

For Information
January 2008

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

Progress of Measures to Improve Air Quality

Purpose

This paper reports to Members on the latest progress of measures to improve air quality and to meet the Government's emission reduction targets by 2010.

Background

2. To improve regional air quality, the Hong Kong Special Administrative Region (SAR) Government reached a consensus with the Guangdong Provincial Government in April 2002 to reduce, on a best endeavour basis, the emission of four major air pollutants, namely sulphur dioxide (SO₂), nitrogen oxides (NO_x), respirable suspended particulates (RSP) and volatile organic compounds (VOC) by 40%, 20%, 55% and 55% respectively in the region by 2010, using 1997 as the base year. Achieving these targets will help improve significantly the air quality of the Pearl River Delta (PRD) Region and relieve the regional smog problem.

3. Since September 2005, we have been providing six-monthly reports to the Panel on Environmental Affairs on the progress of meeting the 2010 emission reduction targets, including the relevant measures taken by the two power companies. We last reported to this Panel in July 2007. This is the fifth progress report.

Progress of Emission Reduction

4. We are making good progress in the implementation of local emission reduction measures. Except for SO₂ whose emission level has increased by 12% (which has come down from the height of 46% above the 1997 figure in 2004) due to a rise in the use of coal in power generation in recent years, the

emission levels of all other pollutants have dropped when compared with those in 1997. Details are as follows –

	Emission Level in 1997 (tonnes)	Change in Emission Level during 1997-2006	Emission Reduction Target for 2010
SO ₂	65 900	+12%	-40%
NO _x	123 000	-23%	-20%
RSP	11 400	-48%	-55%
VOC	68 900	-40%	-55%

Latest Measures

5. To further step up the local efforts in emission reduction, the Chief Executive announced a series of new initiatives in the 2007-08 Policy Address. We have been implementing these initiatives progressively –

- (a) we commissioned a comprehensive consultancy study in June 2007 to review Hong Kong's Air Quality Objectives (AQOs) and develop a long-term air quality management strategy, taking into account the latest international developments, including the Air Quality Guidelines recently published by the World Health Organization. We will engage the public in the course of the study which is expected to be completed by the end of this year;
- (b) we launched a consultation on 2 November 2007 to seek the public's views on the proposal to introduce a statutory ban on idling vehicles with running engines. The consultation will end on 31 March 2008. We will fully consider the views received during the consultation before finalizing our proposals;
- (c) we introduced a duty concession for Euro V diesel, which is a more environment-friendly fuel with 80% less sulphur content than ultra-low sulphur diesel (ULSD), with effect from 1 December 2007 for a period of two years so as to promote its supply and use. At present, all of the oil companies are supplying Euro V diesel to the market;

- (d) we are developing a proposal to strengthen the control of emissions from petrol and liquefied petroleum gas vehicles, including the use of roadside remote sensing equipment and dynamometers for emission testing. Our plan is to consult the stakeholders in early 2008;
- (e) we have consulted the trade and this Panel on a proposal to mandate the use of ULSD in industrial and commercial processes. With an annual consumption of about 471 million litres of industrial diesel in Hong Kong, the switch to ULSD will reduce about 3 110 tonnes of SO₂ emission per year, or about 3.67% of the total SO₂ emission in Hong Kong in 2005. We plan to introduce the necessary legislative amendments to effect the proposal by mid-2008;
- (f) to promote the development of the biodiesel market, we are making preparations to spell out specifications for pure biodiesel and biodiesel blended with motor vehicle diesel in the Air Pollution Control (Motor Vehicle Fuel) Regulation (Chapter 311L) so as to ensure fuel quality, boost users' confidence and help control its impact on the environment. Our plan is to commence a consultation shortly for preparing the enabling legislation for implementation in early 2009;
- (g) we have set up a working group comprising relevant bureaux/departments to look into the use of cleaner fuels by ferries. The working group will consider, inter alia, inviting ferry operators to conduct a trial of using cleaner fuels in ferries. Subject to the findings, we would draw up possible options to encourage ferry operators to switch to using cleaner fuels;
- (h) on 28 December 2007, the Administration launched a three-month public consultation on a proposal to introduce mandatory implementation of the Building Energy Codes for certain new and existing buildings, with a view to improving energy efficiency of buildings, alleviating global warming and combating air pollution; and
- (i) to encourage the use of energy-efficient products, the Administration has launched a Mandatory Energy Efficiency Labelling Scheme (EELS). The Energy Efficiency (Labelling of Products) Bill was introduced into the Legislative Council on 18 April 2007. It is proposed that the initial phase of the mandatory EELS shall cover three types of products, namely, room air conditioners, refrigerating appliances and compact fluorescent lamps.

6. Apart from the above, we have been implementing the following incentive schemes since 1 April 2007 –

- (a) a \$3.2 billion one-off grant scheme to encourage car owners to replace their pre-Euro and Euro I commercial diesel vehicles with Euro IV models as early as possible. As at the end of November 2007, we have received about 3 100 applications and approved about 2 900 of them; and
- (b) a 30% reduction in First Registration Tax, subject to a cap of \$50,000 per vehicle, to encourage the use of more environment-friendly private vehicles. As at the end of November 2007, we have received about 2 800 applications and approved nearly all of them.

