

**Legislative Council Panel on Environmental Affairs  
Subcommittee to Study Issues Relating to the Development of Electric  
Vehicles**

**Consolidated Responses**

Regarding the written submissions<sup>1</sup> from deputations and individuals to the Subcommittee to Study Issues Relating to the Development of Electric Vehicles, the Government provides the consolidated responses to the views at **Annex**.

**Environment Bureau/Environmental Protection Department  
July 2020**

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<sup>1</sup> Legislative Council Paper Nos. CB(1)664/19-20(01), CB(1)664/19-20(02), CB(1)664/19-20(03), CB(1)726/19-20(01), CB(1)726/19-20(02), CB(1)726/19-20(03), CB(1)726/19-20(04), CB(1)726/19-20(05), CB(1)726/19-20(06), CB(1)726/19-20(07), CB(1)732/19-20(01), CB(1)749/19-20(01), CB(1)757/19-20(01), CB(1)831/19-20(01) and CB(1)850/19-20(01).

**Subcommittee to Study Issues Relating to the Development of Electric Vehicles**

**The Government's consolidated responses to views expressed by deputations and individuals in written submissions**

Summary of views	Government's responses
<b>1. Policies and objectives for promoting electric vehicles (EVs) and low-carbon transport lifestyle</b>	
<p>1.1. A timetable for phasing out/ceasing the sale of fuel-driven vehicles, a phased target for the percentage of EVs, and a vision for zero exhaust emission should be set to promote overall planning for EVs.</p>	<p>The Government is actively preparing to update the <i>Clean Air Plan</i> and formulate a roadmap on the popularisation of EVs to, among other things, further examine the measures to improve air quality, as well as the policy objectives and plans to promote the use of EVs, including the study on formulating the direction and roadmap to ban the sale of fuel-driven vehicles. The work is initially scheduled for completion in the first half of 2021.</p>
<p>1.2. The Government should set out sales target of zero emission vehicles (ZEV) for the automakers.</p>	<p>The Government has continuously paid close attention to the development of new energy vehicles across the world. In addition to EVs, we maintain an open mind on the introduction of other new energy vehicles such as hydrogen fuel cell vehicles.</p>
<p>1.3. The development of hydrogen vehicles should be considered.</p>	
<p>1.4. Vehicle growth should be controlled and the concept of walking and cycling should be encouraged to promote low carbon transport lifestyle.</p>	<p>Comparing with some mainland or foreign cities, the high-density urbanised environment of Hong Kong lacks sufficient and suitable spots for providing essential infrastructure, including hydrogen filling stations and storage facilities. This may bring about constraints in promoting</p>

<b>Summary of views</b>	<b>Government's responses</b>
	<p>hydrogen fuel cell vehicles. In view of the accidents happened in hydrogen energy facilities (e.g. hydrogen plant, hydrogen filling station and storage facility) in Korea, the USA and Norway etc., safety of hydrogen energy facilities serves as a crucial consideration.</p> <p>Also, the Government is committed to promoting 'Walk in HK' and fostering a 'bicycle-friendly environment' in new towns and new development areas to further reduce transport-related emissions with a view to combatting climate change. Cycling and walking are ideal low-carbon modes of transport for short-distance commuting, which can serve as the 'first mile' and 'last mile' connection, thus minimising the need for mechanised transport.</p> <p>The Government has been closely monitoring the growth rate and size of private car fleet. Fiscal measures including adjustment to the first registration tax and annual licence fee for vehicles were adopted before to contain car growth. Notwithstanding that the year-on-year growth rate of licensed private cars has moderated to less than 2.0% in recent months, the Government will continue to monitor the situation closely and consider appropriate measures in due course, taking into account such factors as traffic congestion conditions, trend of car growth, availability of public transport services and affordability of motorists.</p>

