

**For discussion on
16 December 2019**

Legislative Council Panel on Environmental Affairs

Further Measures to Improve Air Quality (Part 1)

Purpose

The Government has been implementing a series of measures to improve air quality to protect public health. This paper briefs Members on the details of the Government's further measures to improve air quality suggested in the Chief Executive's 2018 and 2019 Policy Addresses. Various measures include preparation for the pilot subsidy scheme for installation of electric vehicle (EV) charging-enabling infrastructure in car parks of private residential buildings, extension of the Cleaner Production Partnership Programme, reduction in volatile organic compound emissions and enhancement of franchised bus low emission zones.

Pilot subsidy scheme for installation of EV charging-enabling infrastructure in car parks of private residential buildings

Background and objective

2. To encourage wider use of EVs in order to help improve air quality, in particular the roadside air quality, the Government has implemented various measures over the past few years, including offering first registration tax concessions, introducing the "One-for-One Replacement" Scheme for electric private cars, granting concessions on gross floor area for EV charging-enabled car parks in new buildings, expanding the public EV charging network, and establishing dedicated team and hotline to provide the public with relevant information and technical support in setting up EV chargers.

3. The Government's policy direction is that electric car owners should charge their cars at home, workplaces or other suitable places on a routine basis. Public charging network only serves to provide top-up charging in the case of drivers' occasional needs while on road. The Chief Executive announced in the 2019 Policy Address that the Government will prepare for a \$2 billion pilot subsidy scheme to subsidise installation of EV charging-enabling infrastructure in the car parks of the existing private residential buildings.

4. The objective of the Pilot Scheme is to help the above-mentioned car parks resolve technical and financial difficulties that are often encountered in the installation of EV charging-enabling infrastructure, to prepare the private residential buildings with EV charging-enabling infrastructure to tie in with the development of EVs in Hong Kong as a whole, and to further facilitate owners of individual parking spaces to install chargers according to their own needs in future in a simple and easy way, both technically and financially. We estimate that the Pilot Scheme will run for about three years to cover roughly 60 000 private parking spaces.

A forward-looking Pilot Scheme

5. As at October 2019, there are about 12 800 registered electric private cars in Hong Kong, accounted for about 2% of the 626 000 registered private cars. Although Hong Kong neither develops nor manufactures cars, with rapid advancement in EVs and charging technologies, we are one of the leading cities in Asia (i.e. second to Beijing in the rate of EV penetration). More and more affordable electric car models with longer driving range have already been available in the local market.

6. In view of the rapid development of EV technology, and that governments of different countries are promoting new energy vehicles, electric private cars may become the main stream vehicle supply 20 years later. To avoid the situation where Hong Kong is not equipped with the required infrastructure to support wider use of electric private cars in the future, we have been encouraging the installation of EV charging-enabling infrastructure in car

parks of new buildings since 2011 as a forward-looking initiative. The objective of the Pilot Scheme is to further assist car parks in the existing residential buildings to overcome the technical and financial difficulties associated with the installation of charging-enabling infrastructure, thus enhancing the infrastructure of existing buildings. Therefore, the proposed beneficiaries of the Pilot Scheme are car parks, but not the owners of individual car parking spaces.

Proposal

Target car parks

7. Initially, we propose that a car park participating in the Pilot Scheme must fulfil the following criteria –

- (a) it is ancillary to private residential buildings or developments which are –
 - (i) private residential or composite (commercial and residential) in nature;
 - (ii) not under any known/existing re-development/demolition plan on the date of application; and
 - (iii) with building plans submitted to the Buildings Department for approval before 1 April 2011¹;
- (b) it is not a temporary car park or on a site granted or leased under short term tenancies;
- (c) it must contain 10 or more private parking spaces;
- (d) it has less than half of the parking spaces in open space; and
- (e) it is in multiple ownership with no single owner holding more than 40% of the total number of the parking spaces.

8. The Pilot Scheme will not cover hourly or daily rental spaces of car parks, or individual parking spaces ancillary to houses or village houses.

