

ITEM FOR FINANCE COMMITTEE

HEAD 44 - ENVIRONMENTAL PROTECTION DEPARTMENT

Subhead 700 General non-recurrent

New Item "One-off grant to assist owners of pre-Euro diesel heavy vehicles of long idling operational mode to retrofit their vehicles with emission reduction devices"

Members are invited to approve the creation of a new commitment of \$70 million for providing a one-off grant to assist owners to retrofit their pre-Euro diesel heavy vehicles of long idling operational mode with emission reduction devices.

PROBLEM

Diesel vehicles are the dominant source of air pollution at the street-level. It is necessary to adopt practical measures to reduce emissions from the existing diesel vehicle fleet.

PROPOSAL

2. The Director of Environmental Protection, with the support of the Secretary for the Environment, Transport and Works, proposes to create a new commitment of \$70 million for providing a one-off grant to assist owners of pre-Euro diesel heavy vehicles (i.e. those diesel heavy vehicles registered before April 1995^{Note}) of long idling operational mode to retrofit their vehicles with emission reduction devices. This category of vehicles are those with engines which have to be kept running while stationary to support their on-board ancillary equipment (such as crane lorries, concrete mixer trucks and signal light vehicles).

/JUSTIFICATIONS

^{Note} Those diesel heavy vehicles newly registered on or after 1 April 1995 should comply with Euro standard.

JUSTIFICATIONS

3. Diesel vehicles are a major source of air pollution in Hong Kong at the street level. About 90% of the particulate emissions and 70% of the nitrogen oxide emissions from the vehicle fleet come from diesel vehicles. Since a pre-Euro diesel vehicle emits up to seven times more particulates than a Euro-III equivalent, one of our measures to reduce motor vehicle emissions for the purpose of improving air quality is to retrofit pre-Euro diesel vehicles with emission reduction devices.

4. With the support and funding approval of the Finance Committee (FC) of Legislative Council (LegCo) vide FCR(2000-01)11, we completed in 2001 a programme with an approved commitment of \$50.88 million to provide owners of pre-Euro diesel light vehicles with financial assistance to retrofit their vehicles with particulate traps or catalysis. The devices can reduce the particulate emissions from each vehicle by at least 30%. About 24 000 vehicles were retrofitted in that programme. We have mandated the installation of emission reduction devices for this category of vehicles since December 2003.

5. Again, with the support and funding approval of FC vide FCR(2002-03)17, we have implemented another programme with an approved commitment of \$600 million to retrofit ordinary pre-Euro diesel heavy vehicles with catalysis since December 2002. The catalyst can reduce a vehicle's particulate emissions by about 35%. It can also reduce the vehicle's smoke, carbon monoxide and hydrocarbon emissions by about 40%. When this programme is completed around the end of this year, we will make a proposal to LegCo to mandate the installation of emission reduction devices for this category of vehicles as we did for the category of pre-Euro diesel light vehicles in 2003.

6. When we sought funding approval from FC in May 2002 for the programme mentioned in paragraph 5 above, we informed Members that the programme would be open to about 41 000 pre-Euro diesel heavy vehicles but that it would not cover about 4 000 pre-Euro diesel heavy vehicles of long idling operational mode. It was because the trials that had been carried out up to then had revealed that this type of long idling vehicles when retrofitted with certain kinds of catalysis would emit white smoke occasionally. We undertook to continue the search for suitable devices for this type of vehicles.

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7. Through further trials in collaboration with the transport trades and the Hong Kong Polytechnic University, we have now found catalysts that can work on long idling vehicles without causing the white smoke problem. The Monitoring Committee for the trial, which comprises representatives of transport trades, academics and other relevant government departments, is satisfied with the trial results and supports the retrofitting of pre-Euro long idling diesel heavy vehicles with suitable emission reduction devices.