Summary of views	Government's responses
<b>2. Promoting the use of EVs</b>	
<b>First registration tax (FRT) concessions and other financial incentives</b>	
<p>2.1. The 'One-for-One Replacement' scheme should be extended to encourage more owners of private cars (PCs) to switch to EVs.</p> <p>2.2. The 'One-for-One Replacement' scheme should be extended with a reduced tax incentive.</p> <p>2.3. The FRT concessions for EVs should be raised and extended, and other additional financial incentives (e.g. insurance subsidy) should be provided, so as to encourage purchasers of PCs to choose electric PCs (e-PCs).</p> <p>2.4. Various transport policies and measures should be implemented, including charging congestion charge, provision of road pricing concessions for EV owners, and concessionary tolls for EVs using government tunnels, etc.</p>	<p>The Government is now offering FRT concessions of up to \$97,500 for e-PCs, and purchaser of e-PC who scraps and de-registers his/her eligible old PC and then first registers a new e-PC under the 'One-for-One Replacement' Scheme can enjoy a higher FRT concession of up to \$250,000. In addition to the said FRT concessions, annual vehicle licence fees for e-PCs are far lower than those for conventional PCs, and the electricity tariffs incurred for running e-PCs are also less expensive than the fuel charges incurred for running conventional PCs.</p> <p>As the e-PC technologies have become mature, more and more affordable e-PC models with longer driving range have entered into the local market. That said, popularisation of e-PCs requires mass supply of affordable models. The policy of full exemption of FRT, however, tilted in favour of high-priced e-PCs and undermined the popularisation of a wide range of EV models. In view of this, the Government introduced a revised FRT concession with an upper limit and the 'One-for-One Replacement' scheme to ensure the policy will not be inclined to high-priced e-PCs and could contain the increase in PCs after reviewing the arrangement of FRT for EVs in 2017 and 2018.</p> <p>As stated in our response in part (1) above, the</p>

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	<p>Government is actively preparing to update the <i>Clean Air Plan</i> and formulate a roadmap on the popularisation of EVs to, among other things, further examine the measures to improve air quality, as well as the policy objectives and plans to promote the use of EVs, including the study on formulating the direction and roadmap to ban the sale of fuel-driven vehicles, and reviewing the said arrangements for FRT concessions. After completing the review, we will announce the outcome and the way forward as soon as practicable. We have no plan to provide other additional financial incentives for the time being.</p> <p>As regards tolls for tunnels and bridges or road pricing, they are implemented based on traffic management considerations, with a view to adjusting the traffic flow and alleviating traffic congestion for the public's convenience. In line with the said rationale, the Government currently has no plan to offer concessions in tolls for tunnels and bridges or road pricing, or introduce specific traffic management measures for EVs.</p>
<b>Promoting the use of e-commercial vehicles (e-CVs)</b>	
<p>2.5. The use of e-CVs should be promoted so as to alleviate the roadside air pollution.</p>	<p>The Government has fully waived the FRT for e-CVs since 1994 to encourage car owners to purchase e-CVs and promote the development of e-CVs. Apart from the above FRT concessions, enterprises which procure EVs are allowed 100% profits tax deduction for the capital expenditure on EVs in the first year of procurement. The Government also encourages the transport sectors</p>

Summary of views	Government's responses
	<p>to test out green innovative transport technologies through the Pilot Green Transport Fund.</p>
<p>2.6. The weight restrictions applicable to e-CVs should be relaxed to facilitate the introduction of EVs that best suit the local business operations.</p>	<p>All along, the Government welcomes the trade to introduce commercial EVs that are suitable for use in Hong Kong. As of May 2020, 122 models of EVs have been approved for registration and use in Hong Kong, among which 32 are commercial vehicles, including light goods vehicles, buses, light buses and taxis of brands from Europe, Japan and the Mainland.</p> <p>To safeguard the structural and operational safety of roads, the Transport Department (TD) would, as stipulated in the Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374A), limit the maximum gross weights for various classes of vehicles, having regard to the road environment and design in Hong Kong, with no differentiation between EVs and non-EVs. Since relaxation of the maximum gross weights of vehicles involves such considerations as structural and operational safety of roads, the Government would need to handle the matter with great caution. Under the current legislation, in case any particular road users would need to use overweight vehicles due to exceptional circumstances, the TD may give special consideration and grant exemption on a case-by-case basis provided that the safety of other road users and the road structure would not be compromised.</p>

Summary of views	Government's responses
	<p>At the same time, the Government has amended the law to relax the maximum gross vehicle weight restriction of light buses to 8.5 tonnes, in order to accommodate and facilitate the development needs of the industry by providing the trade with more choices on light bus models (including electric light buses). The new requirement has taken effect since 5 July this year.</p>
<p><b>Promoting the use of electric public transport vehicles</b></p>	
<p>2.7. The Government should promote electric public transport vehicles, including promoting the use of double-deck electric buses, electric public light buses (e-PLBs) and electric taxis.</p> <p>2.8. The Government should enhance the charging network to facilitate the use of e-CVs, in particular electric public transport vehicles.</p> <p>2.9. It is recommended that over ground automatic wireless charging technology should be adopted for electric buses and e-PLBs instead of</p>	<p><u>Electric franchised buses</u></p> <p>The feasibility of deploying electric franchised bus services throughout Hong Kong depends very much on the maturity of development of electric bus technologies, their prices and suitability for use in Hong Kong. It is incumbent upon us to fully test and prove that the relevant technology is suitable for the local environment and the actual modus operandi of the public transport sector before introduction of electric buses on a large scale.</p> <p>As at the end of 2019, there are about 6 200 licensed franchised buses in Hong Kong. About 95% of them are double-deckers and the remaining are single-deckers. Currently the technology of double-deck electric buses is still developing and there are very few models available in the international arena. The technology of single-deck electric buses is already used in places outside Hong Kong, but</p>