Latest Measures to Control Emissions from the Power Sector

7. Power generation is the largest local source of SO₂ emission. We have therefore imposed emission caps on all power plants and are progressively tightening them during licence renewals.

8. In 2007, we have made the following progress in reducing emissions from this source –

- (a) on retrofit projects, the Hongkong Electric Company Limited (HEC) has awarded a procurement contract and a major retrofit contract for its flue gas desulphurisation system. It has completed the associated piling works and is proceeding with the civil construction works as scheduled. CLP Power Hong Kong Limited (CLP) has also awarded a number of major equipment and service contracts and is proceeding with the associated construction and engineering works;
- (b) on the wider use of natural gas, in April 2007 we granted the Environmental Permit to CLP for the proposed liquefied natural gas (LNG) receiving terminal, on conditions that stringent environmental mitigation measures will be implemented. The Government will also consider the feasibility of obtaining gas supply from other natural gas/LNG projects in the region. At this moment, we have not yet made any decision on CLP's natural gas supply proposal. We will carefully examine the proposal and will agree to it only if CLP can prove that all of the relevant considerations are reasonable and acceptable; and
- (c) on promotion of renewable energy, in March 2007 we granted the Environmental Permit to CLP for launching a commercial scale wind turbine pilot demonstration project at Hei Ling Chau. According to

the Environment Impact Assessment Report submitted by CLP, the target commissioning date for the wind turbine unit is 2008.

9. To encourage HEC and CLP to take more proactive steps to reduce emissions and sustain strict compliance with the environmental requirements, we have included a number of incentive and penalty arrangements in the new Scheme of Control Agreements signed with them on 7 January 2008. These arrangements include –

- (a) linking the rates of return of the two power companies to their environmental performances. There will be financial incentives in terms of higher rates of return for rewarding better than required performance in reducing air pollutant emissions and improving air quality. Likewise, the new arrangements will provide for financial disincentive in terms of lower rates of return for emitting more pollutants than permissible; and
- (b) providing higher rates of return to the power companies for their investment in renewable energy facilities and offering them a bonus in permitted return depending on the extent of renewable energy usage in their electricity generation, so as to support them to implement more environment-friendly measures.

10. In parallel, we are working on amendments to the Air Pollution Control Ordinance (Chapter 311) to stipulate the emission caps for the power plants in 2010 and beyond, and to allow them to use emissions trading as an alternative means for achieving the emission caps. The proposed legislative amendments will ensure a smooth, timely and transparent implementation of the emission caps for the power sector. We are now finalising the legislative proposals with a view to introducing these to the Legislative Council in early 2008.

Co-operation with the Mainland

11. Maintaining a close partnership with the Mainland authorities is crucial to achieving the 2010 emission reduction targets. The latest progress of the Hong Kong SAR Government and the Guangdong Provincial Government in implementing enhanced control measures under the Pearl River Delta Regional Air Quality Management Plan (Management Plan) is set out at **Annexes A to C**.

12. To assess the effectiveness of the various measures in the Management Plan, both sides have recently completed a Mid-term Review of the Management Plan. The findings concluded that the preventive and control

measures being implemented by both sides under the Management Plan have helped reduce substantially air pollutant emissions in the region. With the current and committed control measures (including the planned emission mitigation measures to be adopted by the two local power companies to meet the emission caps), Hong Kong should be able to meet the 2010 emission reduction targets. However, due to the much higher economic and population growth in the PRD Economic Zone, Guangdong will need to introduce additional mitigation measures as recommended in the Mid-term Review (**Annex D**) in order to fully achieve the targets. An executive summary of the Mid-term Review Report is attached at **Annex E**. Both sides are committed to, and confident of, meeting the 2010 emission reduction targets.

13. On 25 October 2007, we published the monitoring results of the Pearl River Delta Regional Air Quality Monitoring Network for the first half year of 2007. In general, the results show that air quality was better in the coastal areas than in the central and northern region of the PRD region in the first half of 2007, which could be attributed to the relatively more favourable conditions for dispersion of pollutants in the former. The overall concentrations of most pollutants were generally higher in the winter months (e.g. January). They were reduced as summer approached (e.g. June). A report covering the whole year of 2007 is expected to be available in April 2008.

14. To improve regional air quality, we have been collaborating with the Economic and Trade Commission of Guangdong Province on promoting energy efficiency and cleaner production to the industrial enterprises in both places. In August 2007, the two governments signed the “Cooperation Agreement to Promote Energy Efficiency, Cleaner Production and Comprehensive Utilisation of Resources to Enterprises in Hong Kong and Guangdong”. We also jointly conducted a series of promotion activities, technical exchanges and demonstration projects on cleaner production by industrial enterprises. We will also launch a five-year “Cleaner Production Partnership Programme” starting from April 2008 to encourage Hong Kong-owned factories operating in the PRD region to adopt cleaner production technologies and practices.

15. In 2008, both sides will continue to work towards the 2010 emission reduction targets by implementing the measures under the Management Plan, including proactively promoting energy efficiency and cleaner production practices to enterprises in the PRD Region, stepping up cooperation in taking forward a five-year Cleaner Production Partnership Programme, and following up the measures recommended in the Mid-term Review.

Environmental Protection Department
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