¹ From 1 April 2011, EV charging-enabling underground car parks in new private buildings are granted 100% gross floor area concessions.

Types of applicants

9. Owners' corporations (OCs) shall be the applicants of the Pilot Scheme. In case an OC has not been formed, managers appointed under the Building Management Ordinance (Cap. 344) and the Deed of Mutual Covenant may act as the applicant.

Scope of works covered

10. The Pilot Scheme will cover the retrofitting of EV charging-enabling infrastructure in car parks, including installation and upgrading of trunking, conduits, switchgears, cabling, meters, meter boards, modifications of switch boards and associated works in the premises in relation to the charging-enabling infrastructure. The costs for feasibility assessments of the installation works and required building modification plans may be covered if needed. Applicants are required to be responsible for future management and maintenance costs of the infrastructure.

Subsidy level

11. We propose subsidising the total cost of the installation works, subject to a funding ceiling for each private residential development. Initially, we suggest that the total subsidy for all the works as mentioned in paragraph 10 above in each residential development shall not exceed \$30,000 per private parking space in the car parks, or \$15 million, whichever is lower.

Administration and application process

12. Upon receiving an application, a consultant commissioned by the government will be engaged to assist the applicants to prepare the tender, including technical feasibility assessment, project cost estimation and tender document preparation.

13. In inviting and selecting tenders, applicants are required to use a method set out in our guidelines to prevent bid-rigging. Identities of tenderers are required to remain anonymous until opening of the tender. We will also

arrange an independent adviser to submit a ‘secret’ tender which will be opened with other tenders at the same time. Tenders exceeding 20% of the ‘secret’ tender will not be accepted.

14. After engaging a contractor, the consultant mentioned in paragraph 12 is also required to supervise the installation works, and verify that the works are in order upon completion.

Implementation and control

15. As the Pilot Scheme involves multi-departmental collaboration on issues covering property management, transport, land lease, building modification, fire safety, technical issues, tendering, contract administration, etc., we have established an interdepartmental working group, which comprises representatives of the Environmental Protection Department (EPD), Development Bureau, Buildings Department, Electrical and Mechanical Services Department, Fire Services Department, Home Affairs Department, Housing Department, Lands Department, and Planning Department. The departments will provide advice and facilitate the commencement and operation of the Pilot Scheme. We plan to launch the Pilot Scheme in the second half of 2020.

16. In addition, we will closely monitor the implementation progress and the use of public monies under the Pilot Scheme. As mentioned in paragraph 14, we will require the consultants to confirm that works are in order before disbursement of the subsidies. Random inspections of works and documents will also be conducted to keep track of the performance of both the consultants and the contractors.

Public consultation

17. We have consulted different stakeholders including the property management trade, EV charging service providers, EV suppliers and the two power companies about the Pilot Scheme. We have also held three briefing workshops in November 2019 to solicit views on the implementation of the Pilot

Scheme from OCs, property management companies, as well as owners and tenants of car parking spaces. We will continue to gather views from different sectors of the community in order to refine the details of the Pilot Scheme.

Publicity

18. We will organise briefing sessions for OCs, property management companies and the general public to introduce the details of the Pilot Scheme. We also plan to promote the Pilot Scheme through various channels, including setting up a website, social media, flyers, etc. Additional promotional activities will be formulated after listening to the views of different stakeholders.

Financial and civil service implications

19. We anticipate that the proposed Pilot Scheme required a total commitment of \$2 billion. As regards manpower support, the EPD will establish a new team to prepare and manage the Pilot Scheme. The team comprises of eight non-directorate Environmental Protection Officers/Inspectors and Electrical and Mechanical Engineers/Electrical Inspectors.

