

# **立法會**

## ***Legislative Council***

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### **Panel on Environmental Affairs**

**Meeting on 27 February 2017**

### **Background brief on promotion of green vehicles prepared by the Legislative Council Secretariat**

#### **Purpose**

This paper provides background information on the promotion of green vehicles in Hong Kong.<sup>1</sup> It also gives a brief account of the views and concerns expressed by Members when related issues were discussed by the relevant committees of the Legislative Council.

#### **Background**

2. It has been the Government's policy to promote the use of green vehicles including electric vehicles ("EVs") in Hong Kong to help improve roadside air quality and reduce greenhouse gas emissions.<sup>2</sup> A wider use of green vehicles also creates business opportunities for related environmental industries. In relation to EVs, the Government set up a Steering Committee on the Promotion of Electric Vehicles in April 2009 to recommend a strategy complementary with specific measures to promote the use of EVs in Hong Kong, having regard to the resulting energy efficiency, environmental benefits and the creation of business opportunities.

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<sup>1</sup> In this background brief, green vehicles refer to electric vehicles, hybrid vehicles and vehicles that are qualified for the relevant first registration tax concessions (see paragraph 4).

<sup>2</sup> Apart from promoting the use of green vehicles, the Administration has been implementing an incentive-cum-regulatory scheme to phase out pre-Euro IV diesel commercial vehicles, and plans to tighten the emission standards of newly registered vehicles with a view to improving roadside air quality.

3. As at end 2016, there were 7 231 EVs registered in Hong Kong, up from less than 100 in end 2010. The percentages of EVs among the currently registered vehicles and registered private vehicles are both around 1%. At present, 61 EV models from seven countries have been type-approved by the Transport Department ("TD").<sup>3</sup> TD does not compile statistics for registered hybrid vehicles ("HVs"). Based on the types of fuel used by HVs, their figures are incorporated into those for registered petrol or diesel vehicles.

### Measures to promote green vehicles

#### *Tax incentives*

4. The Administration introduced first registration tax ("FRT") concession schemes for environment-friendly petrol private cars ("EFPPCs") and environment-friendly commercial vehicles ("EFCVs") in April 2007 and April 2008 respectively. As the emission control technology of petrol private cars has advanced to a mature stage such that further emission reduction is limited, the scheme for EFPPCs was terminated from 1 April 2015. The scheme for EFCVs is still in operation, and the FRT waiver concerned ranges from 30% to 100% depending on vehicle class. FRT for EVs has been waived since April 1994, and the existing waiver is valid until 31 March 2017. Enterprises having procured green vehicles (including EVs, HVs, EFCVs and EFPPCs) are allowed to have 100% profits tax deduction for capital expenditures on the green vehicles in the first year of procurement from June 2010 onwards.

#### *Pilot Green Transport Fund*

5. The Pilot Green Transport Fund ("PGTF") was set up in March 2011 with \$300 million to encourage the public transport sector and non-profit organizations ("NPOs") to test out green and innovative transport technologies. The Fund subsidizes the capital cost of the relevant hardware (including installation cost if applicable) but not the associated recurrent expenditure,<sup>4</sup> and is applicable to taxis, public light buses, franchised buses, non-franchised public buses, goods vehicles and ferries. As at end 2016, PGTF has approved 87 trials with a total subsidy of about \$81 million.

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<sup>3</sup> These include 43 models for private cars and motorcycles, and 18 models for public transport and commercial vehicles.

<sup>4</sup> The subsidy caps are \$9 million for each application and \$12 million for each transport operator.

### *Trials of hybrid and electric buses*

6. The Administration has fully subsidized franchised bus companies to procure six double-deck hybrid buses and 36 single-deck electric buses (including 28 battery-electric buses and eight supercapacitor buses) for trial. All the hybrid buses have been in operation since late 2014. The first batch of five electric buses have been in operation since December 2015 while the remaining ones will be put into service progressively in 2017. Subject to the trial results, the Administration will encourage the franchised bus companies to use hybrid/electric buses on a larger scale.

