**For discussion** **FCR(2010-11)19**
**on 28 May 2010**

# ITEM FOR FINANCE COMMITTEE

**HEAD 44 – ENVIRONMENTAL PROTECTION DEPARTMENT**
**Subhead 700 General non-recurrent**
**New Item "One-off grant to encourage early replacement of Euro II diesel commercial vehicles with new ones complying with the prevailing statutory emission standard"**

Members are invited to approve the creation of a new commitment of $539,400,000 for providing a one-off grant to encourage owners of Euro II diesel commercial vehicles to replace their vehicles with new ones that comply with the prevailing statutory emission standard.

## PROBLEM

Diesel vehicles are the dominant source of air pollutants at street level in Hong Kong. We need to adopt practical measures to reduce their emissions so as to improve roadside air quality.

## PROPOSAL

2. The Director of Environmental Protection, with the support of the Secretary for the Environment, proposes to create a new commitment of $539,400,000 to set up an incentive scheme for the early replacement of Euro II diesel commercial vehicles with new ones that comply with the prevailing statutory emission standard required for new vehicle registration, which is currently Euro IV emission standard. For the purpose of this incentive scheme, "commercial vehicles" include light, medium and heavy goods vehicles; private and public light buses; and private and public non-franchised buses.

/3. …..

3. Under the proposal –

Encl. 1

(a) a one-off grant of the levels set out at Enclosure 1 will be provided to vehicle owners for scrapping their Euro II diesel commercial vehicles and replacing them with new vehicles that comply with the prevailing statutory emission standard required for new vehicle registration. In line with an earlier scheme for replacing pre-Euro and Euro I diesel commercial vehicles, this scheme classifies Euro II diesel commercial vehicles according to their first registration dates as shown in Enclosure 2;

Encl. 2

(b) the scheme will be open for application by eligible vehicle owners for 36 months from commencement; and

(c) the level of grant will be pegged to that applicable to the original or replacement vehicle class, whichever is lower.

Subject to the funding approval by the Finance Committee, the scheme is planned to commence on 1 July 2010.

## JUSTIFICATION

***Improvement to Roadside Air Quality***

4. Road vehicles are the second largest source of air pollution in Hong Kong, contributing to 29% and 21% of the territory-wide emissions of respirable suspended particulates (RSP) and nitrogen oxides ($NO_x$) respectively. Among the vehicle fleet, diesel commercial vehicles are key contributors to air pollution, accounting for 88% and 76% of the total vehicular emission of RSP and $NO_x$ respectively.

5. There are currently around 117 000 diesel commercial vehicles licensed in Hong Kong[1]. They comprise some 21 900 pre-Euro, 14 300 Euro I, 27 300 Euro II, 30 900 Euro III, 22 600 Euro IV and 240 Euro V diesel vehicles. The emissions of these diesel commercial vehicles as compared with Euro IV vehicles are shown in the following table:

**/Vehicles** .....

[1] Vehicle population as at 19 April 2010.

| **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 |

As emissions from vehicles with old design standards are substantially higher than that of new models, phasing out aged commercial vehicles holds the key to better roadside air quality.

6. Because of the high emissions from pre-Euro and Euro I diesel commercial vehicles, the Government launched in April 2007 a three-year one-off grant scheme to encourage their early replacement to bring early relief to roadside air pollution. About 16 000 vehicles, or 27% of the eligible vehicles[2], were replaced under the scheme, which closed on 31 March 2010. In addition, some 1 350 vehicle owners applied for retaining their eligibility for the grant under a special arrangement[3]. Should all these vehicles be replaced, the scheme will have helped replace nearly 30% of the eligible vehicles by new ones.

7. As the owners of pre-Euro and Euro I diesel commercial vehicles were already given 36 months to participate in the scheme, it would not be appropriate to extend the application period of the scheme further as it will go against the objective of encouraging early replacement of aged vehicles to bring early relief to roadside air pollution. To speed up the improvement in roadside air quality, resources should now be channelled to encouraging early replacement of other old vehicles not covered by the original scheme.

8. As noted from the table in paragraph 5, Euro II diesel commercial vehicles emit up to seven times more RSP and one time more $NO_x$ than Euro IV ones. There are at present some 27 300 licensed Euro II diesel commercial vehicles. Replacing them can bring about substantial air quality improvement to the roadside.

/9. …..

[2] There were about 59 000 eligible vehicles at the commencement of the incentive scheme.

