Panel on Environmental Affairs
Subcommittee on Improving Air Quality
Responses to the Follow-up Actions
Arising from the Discussion at the Meeting on 21 February 2012

Retrofitting of separate air-conditioning system for vehicles while engines are switched off

(1) To advise the latest progress of the trials on the two retrofit devices conducted by the Hong Kong Productivity Council, Hong Kong Polytechnic University/Green Power Industrial Limited, and the transport trades. To encourage participation in the trials, publicity effort should be stepped up to alert the transport trades, particularly individual owners, of the availability of funding support under the Pilot Green Transport Fund.

The Solar Powered Air-conditioning System for Vehicles (SAV) of Hong Kong Polytechnic University (PolyU) and Green Power Industrial Limited (Green Power) has passed the roadworthiness vetting of the Transport Department (TD) for installation on four vehicle models (including one taxi, one public light bus, and two medium goods vehicles). The Hong Kong Productivity Council (HKPC) has submitted applications for roadworthiness vetting to TD for installing its Automatic Engine Idle-stop and Supplementary Air-conditioning System (ISAC) on three vehicle models (one taxi, one light goods vehicle and one private car).

The Pilot Green Transport Fund has received from the taxi trade four applications for trying the ISAC and one application for the SAV. We will continue our efforts to promote the availability of the Fund to the transport trades for testing green innovative transport technologies.

(2) To advise the Administration's plan to install the two retrofit devices on Government vehicles, including the selection criteria, number of vehicles to be involved and the implementation time-table.

It is a prevailing Government policy and long standing practice for Government vehicles to switch off idling engine. As regards trial of two

retrofit devices, we are now seeking information from Green Power on specifications of the SAV for various vehicle models, projected fuel saving, costs of installation and maintenance, methodology of collecting trial data etc. We also note that ISAC is undergoing roadworthiness vetting by TD. We shall consider trial on Government vehicles upon resolving the above issues and confirmation of feasibility.

Measures to improve liquefied petroleum gas (LPG) refilling services

(3) To consider identifying additional potential sites at Wong Nai Chung Gap Road, Happy Valley and Hoi Yu Street, Quarry Bay to Provide LPG filling services with a view to increasing the number of LPG filling stations on the Hong Kong Island.

There are two existing petrol filling stations (PFS) along Wong Nai Chung Gap Road - one located next to the Hong Kong Girl Guides Sandilands Centre and the other opposite to the Hong Kong Cricket Club. The former is not suitable for providing LPG filling services because it cannot meet the separation distance requirement under the Hong Kong Planning Standards and Guidelines (HKPSG), whereas the latter is suitable. We will require the site to provide LPG filling facilities when it is re-tendered upon expiry of the existing land lease in 2014.

We have also looked for new suitable sites in Wong Nai Chung Gap Road and in Happy Valley for setting up petrol-cum-LPG stations but to no avail.

Regarding the three vacant sites in Hoi Yu Street in Quarry Bay, all of them have been committed to other uses including a waterfront promenade to link up the existing waterfront promenade in Quarry Bay Park and "cultural, leisure and tourism uses" taking advantage of the waterfront setting. We will continue our efforts to identify suitable sites in nearby area.

(4) To advise the basis and the factors which have been taken into account in working out the availability rate of LPG filling nozzles, and whether manpower supply forms part of the factors. In addition to the availability rate, information on the actual utilitisation rate of LPG filling nozzles should also be provided for reference.

The availability rate of LPG filling nozzles gives the percentage of time that these nozzles are available for providing LPG filling services. In the calculation, we have taken account of nozzle outage due to maintenance or repair. Manpower supply does not form part of the factors. Regarding manpower supply, it is worth noting that the design-build-operate contract of the dedicated LPG filling station requires the contractor to man that the station during all working hours by a responsible manager and provide such operatives as may be to ensure the safe and effective operation of the station. EMSD will continue to closely monitor the performance of the operators to ensure that the contractual obligations are fulfilled.

The utilization rate of LPG filling nozzles depends on patronage on top of nozzle availability. For example, even if a nozzle is available, the utilization rate will still be low due to low patronage. We have therefore not gathered information related to the utilization rate of LPG filling nozzles.

(5) To provide details of the site visits, including surprise visits, conducted by the Electrical and Mechanical Services Department (EMSD) to dedicated LPG refilling stations in 2011. These should include the number and locations of these site visits as well as the actions taken in the event of non-compliance with contractual obligations by operators.