8. Subject to Members' approval of this funding proposal, we will implement a programme to retrofit this remaining category of pre-Euro diesel vehicles with suitable emission reduction devices. The current number of these vehicle stands at about 3 500. With the agreement of the Monitoring Committee, we are now finalising a technical specification for the emission reduction devices with the assistance of an international expert panel as we did for the retrofit programme mentioned in paragraph 5 above. We intend to invite tenders for the proposed installation in the coming months, and award the contracts around February 2005. This timetable will allow sufficient time for potential tenderers to prepare comprehensive supporting test data for their devices and the successful tenderers to gear up for the installation work.

9. The international expert panel, when drawing up the objective technical specifications of emission reduction devices for pre-Euro diesel heavy vehicles of long idling operational mode, will set out minimum functional requirements for the devices. Any product that meets the functional requirements will be considered in the tendering exercise. To enhance competition, the Environmental Protection Department (EPD) has circulated the draft requirements to about 300 potential suppliers and local consulates for comment so that as many potential suppliers as possible can consider participating in the forthcoming open tender exercise. The international expert panel that is drawing up the functional requirements will be invited to evaluate the compliance of the tender submissions, same as for the retrofit programme for the other pre-Euro diesel heavy vehicles. It will ensure that the submissions will be evaluated by competent experts in an objective manner.

10. Similar to other pre-Euro diesel vehicles, we plan to make the installation of emission reduction devices mandatory for this category of vehicles after the completion of the programme.

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FINANCIAL IMPLICATIONS

Non-recurrent Cost

Encl. 11. There are about 3 500 pre-Euro long idling diesel heavy vehicles. A breakdown by engine capacity is given at the Enclosure. Based on the cost information collected from the market, we estimate that each emission reduction device for these vehicles costs about \$20,000 on average. The estimated costs range from \$10,000 for those vehicles with engine capacities of 4 000 c.c. to \$30,000 for those with engine capacities of 18 000 c.c. The proposed retrofit programme will cost about \$70 million, which is inclusive of the cost of about \$200,000 for acquiring the service of the international expert panel as described in paragraph 9 above.

12. If the proposed tender proceeds as scheduled, the installation work will start around April 2005 and complete by December 2005. We shall retain 10% of the contract value, which will be paid out five years after the contract period to ensure the contractors provide satisfactory warranty of the installation during this period. Together with the cost for engaging experts, the estimated cashflow for the project is as follows –

2005-06	2010-11	Total
\$63,000,000	\$7,000,000	\$70,000,000

Recurrent Cost

13. The proposal has no additional recurrent financial implications. EPD will oversee the installation programme with existing staffing resources.

BACKGROUND INFORMATION

14. We consulted the Legislative Council Panel on Environmental Affairs on 24 May 2004. Members supported providing a one-off grant to assist owners of pre-Euro diesel heavy vehicles of long idling operational mode to retrofit their vehicles with emission reduction devices.

15. Since 1999, the Government has been implementing a comprehensive programme to reduce emissions from the motor vehicle fleet. The major elements of the programme include -

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- (a) introduction of clean alternatives to diesel vehicles where practicable;
- (b) adoption of the most stringent vehicle and fuel standards;
- (c) adoption of practical technology to reduce emissions from the existing vehicle fleet; and
- (d) ensuring proper maintenance of in-use vehicles through a combination of voluntary and regulatory measures.

16. Under the programme, we have tightened the emission requirements for newly registered vehicles in step with the European Union, mandated ultra-low sulphur diesel as the standard for motor diesel, completed an incentive programme to encourage diesel taxi owners to replace their vehicles with liquefied petroleum gas ones, increased the fixed penalty on smoky vehicles and mandated the installation of emission reduction devices for pre-Euro diesel light vehicles.

Environment, Transport and Works Bureau
June 2004

**Breakdown of Pre-Euro Long Idling Diesel Heavy Vehicles
(March 2004)**

Group	Engine Capacity	Number of Vehicles
1	7 000 cc or below	1 274
2	7 001 cc – 15 000 cc	1 128
3	Over 15 000 cc	1 066
Total		3 468
