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ACE Paper 16/2010

For discussion on 8 November 2010

Pilot Green Transport Fund Proposed Implementation Framework

INTRODUCTION

This paper seeks Members' views on a proposed implementation framework of the Pilot Green Transport Fund (the Fund).

BACKGROUND

2. On 17 May 2010, we sought Members' views on the operation of the Fund, which was announced in the 2010-11 Budget Speech to encourage the transport sector to employ green technologies and to help nurture the budding of green technologies in Hong Kong, for drawing up its implementation details (ACE Paper 8/2010). Having regard to the views of Members and other stakeholders, we have drawn up a proposed implementation framework of the Fund, whose key features are outlined in the ensuing paragraphs.

PROPOSED IMPLEMENTATION FRAMEWORK

Target Transport Trades

3. The Fund will be deployed to support the testing of innovative technologies applicable by ferries, taxis, public light buses, goods vehicles (including special purpose vehicles), vehicles of charitable or non-profit making organizations providing services to their clients, franchised buses and

non-franchised buses which serve general members of the public, such as tourist coaches and school buses. Buses operated by private companies for their own internal uses (for example, serving their own employees, or residents of their own estates) are not included.

Green and Innovative Technology

4. In general, a green and innovative technology should outperform its conventional counterpart in respect of air pollutant or greenhouse gas emissions or fuel economy. Moreover, it should be new to Hong Kong and has not been commonly adopted for day-to-day application in the relevant transport trade. It can be a new vehicle type, equipment or machinery related to transport activities, or a new retrofit system (i.e. an innovative green product) with substantially better emission performance as compared with the existing mode. Broadly speaking, it may involve one or more of the following three products -

- (a) alternative-fueled vehicles such as hybrid vehicles, plug-in hybrid vehicles, electric vehicles, etc.;
- (b) after-treatment emission reduction devices such as diesel particulate filters, selective catalytic reduction devices, exhaust gas recirculation systems, wet scrubbers, etc.; or
- (c) fuel saving devices.

5. Given the diversity and continuous evolvement of technologies, it is impracticable to draw up across-the-board specific emission reduction or fuel saving targets for determining whether a technology is sufficiently environment-friendly and innovative for the award of the grant. We propose to set up a Steering Committee (the Committee) to advise us on the acceptance of a funding application.

The Steering Committee

6. The Committee will be chaired by a non-official member and include, inter alia, members appointed in their personal capacity but drawn from academic institutions, the transport trades and vehicle suppliers as well as Director of Environmental Protection, Commissioner of Innovation and Technology, Commissioner for Transport and Director of Electrical and

Mechanical Services or their representatives.

7. The main duties of the Committee will be as follows -

- (a) decide on the funding rules in relation to the eligibility and funding caps in processing and vetting the applications for funding support under the Fund;
- (b) consider and make recommendation to the Director of Environmental Protection, based on the relevant guiding principles/eligibility considerations -
 - (i) whether an application should be approved;
 - (ii) if an application is recommended for approval, the subsidy amount;
 - (iii) the terms and conditions, if any, for approving an application;
- (c) consider the relative priorities for funding support should there be more applications than allowed under the Fund;
- (d) review the trial findings of the approved applications; and
- (e) receive reports from the applicants if there are changes to the continuing use of the funded products.

8. The Chairman of the Committee will ask members to declare their interest, if there is any, when approving a specific application. Those members who may have any conflict of interest will be asked to abstain from voting in the meeting.

Guiding Principles on the Operation of the Fund

9. To meet the objective of encouraging the introduction of green and innovative transport technologies that can help improve our air quality and/or reduce greenhouse gas emissions, the Fund should only accept a technology that stands a good chance to cope with the local operation demands and to be adopted by the relevant transport trade should the trial be successful. As such, we propose the following guiding principles for determining the eligibility of an application for the Fund -

- (a) The Fund should subsidize the capital cost of the hardware (including installation cost) of the innovative green product proposed for trial on a cost-sharing basis but not the associated recurrent expenditure, such as the operation, repair and maintenance costs.
- (b) The innovative green product should work on sound scientific principles. It should outperform significantly the emission or fuel economy performance of its conventional counterparts or bring along significant emission or fuel economy benefits in the case of retrofit or add-on devices. The extent of performance improvement should at least be comparable with that achieved by advanced technologies for similar applications.
- (c) The technology of the innovative green product should not have been widely used locally in the targeted transport trades. It should also likely be within the realm of affordability of the transport trades in respects of capital and operation costs.
- (d) The innovative green product should likely be able to cope with the operating conditions in Hong Kong such as the hilly terrain, hot climate, intensity of the operation, etc.
- (e) New fossil fuel engine technology that involves a substantial degree of innovativeness in engine design or construction to achieve significant improvement in emission control performance or fuel economy should be eligible for application to the proposed Fund. However, the regular upgrading of emission performance of conventional fossil fuel vehicles in accordance with the prevailing international standards (for example, European standards) should not generally be qualified for application.
- (f) The use of the innovative green product will not cause violation of any statutory requirements such as roadworthiness, fire safety, etc. and can satisfy the approval requirements of the relevant regulatory authorities.
- (g) The innovative green product under application should not be receiving or have received funding from other sources of the Government for the same purpose. For avoidance of doubt,