Summary of views	Government's responses
<p>conventional charging mode in order to lower the cost.</p>	<p>the operation in Hong Kong is subject to further test to ascertain the suitability for use in Hong Kong.</p> <p>The Government fully subsidises the franchised bus companies (FBCs) to purchase 36 single-deck electric buses (including 28 battery-electric buses and eight supercapacitor buses and their charging facilities) for trial on a number of routes to test out their operational performance in local conditions. We will continue to monitor the performance of electric buses under the trial, and collect and analyse the trial data. Upon completion of the trials, the Government will consider the way forward to encourage FBCs in using more electric buses, taking into account the affordability of the FBCs and passengers.</p> <p>As for charging facilities, we are currently working with FBCs to install new charging facilities at bus termini to facilitate top-up charging for in-service single-deck electric buses in daytime, improve driving range for full-day operation and see whether the mode of daytime charging can cope with the high operation frequency of bus service in Hong Kong.</p> <p><u>Electric public light buses</u></p> <p>The Government has earmarked \$80 million to launch a pilot scheme for e-PLBs and subsidise about 40 e-PLBs running on various routes for a trial for 12 months. We expect to trial e-PLBs</p>

<b>Summary of views</b>	<b>Government's responses</b>
	<p>and charging facilities from different suppliers, so as to test their operations under local environment and compare their performances. Initially, green public light buses (PLBs) will be the major participants in the pilot scheme as they are running on relatively short routes, requiring a relatively lower driving range and charging power, and more suitable for trial. As they are running on fixed routes, the daily operation of e-PLBs can be supported by installing charging facilities at the PLB termini, public transport interchanges or other designated places where they operate.</p> <p>The Government engaged a consultant in March 2019 to study and take forward the pilot scheme, including developing the basic specifications and requirements for e-PLBs and the associated charging facilities that suit Hong Kong's operating environment, identifying suitable PLB routes for trial under the pilot scheme and consulting the PLB trade about their intention of joining the pilot scheme and using e-PLBs. The study will be completed in the second half of 2020. Routes for the trial will be determined subject to the recommendations of the study report and the views of the trade. Taking into account the lead time for manufacturers to develop and manufacture e-PLBs and the associated charging facilities, we anticipate that the pilot scheme can commence in around mid-2023.</p>

Summary of views	Government's responses
	<p data-bbox="651 255 1396 613">To prepare for the commencement of the pilot scheme, we are looking for potential sites, including PLB termini, public transport interchanges and other suitable sites, for establishing e-PLB charging network with the assistance from the TD and two power companies.</p> <p data-bbox="651 680 852 716"><u>Electric taxis</u></p> <p data-bbox="651 734 1396 1621">Under general operational mode, taxis are being operated daily for more than 20 hours and over 500 km in mileage. Suitable electric taxis models and the establishment of a quick charging network for drivers to charge their electric taxis in time are both required for the promotion of electric taxis in Hong Kong. The Government has commissioned a consultant in October 2019 to look for suitable sites for setting up quick charging stations in various districts of Hong Kong, and will continue to encourage suppliers to introduce more electric taxi models that suit local use. We understand that some taxi operators are also looking for electric taxi models that suit the operation needs of taxis in Hong Kong, in preparation for the trial of electric taxis in the future.</p> <p data-bbox="651 1688 1396 1944">As for the over ground automatic wireless charging technology, according to overseas experience, the costs are high and it is unsuitable for the public transport vehicles in Hong Kong for the time being.</p>

