

# LCQ17: Promoting popularisation of electric vehicles

Following is a question by the Hon Lam Chun-sing and a written reply by the Secretary for the Environment, Mr Wong Kam-sing, in the Legislative Council today (February 16):

Question:

On promoting the popularisation of electric vehicles (EVs), will the Government inform this Council:

(1) given that the development of the EV industry involves talents in different areas, whether it has any comprehensive plans for nurturing EV talents, such as setting training targets for EV talents to be reached by 2035, strengthening the co-operation between the industry and vocational education institutions to attract young people to join the industry, as well as facilitating the occupation switching of fuel-propelled vehicle workers; if so, of the details; if not, the reasons for that;

(2) of the number of newly registered EVs in Hong Kong in each of the past three years; whether it will provide economic incentives to boost the popularisation rate of EVs, such as reviewing the eligibility criteria for and the first registration tax (FRT) concessions offered by the "One-for-One Replacement" Scheme (which provides higher FRT concessions to car owners for replacing their old private cars with EVs), subsidising the installation of EV chargers in private housing estates, as well as encouraging private developers to provide additional EV chargers and necessary ancillary facilities in their development projects; if so, of the details; if not, the reasons for that;

(3) of the respective numbers of parking spaces equipped with standard, medium and quick EV chargers among the existing 30 000-odd parking spaces at the car parks under the Hong Kong Housing Authority (HA); as it is learnt that drivers have strong demands for parking spaces equipped with quick EV chargers, whether the HA will increase the number of such parking spaces expeditiously; if so, of the details; if not, the reasons for that; and

(4) as the Chief Executive has indicated in the 2021 Policy Address that the Government will introduce the hydrogen fuel cell battery electric buses for use in Hong Kong, whether it will study in collaboration with stakeholders the supply and safety issues of hydrogen fuel, and enact the relevant legislation; if so, of the details; if not, the reasons for that?

Reply:

President,

Having consulted the Education Bureau, the Electrical and Mechanical Services Department, the Transport Department (TD), the Hong Kong Housing Authority (HA) and the Vocational Training Council (VTC), I provide my response to the question raised by the Hon Lam Chun-sing as follows:

(1) According to the policy direction set in the Hong Kong Roadmap on Popularisation of Electric Vehicles (EV Roadmap) as announced by the Environment Bureau in 2021, the Government and stakeholders, including the trades, academic/training institutes, professional bodies and vehicle owner associations, are jointly promoting and supporting the training of electric vehicle (EV) technicians and mechanics. At present, the VTC offers full-time training programmes on automobile maintenance, including the Higher Diploma in Automotive Engineering and the Diploma of Vocational Education (Automotive Technology). These curricula cover the professional knowledge and maintenance techniques relating to EVs, and have adopted the "Workplace Learning and Assessment" approach. This structured pedagogical practice enables students to learn the latest EV technologies directly from their real work experience in an authentic workplace.

To cater for the development trend and manpower demand of the EV industry and keep the curricula up-to-date, the Government will regularly collect feedback from relevant stakeholders and incorporate the latest EV maintenance techniques into the VTC's diploma programmes. At the same time, the VTC will review and upgrade its training facilities from time to time, and is planning to establish a dedicated EV training workshop to tie in with the growth of the EV industry and attract more young people to join the EV maintenance trade.

For post-secondary programmes, the post-secondary institutions funded by the University Grants Committee are currently offering academic programmes in design, research and development and maintenance of EVs. These programmes cover study areas of chemical engineering and materials techniques, electrical and electronic engineering, manufacturing and industrial engineering, mechanical engineering, etc.

In response to market needs, the Government will strengthen its collaboration with the automobile sector as well as academic and training institutions (e.g. VTC) to provide suitable in-service training courses relating to EVs. EV battery isolation systems and safety maintenance of low voltage systems will be covered by such training courses to enable serving vehicle mechanics to gain knowledge on EV maintenance and switch to the trade concerned.

(2) Offering financial incentives and facilitating the establishment of and enhancement to the EV charging network are the major initiatives taken by the Government to promote the use of electric private cars (PCs). The Government has extended the first registration tax (FRT) concession period for EVs to March 31, 2024, and continue allowing enterprises to claim full profits tax deduction for their capital expenditure on procurement of EVs in the first year. To avoid stimulating an overall vehicular growth while promoting the use of EVs, the Government has introduced the "One-for-One Replacement"

Scheme (the Scheme) under which PC owners who scrap and replace their old cars with EVs could claim a higher FRT concession. The cap of the Scheme was raised to \$287,500 in 2021. Since its launch, the Scheme has benefited over 90 per cent of the first registered electric PCs, and more than 16 000 fuel-propelled PCs were scrapped under the Scheme.

