

立法會
Legislative Council

LC Paper No. CB(1)1113/14-15(02)

Ref. : CB1/PL/EA

Panel on Environmental Affairs

Meeting on 21 July 2015

**Updated background brief on Pilot Green Transport Fund
prepared by the Legislative Council Secretariat**

Purpose

This paper provides updated background information on the Pilot Green Transport Fund ("the Fund"), and gives a summary of the major views and concerns expressed by Members when related issues were discussed by the relevant committees of the Legislative Council in the 2010-2011 to 2013-2014 legislative sessions.

Background

2. The Environmental Protection Department ("EPD") set up a \$300 million fund in March 2011 to encourage the public transport sector to test out green and low-carbon transport technologies. The Fund is open for applications from public transport operators, charitable and non-profit organizations providing services to clients, and goods vehicle owners. The technologies for trial include new vehicle types and equipment and machinery relating to transport activities.

Eligibility for application

Eligible applicants

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

- (a) operates ferries, taxis, public light buses, vehicles of charitable/non-profit making organizations providing services to their clients, franchised buses and non-franchised public buses, or goods vehicles (including special purpose vehicles);
- (b) has been in the relevant transport service for more than one year;
- (c) will likely remain in the service after the trial to bear fruit;
- (d) has the potential to put the new technology under test into wider use in his/her own operation upon successful trial;
- (e) is willing to share the findings of the test with other operators; and
- (f) is not receiving or has not received funding from other Government sources, public bodies or charitable organizations for the same purpose of the application, except the incentive scheme to encourage the early replacement of Euro II diesel commercial vehicles and the tax incentive scheme to encourage the use of environmental friendly commercial vehicles.

Assessment criteria of technologies

4. The Fund supports a green and innovative technology which –

- (a) works on sound scientific principles;
- (b) outperforms its conventional counterpart by emitting significantly less air pollutant or greenhouse gas, or demonstrating much better fuel economy. However, regular upgrading of emission performance of conventional fossil fuel vehicles in accordance with the prevailing international standards (e.g. European standards) should not generally be qualified for application;
- (c) has not been commonly or widely used for day-to-day operation in the relevant transport trade locally;
- (d) is affordable to the transport trades in respect of capital and operation costs;
- (e) is likely able to cope with the local operating conditions such as hilly terrain, hot and humid climate, intensity of operation;

(f) does not violate any statutory requirements such as roadworthiness, fire safety, etc. and can satisfy the approval requirements of the relevant regulatory authorities; and

(g) is not for research purpose.

5. Broadly speaking, the technologies to be supported may involve one or more of the following products –

(a) alternative-fuelled vehicles such as hybrid vehicles, plug-in hybrid vehicles and electric vehicles;

(b) after-treatment emission reduction devices such as diesel particulate filters, selective catalytic reduction devices, exhaust gas recirculation systems and wet scrubbers;

(c) fuel saving devices; or

(d) conversion of in-use conventional vehicles to alternative-fuelled vehicles.

Steering Committee

6. A Steering Committee, which is currently chaired by Professor Timothy TONG, President of The Hong Kong Polytechnic University ("HKPU"), and comprised of members from academic institutions, transport trades as well as the relevant government representatives, has been set up to assess and advise on applications received under the Fund.

Subsidy level

7. The Fund only subsidizes the capital cost of the hardware (including installation cost if applicable) of the green and innovative technology product proposed for trial but not the associated recurrent expenditure. A transport operator may apply to the Fund to try out different green products subject to a maximum subsidy of \$9 million for each application and \$12 million in total¹. Details of the subsidy levels and caps for various technologies are set out in **Appendix I**.

¹ An applicant is allowed to submit more than one application to try different technologies (e.g. a public light bus operator to try both hybrid vehicles and electric vehicles) or to test products from different suppliers for the same technology under the same application to compare performance subject to the relevant subsidy caps. A transport operator is subject to an upper limit of \$12 million in total subsidy.

Approved trials

8. As of 10 June 2015, 94 trials have been carried out under the Fund for testing 12 electric taxis, three electric light buses, 11 electric buses, 44 electric goods vehicles, 65 hybrid goods vehicles, 12 hybrid light buses, one solar air-conditioning system, four electric inverter air-conditioning systems; replacement of four bus engines with more advanced models; and adoption of a diesel-electric propulsion system and a seawater scrubber in a ferry, amounting to a total subsidy of about \$97 million. At present, four hybrid public light buses, three electric taxis, eight electric buses, 32 electric goods vehicles, 29 hybrid goods vehicles and one solar air-conditioning system subsidized by the Fund are being tested by transport operators.