Summary of views	Government's responses
<b>3. EV charging facilities</b>	
<b>Car parks of existing private residential buildings</b>	
<p>3.1. The Government should simplify the application procedures of the \$2 billion pilot subsidy scheme for installation of EV charging-enabling infrastructure, and provide technical support to the applicants to resolve the issues incurred in the installation works.</p>	<p>The Government is preparing for the launch of a \$2 billion pilot scheme in the second half of 2020 to subsidise the installation of EV charging-enabling infrastructure in car parks of existing private residential buildings, so that owners of individual parking spaces can install chargers according to their own needs in future. It is estimated that the pilot scheme will run for about 3 years to cover roughly 60 000 private parking spaces.</p> <p>As the pilot scheme involves multi-departmental collaboration on issues covering property management, land lease, building modification, fire safety, technical issues, tendering, contract administration, etc., we have established an Inter-departmental Working Group to advise on areas including application procedures and technical issues of the installation works for refining the implementation details of the pilot scheme. The Inter-departmental Working Group comprises representatives from the Environmental Protection Department (EPD), Development Bureau, Buildings Department, Electrical and Mechanical Services Department (EMSD), Fire Services Department, Home Affairs Department, Housing Department, Lands Department, and Planning Department.</p>
<p>3.2. The Government should strengthen communication</p>	<p>To encourage existing private housing estates to install EV charging facilities, the EPD organised</p>

Summary of views	Government's responses
<p>with building management offices and owners' corporations to encourage them to install EV charging facilities in buildings so that they would act positively to the installation works. More incentives and assistance should be provided.</p> <p>3.3. The Government should promote installation of Power Management System and Central Monitoring System by management companies and owners' corporations, so as to raise the usage efficiency of EV chargers through sharing of power supply to the chargers.</p>	<p>13 workshops or briefing sessions in 2019 to encourage owners' corporations, owners' committees and property management companies to support installation of EV charging facilities in existing buildings.</p> <p>When the EPD rolls out the \$2 billion pilot subsidy scheme in the second half of this year, we will arrange seminars to brief owners' corporations, property managers and general public the details of the pilot scheme and encourage their support and participation to the scheme.</p> <p>Besides, the EPD plans to send staffs to private housing estates to brief owners' corporations, owners' committees and property management companies the pilot subsidy scheme and the advantages, including air quality improvement, brought by the installation of charging facilities in the car parks. Our staffs will also answer questions related to the scheme and assist them in submitting applications.</p> <p>The Government will continue to strengthen its efforts in communication, publicity and education, and provide technical assistance to building owners, owners' corporations, owners' committees and property management companies regarding the installation of EV charging facilities.</p> <p>To raise the usage efficiency of charging</p>

Summary of views	Government's responses
	<p>infrastructure, we will explore requiring the design of charging infrastructures installed under the pilot subsidy scheme to incorporate a load management system so as to provide electricity to the largest number of parking spaces for charging EVs with the limited power supply.</p>
<b>Car parks of new buildings</b>	
<p>3.4. Amendments should be made to the Hong Kong Planning Standards and Guidelines (HKPSG) to set the target number of public chargers and charging standards.</p> <p>3.5. Whilst the Government has tightened the granting of concession on gross floor area (GFA) for new private buildings from 2011 to encourage developers to provide EV charging-enabling infrastructure for the private car parks of new buildings, the requirements for these infrastructure are not stringent. For instance, there is no specified standard of chargers and no mandatory requirement for developers to provide</p>	<p>The EPD is currently updating the relevant guidelines on EV charging, and the relevant guidelines on EV charging facilities in the HKPSG, recommending that new charging facilities to be installed should be medium chargers instead of standard ones, so as to cope with the latest development and actual need of EVs and the associated charging technologies.</p> <p>The Government has tightened the granting of concession on GFA for new private buildings from April 2011 to encourage developers to install EV charging-enabling infrastructure, including provision of sufficient power supply, cabling and conduits for all parking spaces in the private car parks of the new buildings concerned. The policy helps to avoid owners of parking spaces being unable to install the required EV chargers owing to constraints in power supply capacity, cabling and conduits, etc. when EVs are widely used in the future.</p> <p>Nevertheless, the Government should be aware of the number of existing EVs when drafting the amendments to avoid wastage caused by</p>