### *Government procurement*

7. The Financial Secretary announced in the 2011-2012 Budget that priority would be given to EVs when replacing government vehicles in 2011-2012 and 2012-2013, subject to the availability of suitable models in the market and the operational needs of bureaux and departments. The Chief Executive stated in the 2013 Policy Address that the Administration would continue to take the lead in using more EVs. By end 2016, there were 249 EVs in the government fleet, and another 15 units will be delivered in 2017.

### *Charging facilities for electric vehicles*

8. According to the Administration, private EV owners should charge their EVs at their workplaces, homes or other suitable places; whereas commercial EV operators usually set up their own charging facilities to cater for operational needs. The public charging network mainly serves as supplementary charging facilities, enabling EVs to top up their batteries to complete their journeys when necessary.

9. As at September 2016, there were 1 466 public chargers in Hong Kong covering all 18 districts,<sup>5</sup> including public chargers in government car parks and those set up in collaboration with the private sector. To enhance the charging efficiency of public charging facilities, the Administration upgraded 100 standard chargers to medium chargers at 16 government car parks in 2014, and will further upgrade 174 chargers at seven government car parks by end March 2017.<sup>6</sup> EPD has established a dedicated team and a hotline to provide information and technical support for those who intend to install EV charging facilities, and issued guidelines on the arrangements and technical requirements for setting up such facilities. The Administration also collaborates

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<sup>5</sup> These include 957 standard chargers, 323 medium chargers and 186 quick chargers.

<sup>6</sup> Medium chargers can reduce charging time up to 60% compared to standard chargers.

with the property management sector, incorporated owners, owners' committees, the two power companies and charging service providers in organizing seminars for stakeholders on the latest development and technology of charger installation.

10. Starting from April 2011, the Administration has been encouraging developers to put in place basic infrastructure (including adequate power supply, electrical wiring and cable ducts) in car parks of new buildings to facilitate installation of EV chargers in future. Such policy is implemented through granting concessions on gross floor areas for car parks in new buildings.<sup>7</sup> In June 2011, the planning guidelines for new buildings were amended to recommend 30% of private car parking spaces to be installed with EV charging facilities.

### **Major views and concerns expressed by Members**

11. Issues relating to the promotion of green vehicles were raised at a number of meetings of the Panel on Environmental Affairs ("the Panel"). The Subcommittee on the Proposed Resolution under Section 5(4) of the Motor Vehicles (First Registration Tax) Ordinance held a meeting in March 2014 to study the last extension of FRT exemption for EVs. Members' major views and concerns are summarized in the ensuing paragraphs.

#### Promoting the use of electric vehicles

12. Members opined that the Administration should take a more proactive approach in promoting the use of EVs. They suggested that the Administration should set targets to increase the number of EVs, and provide green transport infrastructures in new development areas ("NDAs") to facilitate adoption of EVs. There was also a view that the Administration should consider legislation to mandate the use of green vehicles.

13. The Administration responded that as commercial vehicles accounted for the bulk of vehicular emissions, promoting adoption of EVs by the commercial sector through measures such as PGTF was considered more beneficial to improving roadside air quality. On the other hand, the public were encouraged to use mass transport, or choose EVs instead of conventional private cars if they had genuine driving needs. The Administration would also explore the feasibility of incorporating green technology in the design of NDAs. For example, charging stations for electric buses would be provided in the New Territories North East NDAs.

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<sup>7</sup> According to the Administration, from April 2011 to December 2015, nearly 80% of car parking spaces under newly approved development plans were equipped with infrastructures for EV charging facilities.

14. The Administration further advised that the development of green vehicles had yet to reach a mature stage. The driving range of such vehicles might not meet the needs of the public transport trades, and the number of available EV models was relatively limited compared with those of conventional vehicles. The Administration would review the need for legislation to mandate the use of green vehicles when the relevant technologies had matured and a business case emerged for commercial deployment.