Extension of the Cleaner Production Partnership Programme

Proposal

20. The current phase of the Cleaner Production Partnership Programme² (CPPP) will end on 31 March 2020. In the light of the continued environmental benefits brought by the CPPP, the 2019 Policy Address has proposed to extend the programme for another five years up to March 2025 with a funding of about \$300 million, as an ongoing effort to encourage Hong Kong-owned factories to adopt cleaner production (CP) technologies for

² The EPD launched the CPPP in April 2008 in collaboration with the then Economic and Information Commission of Guangdong Province (now the Department of Industry and Information Technology of Guangdong Province). The current five-year phase of the CPPP will end in March 2020 with a total Government funding of \$150 million.

continuous improvement to the regional³ environment, in particular air quality. We recommend that, in the new phase, the CPPP should continue to provide funding support for existing key initiatives, namely On-site Improvement Assessments, Demonstration Projects, Organisation Support Initiative and Technology Promotion. Details of the proposal is set out below:

- (a) ***On-site Improvement Assessments***⁴ (AP) – to assist Hong Kong-owned factories to implement CP in a systematic and holistic manner and propose practical improvement solutions. The assessment cost will continue to be equally shared between the Government and the participating factories, with Government funding ceiling for each assessment to be raised from \$28,000 to \$45,000. It is expected that about 550 projects will be subsidised.
- (b) ***Demonstration Projects*** (DP) – to encourage participating Hong Kong-owned factories to adopt CP technologies and share the experience gained in DP with other factories. Two types of DP are proposed in the new phase, namely DP (I) and DP (II).
 - (i) DP (I) – to promote wider adoption of effective CP technologies by Hong Kong-owned factories. The project cost will be equally shared between participating factories and the Government, with Government funding ceiling to be increased from \$330,000 to \$450,000 per project. It is expected that about 280 projects will be subsidised.
 - (ii) DP (II) – to support research and innovation in CP technologies. The project cost will also be equally shared between participating factories and the Government at a Government funding ceiling of \$650,000 per project, i.e. \$200,000 more than that for DP(I), with a view to encouraging development of new CP technologies. It is expected that about 100 projects will be subsidised.

³ The CPPP covers Hong Kong-owned factories in Hong Kong and the Guangdong Province.

⁴ AP will continue to focus on reduction of air pollutant emissions, energy efficiency/carbon reduction as well as effluent reduction and control, while other areas of improvement such as reuse or recycling of waste and optimising use of materials will also be considered.

- (c) ***Organisation Support Initiative (OSI) and Technology Promotion (TP)*** – to continue to implement OSI⁵ and TP⁶. It is expected that about 70 to 80 trade-specific promotion and publicity activities will be subsidised for the former. The Secretariat will organise about 140 to 170 cross-trade or trade-specific publicity activities for the latter.

Implementation and control

21. The Hong Kong Productivity Council (HKPC) will continue to serve as the implementation agent for the new phase of the CPPP. The HKPC possesses rich expert knowledge and experience, and has maintained close ties with various industries. It is responsible for vetting applications, reaching out to potential applicants, monitoring the progress of approved projects, drawing up annual implementation plans, planning and organising publicity and TP activities, as well as preparing regular progress reports for the projects.

22. In line with the existing arrangement, a Project Management Committee (PMC)⁷ will be set up to oversee the implementation of the CPPP. The PMC will be responsible for drawing up project administration guidelines and selection criteria for applications; vetting applications and monitoring the implementation of approved projects; and reviewing and monitoring the overall progress of the CPPP, etc. The HKPC will also submit regular progress reports for the projects to the PMC. The Government will continue to submit progress reports for the CPPP to this Panel every year.

⁵ OSI is an initiative which offers funding to trade/industry associations and professional organisations that are non-profit-making (NPO) to support them to carry out trade-specific promotion and publicity activities including seminars, exhibitions and factory visits, etc. The Government subsidy of OSI is 90% of the project cost for each project and the subsidy ceiling for each NPO in the new phase is \$2 million.

⁶ The CPPP Secretariat will continue reaching out to Hong Kong-owned factories in the region to promote the CPPP, organising cross-trade or trade-specific publicity activities, operating the existing CP website and three enquiry hotlines, and sharing with the industry on knowledge of CP technologies and practices as well as successful cases.

