulted the Environment and Ecology Bureau (EEB) and the Housing Bureau (HB), our reply to the question is as follows:

Erection of supporting structures for solar photovoltaic (PV) systems on general private buildings (other than New Territories Exempted Houses (village houses) (Note 1) is considered building works regulated under the Buildings Ordinance (Cap. 123) (BO). For supporting structures with a height not exceeding 1.5 metres, their relevant minor works can be commenced in accordance with the simplified requirements under the Minor Works Control System (MWCS) without prior approval from the Buildings Department (BD) (Note 2). In cases where supporting structures exceed 1.5 metres in height, the owner shall appoint an authorised person and (if required) a registered

structural engineer to submit plans in accordance with the BO to the BD for approval, and further appoint a registered contractor to commence the works upon obtaining approval and consent from the BD for the plans. This regulatory regime ensures the safety of building structures, residents and the public. The BD has also drawn up technical guidelines on the MWCS, which include technical guidelines for the installation of supporting structures for solar PV systems.

The estates under the Tenants Purchase Scheme (TPS), which are properties developed and subsequently sold or divested by the Hong Kong Housing Authority, are subject to the control of the Independent Checking Unit (ICU) that works directly to the Office of the Permanent Secretary for Housing under delegated authority in accordance with the BO, and policies and guidelines of BD. Therefore, the erection of supporting structures for solar PV systems in the TPS estates is also subject to the control of the ICU in accordance with the above requirements.

Our reply to various parts of the question is as follows:

(1) To promote renewable energy, the Government and the power companies have introduced the Feed-in Tariff (FiT) Scheme since end 2018, with a view to providing incentives for the private sector to develop renewable energy. As at September 2023, the two power companies received a total of over 24 700 applications, of which over 20 700 applications have been approved and connected to the power grids. It is estimated that about 310 million kilowatt hours of electricity can be generated each year through the approved system, which is sufficient to meet the annual electricity demand of over 92 700 households.

According to the information provided by the two power companies to the EEB (Note 3), relevant figures as at September 2023 are tabulated as follows:

	Number of approved and grid-connected FiT applications	Name of TPS estates installed with solar PV panels
New Territories		
Yuen Long	7 061	Long Ping Estate
Tai Po	3 098	Fu Heng Estate, Fu Shin Estate, Tai Wo Estate, Wan Tau Tong Estate
North	2 663	Cheung Wah Estate, Wah Ming Estate
Sai Kung	1 887	King Lam Estate, Po Lam Estate, Tsui Lam Estate

Tuen Mun	1 574	Kin Sang Estate, Leung King Estate, Shan King Estate, Tin King Estate
Sha Tin	1 075	Heng On Estate, Hin Keng Estate, Kwong Yuen Estate, Pok Hong Estate, Yiu On Estate
Tsuen Wan	602	–
Kwai Tsing	391	Cheung Fat Estate, Cheung On Estate, Tsing Yi Estate
Sub-total	18 351	22
Kowloon		
Kowloon City	272	–
Kwun Tong	272	Choi Ha Estate, Tak Tin Estate
Sham Shui Po	155	Lei Cheng Uk Estate
Yau Tsim Mong	170	–
Wong Tai Sin	125	Chuk Yuen (North) Estate, Lower Wong Tai Sin (I) Estate, Tung Wui Estate /Tung Tau (I) Estate
Sub-total	994	6
Islands		
Lamma Island	130	–
Islands (except Lamma Island)	862	–
Sub-total	992	–
Hong Kong Island		
Southern	143	Lei Tung Estate
Central and Western	56	–
Eastern	126	Tsui Wan Estate
Wan Chai	63	–
Sub-total	388	2
Total	20 725	30

(2) and (3) In the past three years up to the end of August this year, there was no case involving fallen solar PV panels in the TPS estates. As for other buildings, the BD does not have readily available statistics on the number of cases of non-compliance with the BO and its subsidiary legislation involving fallen solar PV panels.

Regarding the seven cases involving fallen solar PV panels in private buildings during the onslaught of a super typhoon in September, two of the cases involved unauthorised building works and the BD would issue removal orders to the owners concerned to order the removal of the relevant supporting structures for solar PV panels. As for the remaining five cases involving erection by building professionals/registered minor works contractors (RMWCs) through the MWCS or green and amenity facilities of New Territories Exempted Houses, the BD would carry out further investigation and, if any irregularities are found, consider instigating prosecutions and/or disciplinary actions against the relevant building professionals/prescribed registered contractors. The ICU would also follow up on the investigation of four cases involving the TPS estates.

For erection of supporting structures for Building Services Installation under the simplified requirements of the MWCS, the BD adopts a random audit check approach, selecting some minor works for document and on-site audit checks to ensure their compliance with the BO and its subsidiary legislation. Similarly, the ICU will conduct random audit checks in accordance with the established mechanism. If contravention of the BO and its subsidiary legislation is found, the BD or the ICU will take enforcement actions against unauthorised minor works and instigate prosecution and/or appropriate actions against the persons involved.

In response to the earlier incidents involving fallen solar PV panels during the onslaught of the super typhoon, the BD will step up publicity on the technical guidelines and points to note for the installation of solar panels. The BD will also increase the number of audit checks on the installation of solar PV systems as necessary to ensure compliance with the specified dimensions and safety standards.

In addition, the Electrical and Mechanical Services Department (EMSD) is responsible for processing applications for registration of renewable energy generating facilities, including solar PV systems, conducting audit checks on the electrical safety of registered facilities, setting up a hotline to answer public enquiries on the FiT Scheme and promoting renewable energy and electrical safety to the public, etc. From April 2019, the EMSD processes more than 13 840 applications for registration of renewable energy generating facilities, conducted more than 380 site inspections and 30 audit checks, and followed up on about 320 cases involving unregistered renewable energy generating facilities, etc.

Note 1: The Government announced in October 2018 initiatives aiming at further supporting and facilitating the development of renewable energy, including relaxation of restrictions on the installation of solar PV systems on rooftops of village houses. For village houses exempted under the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121), solar PV systems that are not more than 2.5 metres in height, with the space underneath the systems unenclosed, and not cover more than half of the covered area of the village house in which it is situated, and without unauthorised building works erected on the rooftop of the village house, may be installed on the rooftops without prior permission from the Lands Department (LandsD) or the BD. Installation of solar PV systems exceeding 1.5

m but not more than 2.5 m in height necessitates both certification and submission of a safety certificate to the LandsD for record by an authorised person registered under the BO.

Note 2: Under the Building (Minor Works) Regulation (Cap. 123N), minor works items are classified into three classes according to their nature, scale, complexity and level of risk. Erection of supporting structures for Building Services Installation (including air-conditioning unit, light fitting or antenna, transceiver for public telecommunications services or solar PV system, etc.) falls under either minor works item 1.50 (Class I) or minor works item 3.50 (Class III), subject to the weight of the system. Regardless of the class of minor works, all minor works items shall be carried out by prescribed registered contractors. For minor works items under Class I, owners are required to additionally appoint a prescribed building professional for the design and supervision of the works. The prescribed building professional or prescribed registered contractor shall submit a Notice of Commencement of minor works to the BD, together with relevant supporting documents at least seven days before the commencement of works (only for minor works items under Classes I and II) and a certificate of completion of works along with relevant supporting documents within 14 days after the completion of works (for all minor works items), to the BD for record purpose.

Note 3: With reference to the declarations of their customers, the power companies categorise the FiT applications into Commercial and Industrial Customers, Residential Customers, Village / Detached Houses, Schools and Other Customers, while Private Buildings is not one of these specified categories.