[3] We have put in place a special arrangement for eligible vehicle owners who have already placed orders for new vehicles on or before the application deadline of 31 March 2010 but could not have their new vehicles delivered in time to retain their eligibility for the grant.

9. In the 2010-11 Budget Speech, the Financial Secretary proposed to set aside about $540 million to offer one-off grant to encourage the early replacement of Euro II diesel commercial vehicles to improve roadside air quality.

***The Proposed Grant Levels***

10. Similar to Euro I diesel commercial vehicles at the time that the pre-Euro and Euro I diesel commercial vehicle replacement scheme was launched, the oldest Euro II diesel commercial vehicles have now entered their 13th year of operation. Making reference to the grant level for Euro I diesel commercial vehicles, we propose to set the grant level for replacing Euro II vehicles at 18% of the 2009 average vehicle taxable values. Details of the grant level are shown at Enclosure 1. The amounts for Euro II vehicles are higher than those for Euro I vehicles in the pre-Euro and Euro I vehicles replacement scheme due to the increase in vehicle prices in recent years.

11. Also in line with the pre-Euro and Euro I vehicle replacement scheme, we propose a higher grant level for replacement with liquefied petroleum gas ($88,000) or electric light buses ($92,000), which are more environment-friendly than Euro IV diesel models ($77,000).

**FINANCIAL IMPLICATIONS**

12. We propose to create a new commitment of $539,400,000 for the proposed one-off incentive scheme. Detailed calculations are set out at Enclosure 3. The estimated cash flow is as follows –

Encl. 3

| **2010-11** | **2011-12** | **2012-13** | **Total** |
|---|---|---|---|
| ($'000) | ($'000) | ($'000) | ($'000) |
| 107,880 | 161,820 | 269,700 | 539,400 |

13. Transport Department (TD) will administer and implement the proposed scheme for Euro II diesel commercial vehicles. The non-recurrent resources required for upgrading TD's computer system and handling applications will be reflected in the Estimates of the relevant years.

14. The proposed one-off scheme has no additional recurrent financial or civil service implications.

/**PUBLIC** …..

**PUBLIC CONSULTATION**

15. We consulted the relevant transport trades and vehicle suppliers, including the Motor Traders Association of Hong Kong, the Right Hand Drive Motors Association and Hong Kong Bus Suppliers Association on the proposal in April 2010. We also consulted the Subcommittee on Improving Air Quality of the Panel on Environmental Affairs on 10 March 2010 and 11 May 2010. While there is general support to offer incentives to encourage replacement of Euro II commercial vehicles, some Members of the Subcommittee and consultees expressed concern over the adequacy of the subsidy levels and other terms of proposed scheme. Nonetheless, the Subcommittee had no objection for the Administration to seek the Finance Committee's funding support for launching the proposed incentive scheme. The key suggestions and comments raised in the consultation and our responses are set out at Enclosure 4.

Encl. 4

**BACKGROUND**

16. To reduce emissions from diesel vehicles, we have been pursuing a combination of measures to –

(a) introduce clean alternatives to diesel vehicles where practicable;

(b) adopt the most stringent vehicle emission and fuel standards where practicable;

(c) provide one-off grant to encourage vehicle owners to replace their old vehicles with new ones complying with the prevailing emission requirements;

(d) provide incentives to encourage the use of environment-friendly vehicles;

(e) mandate pre-Euro diesel vehicles to be equipped with emission reduction device for licence renewal;

(f) adopt practical technology to reduce emissions from the existing vehicle fleet; and

(g) ensure proper maintenance of in-use vehicles through a combination of voluntary and regulatory measures.

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Environmental Protection Department
May 2010

## The Proposed One-off Grant Scheme for Replacing Euro II Diesel Commercial Vehicles

<u>One-off Grant Proposed Level</u>

The grant level is set at 18% of the annual average vehicle taxable values of newly registered vehicles in 2009. Details of the grant level are shown in the following tables (Euro I vehicle replacement grant levels are shown for comparison purpose only) –