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<p>chargers for the use of car owners.</p>	<p>installation of too many EV charging facilities at the current stage. As mentioned above, most of the private car parks of new buildings are equipped with EV charging-enabling infrastructure, EV owners can install chargers at their own expense if necessary.</p>
<b>Carparks of the Hong Kong Housing Authority (HA)</b>	
<p>3.6. HA should upgrade infrastructure as quickly as possible and install medium and quick public EV chargers on a large scale.</p>	<p>HA provides car parking facilities in its public housing developments primarily to serve the residents of the estates/ courts concerned and their visitors for parking their vehicles. To support the Government's policy to promote extensive use of EVs, HA has been working with power companies since 2011 to provide EV chargers (including standard, medium and high speed chargers) at some hourly car parking spaces in HA's existing carparks. Subject to demand and technical feasibility, HA has also been providing standard chargers at monthly car parking spaces in its existing carparks. In addition, in accordance with the recommendations under the HKPSG, HA will also provide standard EV charging facilities in the carparks of new public housing developments.</p> <p>As at end-March 2020, HA has installed EV chargers at about 250 hourly car parking spaces and 830 monthly car parking spaces in its carparks. At present, there are not many EVs parking in HA's carparks and some monthly car parking spaces installed with EV chargers have</p>

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	<p>no EV users as tenants.</p> <p>Since mid-2019, in further support of the Government's initiatives to promote the use of EVs, HA has initiated a feasibility study for the installation of medium-speed chargers at some hourly car parking spaces, based on the electricity loading of individual carparks. At present, there are about 40 medium or high speed chargers in HA's carparks. In order to make good use of resources, HA will, depending on the usage situation, consider increasing the number of medium-speed chargers.</p>
<p>3.7. The annual balloting arrangements for parking spaces of Home Ownership Scheme courts fail to ensure that EV owners can rent parking spaces with EV chargers installed at their own expense. In the medium to long term, EV owners should be prioritised in renewing the tenancies for parking spaces with chargers installed.</p> <p>3.8. It is proposed that idle hourly parking spaces with EV chargers installed should be open to EV owners for charging purpose when they</p>	<p>As stated in the response for item 3.6 above, as at the end-March 2020, HA has installed EV chargers at about 250 hourly car parking spaces and 830 monthly car parking spaces in its carparks.</p> <p>For monthly car parking spaces, in addition to paying monthly parking fees, EV users are required to apply to the power companies for installation of electricity meters and pay the electricity fee. Currently, not many EVs are leasing the monthly car parking spaces in HA's carparks. Due to acute demand for car parking spaces in HA's carparks and the main users for car parking spaces being non-EVs, HA is not able to give priority to EV users in leasing monthly car parking spaces based on the principle of fair allocation. HA will continue to keep in view of the usage of the car parking spaces and make</p>

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<p>are not in use at night.</p>	<p>appropriate arrangements according to actual situation.</p> <p>As for the hourly car parking spaces in HA's carparks, they serve visitors of the estates/courts concerned throughout the day. EV drivers charging their vehicles at the hourly car parking spaces with EV chargers are not required to pay extra fee other than the hourly parking fees. HA also offers free parking for a maximum of 2 hours for EVs during charging. The relevant arrangement is being reviewed annually.</p>
<b>Government car parks</b>	
<p>3.9. The Government should upgrade the slow chargers to medium and quick chargers, and to substantially increase the number of public charging facilities.</p>	<p>Regarding the charging arrangements for e-PCs, it has always been the Government's policy direction that e-PC owners should perform daily charging of their e-PCs at their home, workplace or other suitable places. Public charging networks are mainly supplementary facilities for EV owners to top up their batteries to meet occasional needs during their trips. They do not serve as daily charging facilities or their alternatives.</p> <p>To meet the charging needs arising from the on-going growth of e-PCs, the Government has upgraded the 370 standard chargers installed at public car parks of the TD and the Government Property Agency (GPA) to medium chargers from 2016 to 2018. Apart from the 61 standard chargers located at the TD car parks which will be demolished and the 94 chargers which have</p>

<b>Summary of views</b>	<b>Government's responses</b>
	<p data-bbox="639 257 1422 459">both standard and medium charging functions, standard chargers at the car parks of the TD and the GPA that are open for public use have been upgraded to medium chargers.</p> <p data-bbox="639 526 1422 929">In a small place like Hong Kong, the daily mileage of PCs in general is only a few tens of km. By charging with medium chargers for less than an hour, EVs may run for at least another 30 km, which is sufficient to top up their batteries at times of occasional needs. Hence, medium chargers would serve as the backbone of public charging facilities.</p> <p data-bbox="639 996 1422 1579">Furthermore, at present, among the private car parking spaces (5 412 parking spaces in total) in the car parks managed by the TD and the GPA that are installed with chargers and open for public use, 11.2% (608 parking spaces) are provided with altogether 697 EV chargers and 13 EV chargers by the Government and non-government sector respectively. The number of government public chargers was increased by a total of 191, from 782 at the end of 2018 to 973 at the end of June 2020.</p> <p data-bbox="639 1646 1422 2000">The Government also allocated \$120 million last year for installing additional medium chargers at 70 government car parks which are open to public. Over 1 000 additional public chargers are expected to be in place by 2022, bringing the total number of chargers to about 1 800. The installation works of the 169 medium chargers,</p>