EMSD carried out 57 site visits including 23 surprise visits to 12 dedicated LPG filling stations in 2011. The details are provided in Annex 1. During surprise visits, EMSD assesses the operations of the station such as traffic control, LPG nozzles in operation, manning level, etc.

During previous surprise visits, EMSD found the operations of the filling stations in general satisfactory and had not identified any non-compliance with contractual obligations. EMSD will continue to carry out surprise site visits to monitor the performance of the operators.

(6) To minimize inconvenience to the taxi and public light bus (PLB) trades, consideration should be given to requiring operators to inform the relevant trades of any service interruption through taxi radio service stations. Operators should also be required to post the EMSD's hotline in a conspicuous place at filling stations to facilitate the trades to lodge complaints on the one hand and enhance deterrence against outages of LPG filling nozzles not due to maintenance and repair works on the other.

The operators of dedicated LPG filling stations have already been informing the relevant trades as soon as possible of any service interruption via the more than 30 taxi radio service stations and 50 PLB fleet operators to minimize inconvenience to the trades. Since January 2010, EMSD has already publicized its hotline (2333 3762) through press releases and meetings with the taxi and light bus trades. As suggested by Members, the operators has now posted EMSD's hotline in a conspicuous place at all dedicated LPG filling stations to facilitate the trade to communicate with EMSD.

(7) To advise the lead time taken for EMSD to carry out investigation upon receipt of complaints. To enhance its capability to conduct site visits and handle complaints efficiently and effectively, EMSD should increase the manpower earmarked for such purposes.

Upon receipt of complaints, EMSD would immediately assess the nature of the complaints and conduct follow-up investigation including site visit, where deemed necessary. For those cases requiring on-site investigation such as station operation, equipment problem and environmental issue, usually a site visit would be carried out within 1 to 2 days, depending on the nature of the complaint. To handle these complaints, EMSD will deploy manpower as necessary.

(8) To provide a table comparing the emissions from different categories of vehicles, including taxis, PLBs, franchised buses, commercial vehicles and private cars etc. A macro approach should be taken to reduce vehicular emissions as a whole rather that focusing on the taxi trade.

Following significant reduction in roadside sulphur dioxide (SO_2) and respirable suspended particulates (RSP) levels, nitrogen dioxide (NO_2) has become the major air pollution issue at the roadside, particularly in busy corridors. According to our survey, LPG taxis and light buses account for about 44% of the nitrogen oxides (NOx) emissions in our busy corridors and the emission can be reduced by up to 90% plus by replacing their aged catalytic converters and oxygen sensors. For this reason, we have proposed to strengthen the emission control of LPG and petrol vehicles and subsidize owners of LPG taxis and light buses to replace once their catalytic converters, while trying retrofitting Euro II and III franchised buses with selective catalytic reduction devices to reduce their NOx emissions. As five taxis and one light bus are petrol vehicles, for which frequent replacement of catalytic converters is necessary, we would also propose to extend the retrofit to them. Findings of the afore-mentioned survey are tabulated below:

	Contribution of Nitrogen Oxides (NOx) at Roadside
Franchised Bus (Diesel)	43%
Taxi & Light Bus (LPG)	44%
Private Car (Petrol)	5%
Others diesel vehicles	8%

(9) To enhance competition, consideration should be given to re-introducing diesel taxi models which can meet the prescribed emission standards.

There are diesel vehicles on the market that are of comparable emission performance with LPG taxis. However, these diesel models are luxurious private cars and the feedback of the taxi trade is that they are too costly for taxi operation. Nevertheless, we will monitor closely the development of diesel taxis with particular reference to the emission performance and costs.

Annex 1

Site visits conducted by EMSD to dedicated LPG filling stations in 2011

Operator	Station	Site Visit	Surprise Site Visit
ECO	Chai Wan	3	4
ECO	Wan Chai	3	5
ECO	West Kowloon	3	1
ECO	Mei Foo	3	2
ECO	Tuen Mun	2	1
		14	13
Sinopec	Sheung Wan	2	2
Sinopec	Kwun Tong	3	2
Sinopec	Kowloon Bay	3	1
Sinopec	Kwai Chung	3	2
Sinopec	Ma On Shan	3	1
Sinopec	Tai Po	3	1
Sinopec	Yuen Long	3	1
		20	10