#### First registration tax exemption for electric vehicles

15. Members called for extension of the FRT waiver for EVs, which was due to expire on 31 March 2017. When the Subcommittee on the Proposed Resolution under Section 5(4) of the Motor Vehicles (First Registration Tax) Ordinance discussed the last extension of FRT waiver for EVs, the issue of whether the exemption should be granted with reference to the prices or uses of EVs was considered. There was a view that luxury sports EVs should not be entitled to the exemption.

16. The Administration explained that due to the relatively small production scale of EVs worldwide, in general the prices of EVs were still much higher than those of conventional vehicles. Hence, FRT exemption could help offset the higher price premiums for EVs and was a key element of the Administration's strategy in promoting the use of EVs. As the use of EVs was in a development stage and the choices of EVs on the market were limited, it might be premature to bar certain uses or vehicles from enjoying the tax incentives. Moreover, a wider customer base would enable manufacturers to have more feedback for improving the technology and design of EVs, which would help the EV market develop and lower the prices. Besides, successful development of EV technology on high performance cars such as sports cars would be conducive to the transfer of the technology onto other types of vehicles demanding high performance, thus promoting broader adoption of EVs to improve roadside air quality.

#### Charging network and technologies for electric vehicles

17. Members urged the Administration to expeditiously expand the EV charging network in the territory to facilitate wider adoption of EVs. The Administration was also requested to consider:

- (a) introducing metered parking spaces on roadside that supported EV charging;

- (b) developing mobile applications ("mobile Apps") to disseminate real-time information on availability of parking spaces with EV charging, and prohibiting non-EVs from occupying such parking spaces;
- (c) mandating installation of EV charging facilities in private housing estates and buildings; and
- (d) drawing up a set of official charging standards for EVs.

18. The Administration pointed out that the main obstacle to increasing public charging facilities was the lack of a universal standard for the chargers. At present there were different standards adopted by EV manufacturers in the United States, European countries, Japan and China. Since it was not feasible to install all types of chargers at a charging place, some EV users might find the distribution of public charging facilities inadequate. The problem could only be resolved gradually as the international market for EVs developed. Given the lack of an internationally harmonized standard for EV charging currently, and that setting a local standard would limit the choices of EVs for vehicle buyers, adoption of common standards for EV charging in Hong Kong would only be considered when the relevant technologies had become more mature. In the meantime, the Administration would explore members' suggestions with a view to enhancing the public charging network for EVs. When considering the need for expanding the charging facilities, the Administration would take into account the management and payment systems of the charging facilities and the development of the security of information technology in relation to these systems.

19. The Administration also advised that for new housing estates and buildings, gross floor area concessions had been granted to car parks which were EV charging-enabling. For existing housing estates and buildings, the Administration had been working closely with the two power companies to provide assistance to EV owners, property management companies and car park operators in the installation of EV charging facilities.

#### Pilot Green Transport Fund

20. Members expressed concern that PGTF might not be an effective means to promote green transport given that the applicants were not required to undertake procuring green transport technologies after successful trials. The Administration pointed out that completed trials under PGTF had demonstrated that the use of EVs and HVs could bring about energy efficiency improvements, environmental benefits and new business opportunities, and the findings would encourage more transport operators and NPOs to try out green transport technologies in the longer run. The Administration would also continue to

encourage vehicle suppliers and manufacturers to introduce more commercial EV models to Hong Kong.

### **Council questions**

21. At the Council meetings of 15 May 2013, 27 November 2013, 28 October 2015, 4 November 2015, 3 February 2016, 20 April 2016, 22 June 2016 and 14 December 2016, Hon CHAN Hak-kan, Hon Kenneth LEUNG, Hon Fernando CHEUNG, Dr Hon Priscilla LEUNG and Hon Frankie YICK raised questions on the promotion of green vehicles and green transport in Hong Kong. The questions and the Administration's replies are hyperlinked in the **Appendix**.