Summary of views	Government's responses
	<p>started in 2019-20, were completed in end-April this year. The testing works are in progress and the chargers will be open for public use progressively. Furthermore, we anticipate that about 570 and 460 medium chargers will be installed in 2020-21 and 2021-22 respectively. We will continue to report to the Legislative Council Panel on Environmental Affairs on the progress in promoting the use of EVs in due course, including the progress of installing additional medium chargers in government car parks.</p>
<p>3.10. There should be government public parking spaces that are used exclusively for charging; priority should be given to EVs to use parking spaces installed with charging facilities; car park owners and management offices are advised to prohibit conventional vehicles from occupying parking spaces installed with EV chargers and consider imposing a fine or impounding the vehicles etc. for non-compliance.</p>	<p>e-PCs only account for about 2% of the total number of registered private cars at present. Given the supplementary nature of charging facilities provided in the government car parks (including the charging facilities provided in the government public car parks) under the government policy (i.e. e-PC owners should perform daily charging of their e-PCs at their home or workplace; and public charging facilities are mainly for EV owners to top up their batteries to meet occasional needs), limited parking space resources, and the principle that users of EVs and all other vehicles should be treated alike for full utilisation of parking space resources, private car parking spaces (whether they are installed with chargers or not) in government public car parks managed by the TD and the GPA are currently open to all vehicles. That said, contractors of the TD and the GPA will, depending on the actual utilisation situation of the car parks, arrange for</p>

Summary of views	Government's responses
	<p>traffic cones to be placed at parking spaces installed with charging facilities to reserve such spaces for priority use by EVs whenever practicable. New EV chargers will be generally installed at relatively inconvenient locations in the car parks (e.g. parking spaces away from lifts and entrances/exits of the buildings) as far as practicable to maximise the chance for EVs to use the parking spaces installed with chargers.</p>
<p><b>Provision of charging facilities at suitable on-street parking spaces</b></p>	
<p>3.11. Charging facilities should be provided at suitable on-street parking spaces as soon as possible.</p>	<p>Provision of on-street parking spaces is mainly to cater for short-term parking needs, and such spaces are usually installed with parking meters to accelerate the turnover of parking spaces for use by more drivers. Taking into account the power supply and space constraints, potential impact on nearby traffic as well as related considerations such as other drivers' parking needs, the Government has to look for suitable on-street parking spaces to install charging facilities. Around 10 possible sites have initially been identified for such installation and their feasibility is under detailed study. When these sites are confirmed to be suitable for installing on-street charging facilities, the Government will study on introducing a pilot scheme on installation of charging facilities.</p>
<p><b>Setting up public quick charging stations</b></p>	
<p>3.12. It is recommended that quick chargers should be built so that owners of EVs</p>	<p>To enable e-PC owners to top up their batteries quickly to meet occasional needs during their trips, the Government commissioned a</p>

<b>Summary of views</b>	<b>Government's responses</b>
<p>can top up their batteries within a short time.</p>	<p>consultancy study in October 2019 to look for suitable sites in 18 districts of Hong Kong to set up public quick charging stations. Upon completion of the study, we will explore suitable options for developing quick charging stations.</p>
<b>Compulsory installation of charging facilities</b>	
<p>3.13. EV manufacturers or dealers should build charging facilities up to a certain percentage after sales of EVs.</p>	<p>The Government's priority in the next few years is to spearhead the \$2 billion pilot subsidy scheme to assist car parks of existing private residential buildings to install EV charging-enabling infrastructure, and encourage developers to provide EV charging-enabling infrastructure in private car parks of new buildings through the current granting of GFA concessions. While the Government currently has no plan of mandatory installation, operation and use of EV charging facilities, we will continuously keep in view the development of charging facilities in the market and review the relevant policies and measures in due course.</p>
<b>Standards of charging facilities</b>	
<p>3.14. Discussions should be held with the parties concerned as soon as possible to draw up the standards of charging facilities in Hong Kong based on factors such as the supply of EVs and cross-boundary flow.</p>	<p>At present, there is no unified international EV charging standard. The standards of the International Electrotechnical Commission (IEC) are mainly adopted by Europe while the standards of the Society of Automotive Engineers (SAE) are mainly adopted by North America and Japan. GuoBiao (GB) is a set of national standards adopted by the Mainland. Currently, most of the vehicles in Hong Kong adopt the IEC standards and the IEC Standards have a better</p>

