

For Information  
July 2007

**LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**Progress of Measures to Improve Air Quality  
(Including Those Measures Taken by the Two Power Companies  
to Meet the Government's Emission Reduction Targets by 2010)**

**Purpose**

This paper reports to Members the latest progress of measures to improve air quality (including those taken by the two power companies) 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 (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), respirable suspended particulates (RSP) and volatile organic compounds (VOCs) by 40%, 20%, 55% and 55% respectively in the region by 2010, using 1997 as the base year. Achieving these targets will not only enable Hong Kong to meet its air quality objectives (AQOs), but also significantly improve the air quality of the Pearl River Delta (PRD) and relieve the regional smog problem.

3. On 29 September 2005, we informed Members of the progress of measures being pursued by both sides for meeting the 2010 emission reduction targets. At the meeting, Members requested the Administration to provide six-monthly reports on the progress of meeting the 2010 emission reduction targets and the relevant measures taken by the two power companies.

4. Subsequently, the Administration provided progress reports to Members in January and August last year and January this year. This paper is the fourth progress report.

## Progress of Reducing Emissions and Latest Measures In Hong Kong

### *Progress of Emission Reduction*

5. We are making good progress in the implementation of local emission reduction measures. Except for SO<sub>2</sub>, whose emission level has increased 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:

|                 | <b>Emission Level<br/>in 1997<br/>(tonnes)</b> | <b>Change in Emission<br/>Level during<br/>1997-2005</b> | <b>Emission<br/>Reduction Target<br/>for 2010</b> |
|-----------------|--|--|---|
| SO <sub>2</sub> | 64 500   | +31%   | -40%  |
| NO <sub>x</sub> | 110 000  | -15%   | -20%  |
| RSP             | 11 200   | -36%   | -55%  |
| VOCs            | 54 400   | -26%   | -55%  |

### *Latest Measures*

6. To further step up local efforts in emission reduction, the Chief Executive announced a series of new initiatives in his 2006 Policy Address. We have been implementing these initiatives progressively:

- (a) On 1 April 2007, we launched a one-off grant scheme with \$3.2 billion to encourage car owners to replace their pre-Euro and Euro I commercial diesel vehicles with Euro IV models as early as possible. If all these vehicles, which total about 74 000, are replaced, it is expected that the emissions of NO<sub>x</sub> and RSP in Hong Kong will be reduced by 10% and 18% respectively. As at the end of June, 727 applications have been received under this scheme, of which 563 have been approved.
- (b) With effect from 1 April 2007, a 30% reduction in First Registration Tax, subject to a cap of \$50,000 per vehicle, has been granted to buyers

of environment friendly private cars so as to encourage their use. As at the end of June, the Government has received 1 224 applications, of which 1 183 of them have been approved.

- (c) We plan to consult the public within this year on enacting legislation for switching off idling engines.

7. Apart from the above, we have extended the mandatory requirement of installing emission reduction devices to long idling pre-Euro diesel vehicles from 1 April 2007. Since then, all pre-Euro diesel vehicles are required to install emission reduction devices.

8. Starting from 1 April 2007, we have been enforcing a new legislation in phases to impose statutory limits on the VOC contents of paints, printing inks and six broad categories of specified consumer products (namely hairspray, air freshener, insecticide, insect repellent, floor wax stripper and multi-purpose lubricant) and implementing the mandatory requirement of installing emission reduction devices for certain printing processes. Upon full implementation of the legislation, it is expected that VOC emission will be reduced by 8 000 tonnes.

9. Power generation is the largest local source of SO<sub>2</sub> emission. We have therefore imposed emission caps on power plants and will tighten them progressively. The Chief Executive has stressed in his 2006 Policy Address that we should not allow these firm targets to be compromised in any way. At our current negotiations with the power companies on the post-2008 Schemes of Control, we have also made clear that environmental requirements will be a major focus. The permitted rates of return of the power companies will be linked to their achievement of the emission caps.

10. So far we have made the following progress on reducing emission from the power sector this year –

- (a) On retrofit projects, Environmental Permits were granted to the Hong Kong Electric Company Limited (HEC) and the China Light & Power Hong Kong Limited (CLP) for their reduction retrofit projects in April and November 2006 respectively. HEC has awarded the procurement contract and the major retrofit contract for its flue gas desulphurisation system. CLP is now vetting the detailed layout plan and has awarded some major works contracts;

- (b) On the wider use of natural gas, we granted in April 2007 the Environmental Permit to CLP for the proposed liquefied natural gas (LNG) receiving terminal, with conditions including stringent environmental requirements and mitigating measures. The Government will also consider the feasibility of having 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 the relevant considerations are reasonable and acceptable; and
- (c) On promoting renewable energy, CLP was granted the Environmental Permit in March 2007 for launching the commercial scale wind turbine pilot demonstration 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.

11. The Environmental Protection Department awarded a consultancy agreement to Ove Arup & Partners Hong Kong Ltd in June 2007 to undertake a comprehensive study so as to draw up a new set of AQOs and devise a relevant long-term management plan. The study will make reference to the new Air Quality Guidelines of the World Health Organization and the recent research findings in air quality in advanced countries. It will also evaluate carefully the need and justifications for revising Hong Kong's AQOs, taking into account local factors and considerations. The study will provide detailed information on required specific measures and their implications, as well as the available options for achieving any new AQOs. The study is expected to be completed by the end of 2008. We will then launch a thorough public engagement process with a view to finalising the new AQOs and the required long-term strategy on air quality management within 2009. We have set up an Advisory Panel to guide the study and ensure that it is being properly conducted. It comprises members from the Advisory Council on the Environment, experts from different sectors, academics of relevant disciplines and representatives from relevant bureaux of the Government. A summary of the study is at **Annex** (English version only).

### **Co-operation with the Mainland**

12. Maintaining a close partnership with the Mainland authorities is crucial to achieving the 2010 emission reduction targets. In the past six months, the Guangdong Provincial Government made much progress in continuing to implement the enhanced control measures under the "Pearl River Delta Regional

## Air Quality Management Plan”.

13. According to the information provided by the Guangdong Province, its total installed capacity of power generation at the end of 2005 was about 48 000 MW, of which 28% and 16% were from oil-fired and small thermal power generating units respectively, while the others were from coal-fired, nuclear energy, hydro-electric and wind power generating units. In March 2007, the Guangdong Provincial Government announced its plan to close down 133 groups of small thermal power generating units with a total capacity of 9 660 MW, including those in the PRD Economic Zone with a total capacity of some 6 500 MW, by the end of 2010.

14. On 30 January 2007, the environmental protection authorities of the Guangdong and Hong Kong governments announced the implementation framework of the “Emissions Trading Pilot Scheme for Thermal Power Plants in the Pearl River Delta Region”. Through the use of market force and the flexibility of emissions trading, this platform will allow power plants in both places to actively participate in identifying cost-effective emission reduction options on a voluntary basis. Emission of air pollutants in the region will be reduced by means which meet the interests of various parties. On 18 May 2007, the two sides held a meeting with power companies of the PRD region in Guangzhou to explain the details of the implementation framework and promote exchange of views amongst the power plants and the governments of both places.

15. On 24 April 2007, the two sides announced the 2006 report on the monitoring results of the Pearl River Delta Regional Air Quality Monitoring Network. It is expected that the monitoring results for the first half of 2007 will be announced this October.

**Environmental Protection Department**  
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