### **Latest development**

22. At the meeting on 27 February 2017, the Administration will seek the Panel's views on a proposal to promote green vehicles.

### **Relevant papers**

23. A list of relevant papers is set out in the **Appendix**.

## Promotion of green vehicles

## List of relevant papers

Date	Event	Paper
14 March 2014	Report of the Subcommittee on Proposed Resolution under Section 5(4) of the Motor Vehicles (First Registration Tax) Ordinance to the House Committee	Report of the Subcommittee (LC Paper No. <a href="#">CB(1)1078/13-14</a> )
24 March 2014	Meeting of the Panel on Environmental Affairs	Administration's paper on "Progress of the Pilot Green Transport Fund" (LC Paper No. <a href="#">CB(1)1104/13-14(06)</a> )  Minutes of meeting (LC Paper No. <a href="#">CB(1)1654/13-14</a> )
26 January 2015	Policy briefing cum meeting of the Panel on Environmental Affairs	Administration's paper on "2015 Policy Address - Policy initiatives of Environment Bureau: Environmental protection" (LC Paper No. <a href="#">CB(1)436/14-15(01)</a> )  Minutes of meeting (LC Paper No. <a href="#">CB(1)674/14-15</a> )
23 March 2015	Meeting of the Panel on Environmental Affairs	Administration's paper on "2015-16 Budget-related initiatives of Environmental Protection" (LC Paper No. <a href="#">CB(1)652/14-15(03)</a> )  Minutes of meeting (LC Paper No. <a href="#">CB(1)847/14-15</a> )
21 July 2015	Meeting of the Panel on Environmental Affairs	Administration's paper on "Progress report on the Pilot Green Transport Fund" (LC Paper No. <a href="#">CB(1)1113/14-15(01)</a> )  Minutes of meeting (LC Paper No. <a href="#">CB(1)1270/14-15</a> )



Date	Event	Paper
25 January 2016	Policy briefing cum meeting of the Panel on Environmental Affairs	Administration's paper on "2016 Policy Address - Policy initiatives of Environment Bureau: Environmental protection" (LC Paper No. <a href="#">CB(1)459/15-16(03)</a> )  Minutes of meeting (LC Paper No. <a href="#">CB(1)739/15-16</a> )
30 March 2016	Meeting of the Panel on Environmental Affairs	Administration's paper on "Interim Findings of the Trial of Hybrid Franchised Buses" (LC Paper No. <a href="#">CB(1)705/15-16(05)</a> )  Minutes of meeting (LC Paper No. <a href="#">CB(1)969/15-16</a> )
19 December 2016	Meeting of the Panel on Environmental Affairs	Administration's paper on "Proposals to Tighten Emission Standards for Newly Registered Vehicles" (LC Paper No. <a href="#">CB(1)295/16-17(06)</a> )
23 January 2017	Policy briefing cum meeting of the Panel on Environmental Affairs	Administration's paper on "2017 Policy Address - Policy initiatives of Environment Bureau: Environmental protection" (LC Paper No. <a href="#">CB(1)451/16-17(01)</a> )

### Hyperlinks to relevant Council Questions:

Date	Council Question
15 May 2013	<a href="#">Press release</a> on Council question (written) raised by Hon CHAN Hak-kan
27 November 2013	<a href="#">Press release</a> on Council question (written) raised by Hon CHAN Hak-kan
28 October 2015	<a href="#">Press release</a> on Council question (written) raised by Hon Kenneth LEUNG

Date	Council Question
4 November 2015	<a href="#">Press release</a> on Council question (written) raised by Hon Fernando CHEUNG
3 February 2016	<a href="#">Press release</a> on Council question (written) raised by Hon CHAN Hak-kan
20 April 2016	<a href="#">Press release</a> on Council question (written) raised by Hon CHAN Hak-kan
22 June 2016	<a href="#">Press release</a> on Council question (written) raised by Dr the Hon Priscilla LEUNG
14 December 2016	<a href="#">Press release</a> on Council question (written) raised by Hon Frankie YICK