Regarding private charging facilities, the EV Roadmap sets out the target of having at least 150 000 parking spaces in private residential and commercial buildings equipped with EV charging-enabling infrastructure in 2025 or earlier. To achieve the target, one of the Government's initiatives is to provide gross floor area concessions to car parks of new buildings that have EV charging-enabling infrastructure installed. Over 72 000 parking spaces have been approved. The Government is examining the requirements for EV charging-enabling infrastructure under the Technical Guidelines for EV Charging-enabling for Car Parks of New Building Developments, with a view to refining the policy of encouraging the installation and addition of EV charging facilities, and keeping pace with market development.

Moreover, the Government launched a \$2 billion EV-charging at Home Subsidy Scheme (EHSS) in October 2020 to subsidise installation of EV charging-enabling infrastructure in car parks of existing private residential buildings and estates. The EHSS has been well received since its launch. As at end-January 2022, 560 applications were received covering over 115 000 parking spaces, nearly double the original target of about 60 000 parking spaces, and the amount of subsidy involved has already exceeded \$2.7 billion. In view of the above-mentioned overwhelming response and the suggestion by various stakeholders to allocate additional public funding to the EHSS, the Government is reviewing the implementation of the subsidising scheme and the potential of devoting more resources to assist more eligible private residential buildings and estates to install EV charging-enabling infrastructure.

With the growing EV uptake, the Government will review relevant policies in a timely manner and progressively marketise EV charging services. The Government has planned to start imposing EV charging fees in government car parks from around 2025. This will motivate the private sector to provide customised public EV charging services and further expand the EV charging network.

Driven by various government policies, the percentage of electric PCs among all newly registered PCs has soared in recent years from 6.3 per cent in 2019, 12.4 per cent in 2020 to 24.4 per cent in 2021, representing that one out of every four newly registered PCs is electric. Based on the information provided by the TD, the number of newly registered EVs in Hong Kong over the past three years are tabulated below:

Year	Number of newly registered EVs in the year
2019	2 474

2020	4 664
2021	9 730

Note: Government EVs are not included in the figures as government vehicles need not be registered.

(3) To complement the Government's initiatives in promoting wider use of EVs, the HA collaborated with the power companies to install EV charging facilities at hourly parking spaces for PCs in some existing car parks managed by the HA. In addition, the HA has been installing EV chargers at monthly parking spaces for PCs in existing car parks subject to demand and technical feasibility. Meanwhile, the HA has also been providing EV charging facilities in car parks of new public housing developments in accordance with the latest planning guidelines. In support of the Government's initiatives to further enhance the EV charging network, the HA will also install medium chargers (MCs) and associated charging infrastructure, instead of standard chargers, for new public housing projects under planning and in early design stages. At the same time, the HA has also been installing additional MCs at hourly parking spaces for PCs in existing car parks where technically feasible. For prudent use of public funds, the HA will keep in view the usage of these MCs and gradually install more MCs in suitable car parks subject to the demand and technical feasibility.

As at end-December 2021, the HA has provided EV charging facilities at about 400 hourly parking spaces and about 1 100 monthly parking spaces in some 60 estates, out of which over 50 were quick chargers and MCs.

(4) Given their long travel range and fast refuelling speed as compared with battery EVs, hydrogen fuel cell EVs are attractive alternatives, especially for heavy commercial vehicles. As set out in the Hong Kong's Climate Action Plan 2050 announced in 2021, the Government would collaborate with franchised bus companies and other stakeholders within next three years to test out hydrogen fuel cell electric buses and heavy vehicles. The Government is liaising closely with different franchised bus companies and other operators to work out the details of the trial. In the past few months, we have also learned from various stakeholders about the issues that need to be considered and dealt with in the local application of hydrogen fuel cell EVs. The Environment Bureau will lead an inter-departmental working group to review various implementation issues, including the supply of hydrogen energy, necessary supporting facilities, safety considerations, training of technical personnel, regulation and legislation required, etc., to meet local requirements in an orderly manner.