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Early Replacement of Old Diesel Commercial Vehicles

PURPOSE

This paper gives an update on the progress of the one-off grant scheme to encourage early replacement of pre-Euro and Euro I diesel commercial vehicles. It also seeks Members' views on a proposal to provide one-off grant to eligible vehicle owners to replace their Euro II diesel commercial vehicles with new ones and revisits the suggestion of raising the licence fees of aged commercial vehicles to deter their continued usage.

BACKGROUND

2. Motor vehicles are the major source of roadside air pollution. Of the vehicle fleet, diesel commercial vehicles are the major air pollution emitters, accounting for about 88% and 76% of the total vehicular emission of respirable suspended particulates (RSP) and nitrogen oxides (NO_x) respectively, which are the two key air pollutants at the roadside.

3. Of the current 117,000 diesel commercial vehicles licensed in Hong Kong, they comprise some 23,000 pre-Euro, 15,100 Euro I, 28,000 Euro II, 31,000 Euro III, 20,000 Euro IV and 150 Euro V diesel vehicles. The relative emissions of the pre-Euro IV diesel commercial vehicles as compared with Euro IV vehicles, which are now the statutory requirement for newly registered vehicles, are tabulated in the following table –

| Vehicles Design Standard | Emissions relative to those of Euro IV Diesel Commercial Vehicles | |
|---------------------------------|--|-----------------------|
| | RSP | NO_x |
| Pre-Euro | 34 | 2.6 |
| Euro I | 18 | 2.3 |
| Euro II | 7.5 | 2 |
| Euro III | 5 | 1.4 |
| Euro IV | 1 | 1 |
| Euro V | 1 | 0.6 |

Phasing out aged commercial vehicles thus holds the key to cleaner roadside air quality. For this reason, the Air Quality Objective Review has recommended as one of the air quality improvement measures early retirement of all pre-Euro III diesel commercial vehicles.

4. In the light of the much higher emissions of pre-Euro and Euro I diesel commercial vehicles, the Government launched in April 2007 a three-year long one-off grant scheme to encourage the early replacement of these more polluting vehicles to bring an early relief to roadside air pollution. The scheme offered an application period of 18 months for pre-Euro diesel commercial vehicles, as opposed to 36 months for Euro I vehicles, because the former are much older and more polluting. However, in consideration of the high diesel price and poor economic outlook in 2008, we extended in September 2008 the application period of pre-Euro diesel commercial vehicles by another 18 months to 31 March 2010, i.e. same application deadline as Euro I diesel commercial vehicles. To provide extra impetus for the early replacement of these more polluting vehicles, we proposed at a meeting of the Panel on Environmental Affairs of the Legislative Council on 24 November 2008 to introduce disincentives against the use of aged commercial vehicles by raising their licence fees. However, the proposal was not supported.

5. By now, the oldest Euro II diesel commercial vehicles have entered their 13th year of operation. In his 2010-11 Budget Speech, the Financial Secretary proposed to set aside \$540 million for offering a one-off grant to encourage the early

replacement of Euro II diesel commercial vehicles to improve roadside air quality.

THE ONE-OFF GRANT SCHEME FOR PRE-EURO AND EURO I DIESEL COMMERCIAL VEHICLES

Take-up of the Grant

6. Before the commencement of the one-off grant scheme, the number of eligible vehicles stood at about 59,800¹. As at end 2009, the number of eligible vehicles reduced to 38,100² - a net reduction of some 21,700. Among these retired vehicles, 13,372 vehicles (including 9,142 pre-Euro and 4,230 Euro I vehicles), accounting for about 22% of the eligible vehicles at the commencement of the scheme), have been replaced with new ones with the aid of the grant totaling about \$576 million.

7. Between April 2007 and September 2008, the number of applications (pre-Euro and Euro I diesel commercial vehicle) for the grant showed a distinct increasing trend with monthly applications averaging 550. However, there was a major drop in the number of applications to around 260 per month after the announcement of our decision to extend the application deadline in September 2008. The trends of application for pre-Euro and Euro I diesel commercial vehicles are given at **Annex A**.

Transport Trades' Suggestions

8. Before the scheme came to an end on 31 March 2010, the transport trades put forward the following suggestions to further encourage the replacement of these more polluting vehicles –

¹ Before the commencement of the scheme, the numbers of pre-Euro and Euro I diesel commercial vehicles were about 39,600 and 20,200 respectively.

² As at end 2009, the numbers of pre-Euro and Euro I diesel commercial vehicles were about 23,000 and 15,100 respectively.