applicants should continue to be eligible for different prevailing incentive scheme on replacement of Euro II commercial vehicles and the tax incentive schemes to encourage the use of environment-friendly commercial vehicles so long as the relevant criteria for the respective scheme subsidy under the current schemes are fulfilled.

(h) The fund is not intended for research of new green technologies.

10. To assist the Committee to form a view, the applicant should indicate in his application how the proposed innovative green product is better than the prevailing ones on the market. Where possible, the applicant should also provide information on its operational and environmental performance drawing reference from the findings of the relevant studies or tests. The applicant should also provide information if the proposed trial under application of funding support under the Fund involves any vehicles which he will seek subsidy under the scheme to encourage replacement of Euro II commercial vehicles and any other Government incentive schemes.

Encouraging the Transport Industry to Test out Green and Innovative Technology

11. Given the diverse modes of operation in the transport sector, the Fund should seek to encourage the industry to test out and adopt green and innovative technologies by facilitating a reasonable number of operators in a specific transport trade an opportunity to experience first hand the use of such innovative green products. That had been the case for the testing of liquefied petroleum gas (LPG) taxis and public light buses (PLBs), where 30 LPG taxis and 13 LPG PLBs were put on trial under the respective management of five and six fleet operators respectively to pave way for their wider application. On the other hand, to avoid mistaking the Fund as one that provides subsidy to operators in acquiring innovative green products, we propose that limits be set on the number of applications from a transport trade (e.g. light bus operators) on a type of innovative transport technology (e.g. hybrid vehicles); and on the number of units of such green product per application.

12. Such limits should be decided by the Committee with the objectives of enabling a thorough trial of a technology by a transport trade for which an application has been made, and effective sharing of the trial experience within

the transport trade. Consideration should also be given to the characteristics of the specific innovative green product, the operation modes of the transport trade, products of similar technologies that have already been put on trial, and the availability of products from other suppliers of similar technologies.

13. In case several applications are received from the same transport trade for the same type of technology and the relevant limits are exceeded, the Committee will decide on the priorities of the applications based on the following underlying considerations -

- (a) whether the application will cover the operation modes of a specific trade, which can be quite diverse even within the trade; and
- (b) whether the completion of the trial under application, if successful, can help encourage the transport trade to use the innovative green product.

14. If the innovative green products proposed for trial in an application can come from one or more suppliers, to ensure value for money, the applicant will have to observe the procurement procedures stipulated by the Environmental Protection Department (EPD) in accordance with the prevailing requirements for procurement using public funds. If however the product(s) to be tested involves proprietary technology and is only available from a single supplier, the applicant has to spell this out and provide full justifications for the choice and cost of the concerned products in the application.

Potential Applicants

15. The applicant should be an existing operator in the transport sector with operation based in Hong Kong (including cross-boundary transport) who -

- (a) has been in the relevant transport service for more than one year;
- (b) will likely remain in the service for a reasonable length of time for the trial to bear fruit;
- (c) has the potential to put the new technology under test into wider use in his own operation upon successful trial results; and
- (d) is willing to share the findings of the test with other operators.

16. His application should be considered with reference to how likely he can conduct the proposed trial in a proper manner but not the size of his company or organisation. As such, the applicant will have to provide the following information/undertaking in his application for the Committee's consideration -

- (a) an account of his experience in the relevant transport service;
- (b) an outline of the technology to be tried together with the necessary supporting technical information and, if available, trial data done;
- (c) the expected environmental benefits in respect of carbon and air pollutant emission reduction with supporting technical data and the evaluation method for the environmental benefits during the trial;
- (d) an implementation plan for the trial including a trial schedule, in which the applicant should commit to starting the trial within a certain period from the approval of the application. The period will normally not be more than 12 months;
- (e) an undertaking to accept the checking by an independent third party to be appointed by EPD to verify the conduct and findings of the test for report to EPD and other requirements such as procurement procedures, etc.;
- (f) a commitment to making public the trial findings and sharing them with interested parties as directed by EPD;
- (g) an undertaking to ensure that the green product so procured will be put to good use throughout its usable life as far as it is economically feasible to do so. Any decision to discontinue the usage of the green product will have to be reported to the Committee and the result will be made open to the public;
- (h) an explanation on the reasonableness of the price of the product should it be a proprietary product from a single supplier; and
- (i) information and declaration on other government funds received and applied.