**Goods Vehicles**

| **Vehicle Class** | **Permitted Gross Vehicle Weight (W) in Tonnes** | **Proposed Grant Levels for Replacement of Euro II vehicles ($)** | **Grant Levels for Replacement of Euro I vehicles ($)** |
|---|---|---|---|
| Light Goods Vehicle (Van Type) | $W \leqq 1.9$ | 17,000 | 14,000 |
| | $1.9 < W \leqq 5.5$ | 36,000 | 30,000 |
| Light Goods Vehicle (Non-van Type) | $W \leqq 1.9$ | 27,000 | 25,000 |
| | $1.9 < W \leqq 5.5$ | 47,000 | 43,000 |
| Medium Goods Vehicle | $5.5 < W \leqq 10$ | 59,000 | 51,000 |
| | $10 < W \leqq 13$ | 70,000 | 61,000 |
| | $13 < W \leqq 16$ | 88,000 | 77,000 |
| | $16 < W \leqq 24$ | 121,000 | 97,000 |
| Heavy Goods Vehicle | $24 < W$ | 139,000 | 113,000 |

**Non-franchised Public and Private Buses**

| Non-franchised Public and Private Buses | Proposed Grant Levels for Replacement of Euro II vehicles ($) | Grant Levels for Replacement of Euro I vehicles ($) |
|---|---|---|
| 17 to 30 seats | 84,000 | 73,000 |
| 31 seats and above | 203,000 | 173,000 |

**Public and Private Light Buses***

| In-use Old Diesel Light Buses | Proposed Grant Levels for Replacement Vehicles | | |
|---|---|---|---|
| | Euro IV Diesel Light Bus | Euro IV liquefied petroleum gas (LPG) Light Bus | Electric Light Bus |
| Euro II | $77,000 | $88,000 | $92,000 |

* The grant levels for LPG and electric light buses have been adjusted in the light of a 14% increase of vehicle taxable value of LPG light buses between 2006 and 2009.

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# The Proposed One-off Grant Scheme for Replacing Euro II Diesel Commercial Vehicles

First Registration Dates for Identifying Euro II Diesel Commercial Vehicles

| Vehicle Class | Permitted Gross Vehicle Weight (W) (Tonnes) | First Registration Date (both dates inclusive) |
|---|---|---|
| Goods Vehicles | W $\leqq$ 3.5 | 1st Oct 1998 to 31st Dec 2001 |
| | 3.5 < W $\leqq$ 4 | 1st Oct 1998 to 30th Sep 2001 |
| | 4 < W | 1st Apr 1997 to 30th Sep 2001 |
| Non-franchised Buses | N.A. | 1st Apr 1997 to 30th Sep 2001 |
| Diesel Light Buses | W $\leqq$ 3.5 | 1st Oct 1998 to 31st Dec 2001 |
| | 3.5 < W $\leqq$ 4 | 1st Oct 1998 to 31st Jul 2003 |
| | 4 < W | 1st Oct 1998 to 30th Sep 2001 |

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## Proposed Grant for Each Vehicle Class and the Resources Implications

### Light Goods Vehicles

| | Number of Vehicles | Grant per Vehicle ($) | Total Grant ($) | Vehicle Class Total Grant ($) |
|---|---|---|---|---|
| | | | | 103,500,000 |
| **Van** | | | | |
| 1.9 < weight ≦ 5.5 tonnes *Average taxable value: $201,800* | 1 700 | 36,000 | 61,200,000 | |
| Subtotal | 1 700 | | 61,200,000 | |
| **Non-van** | | | | |
| 1.9 < weight ≦ 5.5 tonnes *Average taxable value: $262,200* | 900 | 47,000 | 42,300,000 | |
| Subtotal | 900 | | 42,300,000 | |

**Medium Goods Vehicles**

| | **Number of Vehicles** | **Grant per Vehicle ($)** | **Total Grant ($)** | **Vehicle Class Total Grant ($)** |
|---|---|---|---|---|
| | | | | 224,850,000 |
| 5.5 < weight ≦ 10 tonnes<br>*Average taxable value: $328,600* | 150 | 59,000 | 8,850,000 | |
| 10 < weight ≦ 13 tonnes<br>*Average taxable value: $388,200* | 100 | 70,000 | 7,000,000 | |
| 13 < weight ≦ 16 tonnes<br>*Average taxable value: $489,200* | 1 000 | 88,000 | 88,000,000 | |
| 16 < weight ≦ 24 tonnes<br>*Average taxable value: $671,000* | 1 000 | 121,000 | 121,000,000 | |
| Subtotal | 2 250 | | 224,850,000 | |

**Heavy Goods Vehicles**

| | Number of Vehicles | Grant per Vehicle ($) | Total Grant ($) | Vehicle Class Total Grant ($) |
|---|---|---|---|---|
| | | | | 13,900,000 |
| 24 < weight tonnes *Average taxable value: $774,200* | 100 | 139,000 | 13,900,000 | |
| Subtotal | 100 | | 13,900,000 | |