- (a) extending the application period by one to two years to allow more eligible vehicle owners to make use of the grant for the replacement of their vehicles. Some have also suggested making it a standing scheme to subsidise vehicle owners to replace their old vehicles;
- (b) increasing the grant levels in order to provide stronger incentives for the replacement;
- (c) replacing the date of first registration of a vehicle with its vehicle manufacture date or the engine emission design standard as the criterion for distinguishing pre-Euro and Euro I vehicles for determining the eligibility for the grant;
- (d) abolishing the requirement for vehicle owners to acquire new commercial vehicles so as to qualify for the grant. In other words, vehicle owners should be given the grant solely for scrapping their vehicles; and
- (e) setting up an interest-free loan or low-interest loan using the remaining balance of the scheme to help vehicle owners to purchase new vehicles.

9. We have carefully considered the suggestions and our response is set out below –

- (a) we had already provided eligible vehicle owners 36 months to participate in the scheme. We consider it inappropriate to extend the application period of the scheme because the extension will go against the objective of encouraging the early replacement of pre-Euro and Euro I diesel commercial vehicles with new ones so as to bring early relief to roadside air pollution. As it can be seen from **Annex A**, the take up rate of the scheme since we extended the application deadline in September 2008 hovered at only 260 applications per month, as opposed to an average of 550 applications per month prior to October 2008. It is unlikely that any further extension of the application deadline would help boost the take up rate in any significant way. Some transport trade representatives raised

the concern over the fact that as it would take quite some time for delivery of new commercial vehicles, some prospective applicants could not have their new vehicles delivered in time for applying for the grant. Even if some vehicles might be delivered before the expiry of the scheme, there might not be sufficient time for completing the preparations (such as vehicle body-building work) for applying for the grant. To help address their concern, we announced on 24 February 2010 a special arrangement for those who have already placed orders for new commercial vehicles on or before the application deadline of 31 March 2010 to retain their eligibility for the grant. In response to the transport trades' request, we also announced on 29 March 2010 the introduction of a flexible arrangement to allow the vehicle owner to switch to a replacement vehicle of another model (including the vehicle of a different brand) but of the same vehicle class. Details of the special arrangement are set out at **Annex B**. As at 31 March 2010, owners of about 740 pre-Euro and Euro I diesel commercial vehicles applied under the special arrangement for retention of the eligibility for the grant;

- (b) the one-off grant offered under the \$3.2 billion incentive scheme amounted to 12% of the cost of a new vehicle for pre-Euro vehicles and 18% for Euro I vehicles. These grant levels are already adequate to compensate the vehicle owners and make the grant scheme attractive;
- (c) as we explained to the Finance Committee of the Legislative Council when seeking its approval to create a new commitment for the scheme, the first registration date of a vehicle is appropriate for distinguishing vehicles of different emission standards. Under the Road Traffic Ordinance (Cap. 374), a vehicle seeking first registration will have to comply with the emission standards stipulated in the Air Pollution Control (Vehicle Design Standard) (Emissions) Regulations (Cap 311J). Thus, the first registration date is a suitable reference for identifying vehicles eligible for the grant. Moreover, as the first registration date is stated in the vehicle registration document, compared with the alternatives of vehicle manufacture date or engine emission design standard, it is more easily

understood by vehicle owners to determine their eligibility for the one-off grant. We have adopted the same approach in mandating the installation of emission reduction devices in pre-Euro diesel vehicles, which works well and we have received no complaints of confusion by vehicle owners;

- (d) the objective of the scheme is to help those commercial vehicle owners who have a continued need for the vehicles in their business operation and replace their old vehicles with more environment-friendly vehicles for better roadside air quality. Should vehicle owners decide to scrap their old vehicles without replacing them with new ones, the chances are they no longer have operational needs for the vehicles. In such circumstances, we do not consider it appropriate to provide subsidies under the scheme to vehicle owners for scrapping their vehicles; and
- (e) vehicle owners who have problem securing loans for acquiring replacement vehicles could consider seeking assistance from the two existing loan schemes, i.e., the "Small and Medium Enterprises Loan Guarantee Scheme" and / or the "Special Loan Guarantee Scheme". There is thus no need for creating a new loan scheme for vehicle replacement.

10. With the special arrangements at **Annex B** allowing for sufficient lead time for delivery of new vehicles and the preparations for seeking their first registration, the one-off grant scheme for pre-Euro and Euro I diesel commercial vehicles came to an end by 31 March 2010 as planned. For the sake of securing better roadside air quality at the soonest, we should channel resources to encourage early replacement of other types of old vehicles not covered by the current scheme such as Euro II diesel commercial vehicles. In addition, we consider it necessary to revisit our proposal to introduce disincentives to discourage ownership and usage of aged commercial vehicles such as increasing their vehicle licence fees.