Major views and concerns expressed by Members

9. The Panel on Environmental Affairs ("the Panel") was consulted on the implementation framework of the Fund and the relevant funding proposal at its meeting on 20 December 2010, and received updates on the progress of the Fund at the meeting on 24 March 2014. Issues relating to the Fund were discussed when the Finance Committee considered the funding proposal at its meeting on 28 January 2011, and by the Subcommittee on Issues Relating to Air, Noise and Light Pollution at the meeting on 16 April 2013. The major views and concerns expressed by Members are summarized in the ensuing paragraphs.

Eligible applicants

10. Some Members considered the scope of eligible applicants of the Fund too narrow and suggested that academia or researchers who had the expertise in identifying suitable green and innovative technologies for testing out by transport operators should also be covered as eligible applicants. Members also expressed concern that individual operators and non-profit organizations might be in a less advantageous position to compete with large companies in applying for the Fund.

11. The Administration advised that the Fund aimed to promote a wider use of new green vehicles and transport technologies by both commercial transportation companies and non-profit organizations. While large companies might be more interested to try out new technologies and had greater potential to put the technology under trial into use upon successful trial, the Fund was applicable to eligible applicant companies/organizations irrespective of their sizes. The Administration also pointed out that separate funding under the Innovative Technology Fund was provided for research and development activities, including

new green transport technologies. On whether the funding eligibility could be extended to suppliers and manufacturers, the Administration advised that suppliers and manufacturers could pair up with transport operators to apply for the Fund but care should be taken to avoid conflict of interest.

12. Some Members raised concern that transport operators might submit multiple applications for the Fund under different companies in an attempt to get round the cap of \$9 million per application. The Administration advised that the Steering Committee would take note of this concern and screen the applications to ensure that funding would not be confined to one type of innovative transport technology.

13. In view of the high costs of procuring new and innovative transport technologies, Members had explored whether it would be more appropriate for the Administration to identify suitable innovative transport technologies, and provide incentives for the transport trades to test out the technologies. The Administration maintained the view that it was more effective for the transport trades to identify and test the technologies in order to suit their operational needs.

Approval of applications

14. On the selection and approval of applications, Members stressed that due weight should be given to proposals on products or technologies that could achieve more reduction in vehicle emissions, and proposals that were readily applicable. The Administration advised that it would consider the needs of the transport trades, the practicality of the technology proposed and whether the technology could be put to wider use when assessing the Fund applications. Given the diversity and continuous evolution of technologies, the Administration adopted an open mind on the types of green transport technologies to be funded.

Monitoring system for operation of the Fund

15. Regarding Members' concerns about how the Administration monitored the operational performance of the green vehicles and technologies under trial, the Administration advised that fund recipients were required to record fuel/energy consumption, maintenance costs and other relevant data on a daily basis for evaluating the performance of the green technologies being tested. To monitor and evaluate the operational performance of the green technologies under trial as compared with their conventional counterparts, EPD had engaged HKPU as an independent third-party assessor to regularly visit the Fund recipients and interview end-users so as to collect the required trial data (such as performance, reliability and operational difficulties) for preparing trial reports. Interim reports

would be prepared after the first six months and 12 months while a final report would be prepared at the end of the two-year trial. All the reports were made available on EPD's website for public reference.

Investment return of using new green vehicles and transport technologies

16. As the investment return of using new green vehicles and transport technologies was crucial for consideration by the transport trades whether to procure the vehicles or try out the technologies, some Members took the view that the Administration should provide information on the investment return with a view to incentivizing the transport trades to continue using green vehicles and technologies even after the Fund ceased to receive applications.

17. The Administration advised that interim trial reports would include information on the fuel economy of the green vehicles under trial to facilitate the transport trades to compare the fuel costs of green vehicles and those of their diesel counterparts. Trial findings would be published for reference of the transport trades and individual transport service operators. Since the prices of vehicles were determined by market forces and negotiations with vehicle vendors, price information would not be included in the trial reports.

Promoting green transport

18. Some Members were concerned about the cost-effectiveness of the Fund in promoting green transport. They opined that to promote the wider use of electric vehicles ("EVs") in Hong Kong, the Administration should implement specific measures, such as providing adaptors in different battery charging facilities so that EVs of different models could undergo battery charging in all premises equipped with charging facilities of different technical standards. Some Members also urged the Administration to consider encouraging members of the public to use bicycle, or electric bicycles, as a means of transport with a view to promoting low-carbon lifestyle.

19. The Administration explained that although there were no internationally harmonized technical standards for battery charging for EVs, the Administration was committed to promoting the wider use of EVs in Hong Kong, such as setting up quick charging points at car parks administered by the Transport Department ("TD"), and providing both standard and medium EV chargers in various districts of Hong Kong to shorten the charging time. In considering whether or not to promote the use of electric bicycles, the Administration pointed out that road safety was the prime concern. TD would examine the electric bicycle in accordance with the requirements of relevant ordinances and regulations, taking into

consideration its overall safety and performance on roads, as well as its impact on other vehicles and road users.