**Non-franchised Public Buses and Private Buses**

| | Number of Vehicles | Grant per Vehicle ($) | Total Grant ($) | Vehicle Class Total Grant ($) |
|---|---|---|---|---|
| | | | | 180,600,000 |
| 17 – 30 seats *Average taxable value: $467,800* | 700 | 84,000 | 58,800,000 | |
| 31 seats and above *Average taxable value: $1,127,100* | 600 | 203,000 | 121,800,000 | |
| Subtotal | 1 300 | | 180,600,000 | |

**Public and Private Light Buses**

| **Assuming 50% of the replacement vehicles are LPG models** | | | | **Vehicle Class Total Grant ($)** |
|---|---|---|---|---|
| | **Number of Vehicles** | **Grant per Vehicle ($)** | **Total Grant ($)** | |
| | | | | 16,500,000 |
| Half replaced with LPG | 100 | 88,000 | 8,800,000 | |
| **Assuming 50% of the replacement vehicles are diesel models** | | | | |
| Half replaced with Diesel | 100 | 77,000 | 7,700,000 | |
| Subtotal | 200 | | 16,500,000 | |

**Summary**

| **Number of Euro II Diesel Commercial Vehicles** | **Grand Total Grant ($)** |
|---|---|
| **6 450**<br>(about 24%* of the 27 300 licensed Euro II diesel commercial vehicles in 2009) | **539,350,000** |

Average grant per vehicle: $83,620

* Based on the estimated participation rate of Euro I diesel commercial vehicles and the number of licensed Euro II diesel commercial vehicles as at April 2010.

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**Enclosure 4 to FCR(2010-11)19**

## Administration's Response to the Views Collated during the Consultation Sessions

| Views | Response |
|---|---|
| The scheme should have retrospective arrangement to allow vehicles scrapped on or after 1 April 2010 to be eligible for the grant. | The purpose of the proposed incentive scheme is to encourage owners of Euro II diesel commercial vehicles to replace their vehicles early. It is unjustifiable to offer the grant to owners who have already scrapped and replaced their vehicles before the scheme comes into effect. |
| The market value of some used Euro II vehicles is higher than the proposed grant levels, especially for vehicles manufactured in 2000. The grant levels should be increased to attract vehicle owners to replace their Euro II vehicles. | We consider the proposed grant amounts reasonable. As explained in paragraph 10, we have made reference to the scheme for pre-Euro and Euro I diesel commercial vehicles; and the vehicle ages of Euro I diesel commercial vehicles then when setting the grant level for the proposed Euro II diesel commercial vehicle replacement scheme at 18% of the average vehicle taxable value. The level of subsidy is also reasonable when compared with the incentive schemes offered by other governments. To reflect the increase in vehicle prices over recent years, we have adopted the average vehicle taxable values in 2009 for calculating the grant levels. |

| **Views** | **Response** |
| --- | --- |
| The scheme should be constructed in such a way that the sooner the vehicle is replaced, the higher will be the grant level. | The proposed scheme will only last for 36 months. We consider the suggestion of reducing progressively the grant level by years unnecessarily confusing to eligible vehicle owners. Moreover, such an arrangement may inadvertently penalize owners of those vehicles that require longer time for vehicle delivery or body building. |
| The grant scheme should be made a standing arrangement for helping owners to replace their aged vehicles. | The suggestion of making the scheme a standing arrangement would defeat the purpose of encouraging early replacement. |
| The scheme should be extended to include the replacement of Euro III diesel commercial vehicles. | As Euro II vehicles emit 30% more $NO_x$ and RSP than Euro III vehicles, priority should be given to replace Euro II vehicles to relieve roadside air pollution earlier. |
| Vehicle owners who scrap but not replace their aged vehicles should also be qualified for the grant. | Acquiring replacement vehicles is a pre-requisite to obtain the grant since the proposed scheme aims to help vehicle owners who have a need for the vehicles to continue their business. 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 |

| Views | Response |
|---|---|
| | subsidies under the scheme to vehicle owners for scrapping their vehicles. |
| Vehicle manufacture date or the engine emission design standard instead of the first registration date should be taken as the criterion for distinguishing Euro II vehicles for determining the eligibility for the grant. | 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. |

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