ENCOURAGE EARLY REPLACEMENT OF EURO II DIESEL COMMERCIAL VEHICLES

11. As explained in paragraph 3, Euro II diesel commercial vehicles emit up to 7 times more pollutants than Euro IV ones. There are at present some 28,000 registered Euro II diesel commercial vehicles, some of which are already 12 years old. Replacing them can bring about substantial air quality improvement to the roadside. Making reference to the scheme for pre-Euro and Euro I diesel commercial vehicles, we propose the following arrangement for introducing a one-off grant scheme for encouraging the early replacement of Euro II diesel commercial vehicles –

- (a) a one-off grant of the amount equivalent to 18% of the average vehicle taxable values will be provided to vehicle owners for scrapping their Euro II diesel commercial vehicles and replacing them with new vehicles complying with the prevailing statutory emission requirement for registration of new vehicles, which is currently Euro IV emission standard. The grant levels for various vehicle categories are set out at **Annex C**. In line with the grant scheme for pre-Euro and Euro I diesel commercial vehicles, Euro II diesel commercial vehicles³ are classified according to their date of first registration;
- (b) the scheme will be made available for eligible vehicle owners for 36 months from its commencement date;
- (c) the grant will be pegged to the vehicle category to which the original vehicle or the replacement vehicle belongs, whichever amount is the less;
- (d) vehicles retired under the scheme must be scrapped and replaced with new vehicles compliant with the prevailing statutory emission standard in Hong Kong; and

³ Details of the first registration dates of Euro II diesel commercial vehicles for different vehicle categories are at **Annex D**.

- (e) subject to the funding approval by the Finance Committee of the Legislative Council, we aim to introduce the one-off grant scheme to replace Euro II diesel commercial vehicles from 1 July 2010.

12. The Financial Secretary has proposed in his 2010-11 Budget Speech to set aside \$540 million for this purpose. Subject to Members' support, we will seek the Finance Committee's approval of the funding to implement the grant scheme. This amount of provision should be able to provide one-off grant to replace some 26% of the registered Euro II diesel commercial vehicles, which is broadly in line with the take up rate of the scheme for pre-Euro and Euro I diesel commercial vehicles.

13. Like the one-off grant scheme for pre-Euro and Euro I diesel commercial vehicles, Transport Department will administer and implement the proposed scheme. The resource requirements for the Transport Department to upgrade and support the computer system and to handle the applications will be met from within Environment Protection Department's operating expenditure envelope.

RAISING VEHICLE LICENCE FEES OF AGED COMMERCIAL VEHICLES

14. Older commercial vehicles, due to wear and tear of their engine components, tend to have more breakdowns and higher tailpipe emissions. This is particularly so for those vehicles not properly serviced and maintained. Replacing old commercial vehicles by new ones that are equipped with more advanced emission control devices can benefit roadside air quality considerably. However, relying solely on incentive schemes to expedite their replacement has proven to be not as effective as one would like to see.

15. We would propose to revisit the case for increasing the vehicle licence fees for aged commercial vehicles as a means to discourage their continued ownership and usage. In this connection, the following are the proposed guiding principles:

- (a) older commercial vehicles, which tend to be more polluting, should face a higher degree of increase in their vehicle licence fees;

- (b) the extent of the proposed increase in vehicle licence fees should be of sufficient deterrence against the continuing use of aged commercial vehicles. **Annex E** sets out the schedule of the current vehicle licence fees, which range from \$1,289 to \$8,429 a year;
- (c) the threshold for differentiating aged commercial vehicle should be reasonable. Pre-Euro and Euro-I emission standards were adopted before April 1995 and between April 1995 and September 1998 respectively. By January 2011, these vehicles would have been at least 15 years by age or more. As compared with the prevailing Euro IV emission standards, pre-Euro and Euro I vehicles emit 2 times and 1.5 times more NO_x, and 30 times and 15 times more RSP, respectively. Having regard to their heavy emission as compared with prevailing statutory standards for new vehicles and for administrative clarity, we suggest to adopt vehicle age of 15 years as threshold for increasing the licence fee to deter usage of aged and polluting vehicles; and
- (e) higher vehicle licence fees should apply to all aged commercial vehicles irrespective of their fuel types. Same as diesel vehicles, petrol or liquefied petroleum gas vehicles will emit more pollutants in the course of ageing because of engine wear and tear. The continuing operation of these aged vehicles should also be deterred.

ADVICE SOUGHT

16. Members are invited to note the outcome of the one-off grant scheme for encouraging the early replacement of pre-Euro and Euro I diesel commercial vehicles (paragraphs 6 - 10), to advise on the proposal to offer a one-off grant to encourage early replacement of Euro II diesel commercial vehicles (paragraphs 11 - 13), and the suggestion to map out more concrete proposals for raising the licence fees of aged commercial vehicles (paragraphs 14 to 15).

Environmental Protection Department
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