Council question

20. Hon KAM Nai-wai, Hon CHAN Hak-kan and Hon IP Kin-yuen raised questions relating to the Fund at the Council meetings on 2 and 23 November 2011, and 4 December 2013. The questions and the Administration's replies are hyperlinked in **Appendix II**.

Latest development

21. The Administration will brief the Panel on the progress report of the Fund at the meeting on 21 July 2015.

Relevant papers

22. A list of relevant papers is set out in **Appendix II**.

Council Business Division 1
Legislative Council Secretariat
15 July 2015

Subsidy levels and caps for Pilot Green Transport Fund

Green and innovative technology product	Subsidy level	Subsidy cap
<p>(a) <u>Alternative-fueled vehicles</u></p> <p>(i) Subsidy per vehicle</p> <p>(ii) Related support systems</p>	<p>(i) Price premium between the alternative-fueled vehicle and the conventional vehicle or 50% of the cost of the alternative-fueled vehicle, whichever is higher</p> <p>(ii) 50% of setting up cost</p>	<p>\$3 million per vehicle, and \$9 million per application</p>
<p>(b) <u>Conventional vehicles</u></p> <p>(i) After-treatment emission reduction devices;</p> <p>(ii) Fuel saving devices; or</p> <p>(iii) Conversion of in-use conventional vehicles to alternative-fueled vehicles</p>	<p>75% of the cost of the device including installation or the vehicle conversion cost</p>	<p>\$1.5 million per device or vehicle conversion, and \$9 million per application</p>
<p>(c) <u>Ferries</u></p> <p>Engine retrofit or testing of alternative-fueled engine</p>	<p>75% of the device or engine including installation</p>	<p>\$3 million per engine or device, and \$9 million per application</p>

Remark: As technology continues to develop, green and innovative technology products other than the above categories may also be available for trial by the transport trades. Such applications will be considered on a case-by-case basis. Related subsidy levels and caps are the same as above.

Source: Annex II to LC Paper No. [CB\(1\)1104/13-14\(06\)](#)

Pilot Green Transport Fund

List of relevant papers

Council/ Committee	Date of meeting	Paper
Panel on Environmental Affairs	20 December 2010	<p>Administration's paper on "Pilot Green Transport Fund" (LC Paper No. CB(1)782/10-11(03))</p> <p>Background brief on "Pilot Green Transport Fund" prepared by the Legislative Council Secretariat (LC Paper No. CB(1)782/10-11(04))</p> <p>Minutes of meeting (LC Paper No. CB(1)1229/10-11)</p>
Finance Committee	28 January 2011	<p>Funding proposal on Head 44 – Environmental Protection Department Subhead 700 General non-recurrent New Item "Pilot Green Transport Fund" (LC Paper No. FCR(2010-11)58)</p> <p>Minutes of meeting (LC Paper No. FC12/11-12)</p>
Subcommittee on Issues Relating to Air, Noise and Light Pollution	16 April 2013	<p>Administration's paper on "Current legislation and administrative measures on the control of air pollution and the associated public expenditure" (LC Paper No. CB(1)474/12-13(01))</p> <p>Administration's response to questions raised at the the meeting on 16 April 2013 (LC Paper No. CB(1)1000/12-13(02))</p> <p>Minutes of meeting (LC Paper No. CB(1)1471/12-13)</p>

Council/ Committee	Date of meeting	Paper
Panel on Environmental Affairs	*27 February 2014	Report of the Subcommittee on Issues Relating to Air, Noise and Light Pollution to the Panel on Environmental Affairs (LC Paper No. CB(1)1003/13-14(01))
Panel on Environmental Affairs	24 March 2014	Administration's paper on "Progress of the Pilot Green Transport Fund" (LC Paper No. CB(1)1104/13-14(06)) Background brief on "Pilot Green Transport Fund" prepared by the Legislative Council Secretariat (LC Paper No. CB(1)1104/13-14(07)) Minutes of meeting (LC Paper No. CB(1)1654/13-14)

*Issuance date

Hyperlink to relevant Council Question:

Date	Council Question
2 November 2011	Council question (written) raised by Hon KAM Nai-wai http://www.info.gov.hk/gia/general/201111/02/P201111020178.htm
23 November 2011	Council question (written) raised by Hon CHAN Hak-kan http://www.info.gov.hk/gia/general/201111/23/P201111230255.htm
4 December 2013	Council question (written) raised by Hon IP Kin-yuen http://www.info.gov.hk/gia/general/201312/04/P201312040497.htm