Summary of views	Government's responses
	<p>compatibility. In general, chargers that comply with the IEC standards can match with charging cables equipped with appropriate plugs to charge EVs that adopt IEC standards, SAE standards or GB standards. As for multi-standard quick chargers, the situation of using multi-standard quick chargers in other countries is still common in order to cater for the needs of EVs with different charging standards.</p> <p>The Government will closely monitor factors like the situation of the local EV usage and supply, as well as the development of international EV standards to decide on the way forward.</p>
<b>Instant electronic information on the status of chargers</b>	
<p>3.15. A mobile application should be developed to provide the status and reservation service for all public charging facilities so as to facilitate the use of public charging facilities, and enhance the utilisation rate of these facilities.</p>	<p>To support the development of smart city, the Government plans to set up a smart system for the Government's public EV charging network. The features will include instant electronic information on the status of chargers, payment system and management facilities for parking spaces equipped with chargers. The Government will also explore the feasibility of including other features, such as reservation for parking spaces equipped with chargers.</p> <p>There are also private companies in the market which install charging facilities at the parking spaces of EV owners and provide charging service. Some EV charging service providers even provide EV owners with the status of chargers and charger reservation service through</p>

Summary of views	Government's responses
	mobile applications.
<b>4. Government fleet</b>	
<p>4.1. The Government should take the lead in setting up an EV fleet and replace the conventional vehicles with EVs after examination of the operational needs of various departments.</p>	<p>Subject to the operational requirements of the departments and the supply of EV models in the market, the Government has taken the lead in using EVs since 2009. As at the end of May 2020, there were 215 EVs of various models in the government fleet, which were mainly small and medium cars accounting for 9.0% of the total number of government cars, higher than the overall penetration of electric private cars in Hong Kong (2.3%).</p> <p>Whether government departments can use EVs depends mainly on the development of EV technologies (including vehicle performance, durability of batteries, the highest mileage sustained after a full charge, etc. and whether these can meet the daily operational needs of the departments). Currently, the driving range of electric cars has improved generally. As regards specialised vehicles (such as refuse collection vehicles), buses, medium and heavy goods vehicles, EV models suitable for departments' operational needs are still not available in the market. For electric motorcycles, their battery performance is still unsatisfactory. For electric vans, since only few models are available for coping with uses with lower mileage and payload, they only account for about 1.6% of the relevant type of government vehicles.</p>

Summary of views	Government's responses
	<p>To support the policy of promoting wider use of EVs, the Government will keep abreast of the latest technological development of EVs and encourage departments to use EVs in replacing their retiring vehicles subject to the availability of suitable models in the market and the performance of EVs in meeting departments' operational needs.</p>
<p><b>5. Recycling and handling of EV batteries</b></p>	
<p>5.1. The Government should study and formulate specific measures for handling of EV used batteries.</p>	<p>Waste EV batteries have to be properly handled under the Waste Disposal Ordinance (Cap. 354) and its subsidiary Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C). Most EV manufacturers or agents have currently engaged licensed collectors to collect the waste batteries of their brands' EVs. After proper preliminary treatment (e.g. sorting, discharging and insulating) and packaging, these waste EV batteries are exported to appropriate treatment facilities in Japan, Korea or Belgium for recycling. Although the age of most EVs in Hong Kong remains low and the number of retired EV batteries remains small at this stage, as EVs will become more popular in future, the EPD will embark on a study on how to promote recycling of new energy vehicle batteries. Apart from analysing overseas experiences, the EPD will maintain close liaison with the trade and EV suppliers to explore solutions that are applicable to local situation.</p>
<p><b>6. EV related support measures</b></p>	
<p>6.1. EV-related courses</p>	<p>The Vocational Training Council (VTC)</p>

