

Appendix I

Legislative Council
Panel on Environmental Affairs
Subcommittee on Improving Air Quality
Responses to the Follow-up Actions (Items (1))
Arising from the Discussion at the Meeting on 27 June 2012

(1) To provide a paper summarizing the achievements made in the past five years in improving the air quality of Hong Kong.

The Government is committed to improving Hong Kong's air quality. We have been implementing a wide range of measures to improve ambient and roadside air pollution. From 2007 to 2011, the ambient levels of sulphur dioxide (SO₂) and respirable suspended particulates (RSP) measured at our local air quality monitoring network reduced by 38% and 16% respectively while the ambient level of nitrogen dioxide (NO₂) remained stable. During the same period, the concentration of SO₂ and RSP at roadside showed a reduction of 45% and 16% respectively while the concentration of NO₂ increased by 26%. On the basis of these findings, we have stepped up actions targeting at heavy vehicles which are one of the major sources of nitrogen oxides (NO_x) emissions (including NO₂). Details of the measures are set out in the ensuing paragraphs.

Power Sector

Statutory emission caps

2. We have imposed statutory emission caps on the power sector under the Air Pollution Control Ordinance. From 2007 to 2011, emissions of SO₂, NO_x and RSP by local power plants dropped by 77%, 33% and 38% respectively. From 2015 onwards, the emission caps will be further tightened by 34% to 50% from 2010 levels. To meet the statutory emission caps, power companies have to install the latest emission abatement devices on their existing power plants and use more natural gas for electricity generation in lieu of coal. Our recent review has found it practicable to tighten the emission caps further starting from 2017. We will consult the Panel on Environmental Affairs on the tightening proposal at its meeting on 4 July 2012.

Building energy efficiency

3. Since 90% of our electricity is consumed in buildings, improving their energy efficiency is important for reducing emissions from power plants. We have enacted the Building Energy Efficiency Ordinance, which will come into full effect in September 2012. The Ordinance requires that for both new buildings and existing buildings undergoing major retrofitting works, four major types of building service installations, including air-conditioning, electrical, lift and escalator and lighting installations, should meet energy efficiency requirements. Commercial buildings are further required to conduct energy audits once every ten years.

4. We have also launched Buildings Energy Efficiency Funding Schemes in 2009 to provide subsidies for carrying out carbon-cum-energy audits and implementing energy efficiency projects in buildings. So far, over 870 applications have been approved with subsidies amounting to over \$350 million.

Vehicles

Vehicle emission and fuel standards

5. We have been tightening vehicle emission and fuel standards whenever practicable. For vehicle fuel, we have adopted the Euro V standards for both motor vehicle diesel and unleaded petrol as the statutory requirements since July 2010. We have also started in June 2012 to implement in phases the Euro V emission standard for newly registered vehicles.

Reducing emissions from franchised buses

6. We have started a trial of retrofitting Euro II and Euro III franchised buses with selective catalytic reduction devices to reduce their NOx emission by some 60%. If the trial is successful, the Government will fund the full-scale retrofitting of Euro II and III franchised buses at an estimated cost of \$555 million. We are also funding the purchase of six hybrid buses at a total cost of \$33 million and propose to earmark \$180 million for the procurement of 36 electric buses and related charging facilities for trial by franchised bus companies. Our ultimate policy objective is to have zero-emission buses running across the territory.

Green transportation technologies

7. The Government has set up a \$300 million Pilot Green Transport Fund in March 2011 to encourage the transport trades to apply for grants for testing out green and low-carbon transport

technologies. So far we have approved 30 applications with total subsidies amounting to some \$73M.

Incentives for replacement of old vehicles and use of environment-friendly ones

8. We launched a \$540 million one-off grant scheme in July 2010 to encourage owners of Euro II diesel commercial vehicles to replace their old vehicles with those complying with the prevalent emission requirements for newly registered vehicles. A similar incentive scheme for encouraging early replacement of pre-Euro and Euro I diesel commercial vehicles was completed in March 2010. Some 17,100 vehicles took part in the scheme. We have also been encouraging the use of environment-friendly private petrol cars and commercial vehicles by offering first registration tax concession.

Strengthening emission control on petrol and LPG vehicles

9. We will strengthen the control of emissions from petrol and LPG vehicles through the use of remote sensing equipment and advanced emission test. Vehicles emitting excessively will be subject to a mandatory requirement of repair to be followed by verification of acceptable performance through an emission test within 12 working days. Government has also set aside \$150 million for providing a one-off subsidy to owners of LPG taxis and light buses to replace their catalytic converters to facilitate their transition to the tightened control regime.

Ban on idling engines

10. To tackle the environmental nuisances caused by idling vehicles with running engines, we enacted the Motor Vehicle Idling (Fixed Penalty) Ordinance, which came into force in mid-December 2011.

Vessels

11. We will launch in the third quarter of 2012 a 3-year incentive scheme, under which ocean-going vessels that use low sulphur diesel (with sulphur content not more than 0.5%) while berthing will enjoy 50% reduction in port facilities and light dues. We are also exploring with Guangdong, Shenzhen and Macao authorities on the feasibility of jointly implementing "fuel switch at berth" in Pearl River Delta (PRD) waters and, in the longer term, setting up an Emission Control Area in PRD waters. Besides, we plan to upgrade the quality of locally supplied marine light diesel and will draw up the implementation timetable subject to the

findings of a trial.

Other Sources

12. Actions are at hand to curb other sources of emissions, such as industrial and non-road mobile sources. The import of products containing hydrochlorofluorocarbons (HCFC), as well as the import and manufacture of some products containing volatile organic compounds (VOC), are subject to tightened control. We are preparing the enabling legislations for controlling emissions from non-road mobile machinery and banning all forms of asbestos.

Regional Collaboration

13. Cooperation with the Guangdong Province plays an important part in improving regional air quality. Guangdong and Hong Kong reached a consensus in 2002 to jointly reduce emissions of four major air pollutants, namely, SO₂, NO_x, RSP and VOC, by 20% to 55% by year 2010, using 1997 as the base year.

14. To achieve the emission reduction targets, the two governments jointly drew up the PRD Regional Air Quality Management Plan (Management Plan). Both sides have been working closely together to implement emission reduction measures targeting at power plants, vehicles and the more polluting industrial processes.

15. The results of the regional air quality monitoring network (which covers 16 monitoring stations of the entire PRD region) in 2011 shows a substantial reduction in the average annual concentration of the main pollutants in the region. From 2007 to 2011, the ambient concentration levels of SO₂, NO₂ and RSP decreased by 50%, 11% and 19% respectively on a regional basis.

**Environment Bureau/Environmental Protection Department
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