⁷ The PMC will continue to be chaired by the Under Secretary for the Environment. The PMC will comprise representatives from four major chambers of commerce, namely the Chinese General Chamber of Commerce, the Chinese Manufacturers' Association of Hong Kong, the Federation of Hong Kong Industries, and the Hong Kong General Chamber of Commerce, and an independent expert (currently an academic). Other Government departments including the Trade and Industry Department and the Innovation and Technology Commission will continue to join the PMC as members or co-opted members.

Timetable

23. When planning the new phase, we have exchanged views with various trades and have obtained their support to the proposed extension of the CPPP. We will roll out the new phase as soon as the funding required is approved by the Legislative Council.

Financial and civil service implications

24. We estimate that the total commitment for the new phase of the CPPP is \$311 million. The Government will continue to render support to the new phase of the CPPP. The necessary staffing cost will be absorbed by the existing provision. Besides, it is expected that participating factories and trade/industry associations will contribute about \$216 million and \$0.8 million respectively under the established cost-sharing arrangement.

Reduction in volatile organic compound (VOC) emissions

25. VOCs and nitrogen oxides will undergo photochemical reaction under sunlight to form ozone and suspended particulates. The accumulation of ozone, suspended particulates and other pollutants will result in smog. The Government has enacted the Air Pollution Control (Volatile Organic Compounds) Regulation in 2007 to regulate the VOC content limits of particular products. There are 172 types of regulated products currently, including 51 types of architectural paints and six categories of consumer products.

26. In 2017, the consumption of architectural paints released about 3,540 tonnes of VOCs, accounting for about 14% of the total VOC emissions in Hong Kong. In order to reduce VOC emissions, the Government plans to further tighten the VOC content limit of architectural paints. We have initially approached relevant stakeholders, including major suppliers of architectural paints, relevant trade association and government departments, to review the feasibility of tightening the VOC content limits of architectural paints. We have also conducted coating performance tests on some paints in collaboration

with paint suppliers. The results indicated that tightening the VOC content limits of 22 types of architectural paints is technically feasible, and is expected to reduce VOC emissions by about 660 tonnes per year. We plan to launch a consultation on the above proposal in early 2020.

27. In addition, the Government has earlier conducted a study on extending the scope of control on VOC-containing consumer products. The study findings suggested that extending the control to some cleaning products could be further explored. We are engaging suppliers of cleaning products to explore the feasibility of the control and will formulate a control proposal for consultation after considering the trades' views.

Franchised bus low emission zones

28. Franchised buses could account for up to 40% of the overall traffic flow along busy road sections in Central, Causeway Bay and Mong Kok. Setting up franchised bus low emission zones at busy road sections to allow only low emission franchised buses to run through the zones can not only improve roadside air quality within the zones, but also benefit other areas along the route of the low emission buses. In view of this, the Government has set up the franchised bus low emission zones at three busy road sections⁸ since 31 December 2015. Franchised bus companies are required to deploy low emission buses (i.e., buses meeting Euro IV or above emission standards, or Euro II and III buses retrofitted with selective catalytic reduction devices and diesel particulate filters) to routes running through the zones. Currently, more than 99%⁹ of the franchised buses running through the zones are low emission buses.

⁸ The three franchised bus low emission zones are located at Yee Wo Street in Causeway Bay, the junction of Des Voeux Road Central and Pedder Street in Central, and the junction of Nathan Road and Lai Chi Kok Road in Mong Kok.

⁹ In the case of traffic congestion, vehicle breakdowns, traffic accidents and ad-hoc trips, etc., the franchised bus companies may need to deploy non-low emission buses to the zones in order to maintain normal bus services.

29. To further improve roadside air quality within the zones, franchised bus companies are required to deploy low emission buses meeting Euro V or above emission standards to routes running through the above-mentioned zones from 31 December 2019. We will continue to closely monitor the implementation of the policy.

Environment Bureau/Environmental Protection Department
December 2019