<b>Summary of views</b>	<b>Government's responses</b>
<p>should be run to train talents regarding design, scientific research and repairing of EVs.</p>	<p>currently offers two in-service training programmes on 'New Energy Vehicle Insight' and 'Hybrid Vehicle Power Train' which aim at equipping trainees with knowledge in the structure and operation of EVs, and safety procedures in handling high-voltage electricity.</p> <p>In addition, the VTC also offers full-time training programmes related to automobile maintenance, including the Higher Diploma (HD) in Automotive Engineering and Diploma of Vocational Education (Automotive Technology). The two programmes are expected to offer a total of more than 260 training places each year in the 2019/20 and 2020/21 academic years. The VTC has embedded the professional knowledge relevant to EVs, such as design, operational modes, safety standards, and maintenance skills, etc. into the HD in Automotive Engineering as well as other pre-employment programmes at different levels related to automobiles. The VTC will continue to update the content of relevant programmes in a timely manner having regard to the development of EV-related technologies and industry needs.</p> <p>The EMSD is closely liaising with the trade and the VTC on the training of maintenance mechanics for EV. The VTC is also studying to develop a basic training course related to the maintenance of EV and hybrid EV for vehicle mechanics.</p>

Summary of views	Government's responses
<p>6.2. The Government should increase the funding support to the research and development (R&amp;D) projects on EVs, so as to support the corresponding technological development of EVs.</p>	<p>The Partnership Research Programme under the Innovation and Technology Fund ('the Fund') aims to provide support to R&amp;D projects undertaken by private companies in collaboration with R&amp;D centres, local universities or other research institutions, so as to encourage private companies to carry out more R&amp;D projects. Under the Programme, if private companies undertake R&amp;D projects in collaboration with the Automotive Platforms and Applications Systems R&amp;D Centre, they can obtain funding equivalent to 70% of the total project cost at most; if the company sponsors 50% or more of the project cost, the company can own all the intellectual property rights arising from the project. In addition, eligible private companies can also obtain cash rebate equivalent to 40% of their expenses for their relevant R&amp;D projects through the Research and Development Cash Rebate Scheme under the Fund. Moreover, the Public Sector Trial Scheme under the Fund also provides funding support to eligible institutions and companies in producing prototypes/samples and conducting trials in the public sector so as to facilitate and promote the realisation and commercialisation of R&amp;D results.</p> <p>To further promote the R&amp;D and application of decarbonisation and green technologies, the Government has earmarked \$200 million in 2020-21 for setting up Green Tech Fund (GTF) to provide better and more focused funding support to meet the needs of the R&amp;D projects. The</p>

Summary of views	Government's responses
	<p>GTF funds projects of up to \$30 million each for up to five years. Green transport is one of the priority R&amp;D themes. We aim to invite the first round of applications in December 2020.</p>
<b>7. Other comments</b>	
<p>7.1. The Government should review the regulatory regime in due course to allow the use of low carbon mobility devices such as pedelecs, electric scooters and electric unicycles under safe conditions.</p>	<p>It is the Government's intention to bring the law up-to-date with a view to providing a proper regulatory framework for Electric Mobility Devices ('EMDs' including motorised personal mobility devices (PMDs), power assisted pedal cycles (PAPCs) and motorised personal mobility aids (PMAs)) on the one hand, and embracing new technologies and innovations for personal mobility on the other hand.</p> <p>The TD has reviewed the practices in other jurisdictions/cities. We are mindful that Hong Kong is a densely populated city and our road networks are heavily used by motor vehicles. We need to take into account a host of local factors in reviewing the proposed regulation of EMDs in Hong Kong, including road and pedestrian safety concerns, traffic environment, road design and associated traffic impacts, as well as the benefits that EMDs may bring to their users. We consider that cycle tracks that are specifically designed for cycling may be more suitable for use of motorised PMDs (including electric scooters) and PAPCs. However, we consider that motorised PMDs and PAPCs should not be used on footpaths and carriageways. Motorised PMAs (including electric wheelchairs)</p>

Summary of views	Government's responses
	<p>are for essential mobility of the disabled and the elderly. Their use on footpaths is recommended, provided that their speed is restricted at a certain level.</p> <p>The TD has set up an Inter-departmental Task Group to review and develop the regulatory and technical requirements for EMDs such as speed control, safety gears, age restrictions on users, technical specifications, etc. In order to gain the operating experience and the effectiveness of certain safety requirements, the TD plans to conduct site trials in the second half of this year. Subject to the evaluation findings from the site trials, and consultation results with stakeholders and internal deliberations on the technical, safety and licensing requirements for EMDs, the TD plans to commence the legislative amendment exercise in 2021.</p>
<p>7.2. The Government should set up an EV Office to implement EV-related policies.</p>	<p>Environment Bureau/Environmental Protection Department is responsible for formulating policies in promoting the use of EVs, and coordinating various measures with relevant bureaus or departments. This arrangement has been working effectively and we have no plan of setting up EV Office.</p>

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