17. The applicant is encouraged to pair up with potential suppliers of green transport technologies, research institutes or other relevant stakeholders in his application.

Level of Subsidy

18. As a matter of principle, the Fund should only subsidize the capital cost of the hardware (including installation cost) of the innovative green product proposed for trial but not the associated recurrent expenditure. In addition, the technology under application should not be receiving or have received funding from other sources of the Government for the same purpose. To cater for the variety of technologies covered by the Fund, the following principles for deciding on the subsidy level are proposed for consultation with the relevant trades and stakeholders -

(a) Alternative-fueled vehicles

- (i) The subsidy level will be set as the price premium between the alternative-fueled vehicle and the conventional vehicle or half of the cost of the alternative-fueled vehicle, whichever is higher. Though it is difficult to quote reliable estimates on the innovative green products of all types of public transport uses, to better ensure effective allocation of resources and avoid abuses, a cap of \$3 million is proposed for each alternative-fueled vehicle with an upper limit of \$9 million for each application. The proposed funding cap of \$3 million per alternative-fueled vehicle will be translated into a cost of \$6 million per product, which would allow sufficient scope to cater for innovative products which have yet to be widely used. Where the applicant proposes to conduct test on more than one vehicle of the same technology, he may try out different suppliers to compare performance. Should there be more than one vehicle under test, be they from one or more suppliers, the overall cap on the application will be increased proportionally (i.e. \$6 million for two and \$9 million for three), subject to the upper limit of vehicles on trial for each application and the upper limit on the total number of vehicles on trial per transport trade as decided by the Committee as elaborated in paragraph 11.

- (ii) Test of electric vehicles or other alternative-fueled vehicles may require the setting up of dedicated charging facilities or refilling facilities or other related support system. The Fund will cover half of the setting up cost subject to the proposed upper limit for each application in (i) above.

(b) After-treatment emission reduction devices or fuel saving devices

The subsidy will be set at meeting 75% of the cost of the device(s) including installation. To avoid abuses, a cap of \$1.5 million will be imposed for each device under test with an upper limit of \$9 million for each application. Where the applicant proposes to test more than one device of the same technology, he may try out different device suppliers to compare performance. Should there be more than one device under test, be they from one or more suppliers, the overall cap on the application will be increased proportionally and as in the case of (a) (i), will be subject to the above proposed upper limit for each application and the limits on the number of applications from a transport trade on a type of device and on the number of units of such green product per application as decided by the Committee as elaborated in paragraph 11.

19. To ensure value for money, the procurement of the innovative green product(s) to be tested, the supporting facilities and associated installation services has to observe strict procurement requirements stipulated by EPD. The Committee may impose suitable conditions in addition to the fulfillment of commitments and undertakings as stipulated in paragraph 16 when recommending the approval of an application. Failure to fulfill these conditions may lead to withdrawal of the subsidy and recovery of the fund to the Government.

20. In the case of ferries, the Fund will consider applications for testing the retrofitting of their engines with devices to reduce air pollutant and/or carbon emissions. Subject to funding availability and priority as recommended by the Committee, applications for testing alternative-fueled ferry engines may also be considered.

21. As technology continues to develop, innovative green products other than the two categories in paragraph 18 may also be available for trial by the

transport trades. The Committee will consider such applications on a case-by-case basis, using the same principle that the Fund would cover as much as half of the setting up cost of such new products and subject to an upper limit of \$9 million for each application.

Independent Third-Party Assessor

22. To ensure full conduct of the test in accordance with the application and to verify the environmental performance of the new technology under test, we will engage an independent third-party to evaluate the environmental performance of the green product(s) under trial, including conducting visits to approved applicants, collating data and reporting to us.

CONSULTATION WITH STAKEHOLDERS

23. We are now consulting the relevant stakeholders including the transport trades, potential technology providers, the relevant professional bodies, etc. on the proposed implementation framework. We will review the proposed implementation framework in the light of the feedback of the consultation.

IMPLEMENTATION

24. Subject to the support of the Panel on Environment Affairs of the Legislative Council and the approval of funding from Finance Committee of the Legislative Council, our plan is to set up the fund before end March 2011 for application by the transport trades.

ADVICE SOUGHT

25. Members are invited to comment on the proposed implementation framework of the Fund as set out in paragraphs 3 to 22.

Environmental Protection Department
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