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For Advice

**A Proposal to Amend
the Air Pollution Control Ordinance (Chapter 311)**

PURPOSE

The paper seeks Members' advice on the Government's proposal to amend the Air Pollution Control Ordinance (APCO) (Cap. 311) to –

- (a) cap the emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and respirable suspended particulates (RSP) of the power plants in Hong Kong in 2010 and beyond;
- (b) facilitate the use of emissions trading as a means to achieve the emission caps for power plants; and
- (c) repeal the provision for the Director of Environmental Protection (DEP) to refer an Appeal Board's decision made under the Ordinance for review by the Chief Executive (CE) in Council and bar public officers from serving on the Appeal Board, except for a judge or former judge who may be appointed as the Chairman of the Appeal Board.

BACKGROUND

2. To improve air quality, the Hong Kong SAR Government reached a consensus with the Guangdong Provincial Government in April 2002 to reduce the emission of SO₂, NO_x, RSP and volatile organic compounds by 40%, 20%, 55% and 55%, respectively by 2010 compared to 1997 levels.

3. Being the largest emission source in Hong Kong, power generation accounted for 91% of the SO₂ and about half of the NO_x and RSP emitted locally in 2005. For Hong Kong to achieve the 2010 emission reduction targets, it is essential for the power companies to reduce substantially their emissions of SO₂, NO_x and RSP by 2010.

4. We have been engaging the two local power companies since 2003 regarding the imposition of emission caps in 2010. To achieve the emission reduction targets, we have imposed, since 2005, emission caps on the power stations upon renewal of their Specified Process Licences (SPLs). These emission caps will be progressively tightened to ensure that Hong Kong can meet the 2010 emissions reduction targets.

5. To ensure a smooth, timely and transparent implementation of the emission caps for the power sector, we consider it appropriate to stipulate by legislation the maximum quantity of emission permissible for the power plants and allow them to use emissions trading as an alternative means for achieving the emissions caps. These practices have been adopted in many advanced countries such as the US and UK.

6. It is also proposed to take the opportunity to amend the appeal provisions to ensure the independent and impartial operation of the Appeal Board under the APCO.

THE PROPOSAL

Capping the Emissions of the Power Sector

7. To set a cap on the maximum emissions allowed for the power sector, we propose to set out by means of a Technical Memorandum (TM) under the APCO the emission allowances for the power sector and the methodology for allocating these emission allowances to individual power plants.

8. After taking into account the need to achieve the emission reduction targets under the 2002 consensus with Guangdong, the best practicable emission reduction technologies and means available as well as emissions from other sources and sectors, the proposed 2010 emissions allowances for the power sector are as follows –

	1997 Baseline Emissions (tonnes)	2010 Emissions Allowances (tonnes)	Reduction (%)
Sulphur dioxide	54,400	25,120	54%
Nitrogen oxides ⁽¹⁾	56,100	42,600	24%
Respirable suspended Particulates	2,600	1,260	52%

⁽¹⁾ Expressed as nitrogen dioxide

9. To ensure that all power plants will receive the same quantity of emission allowances per unit of electricity generated, we propose to allocate the emission allowances

to individual power plants on a pro-rata basis in accordance with their respective share of the total amount of electricity generated for local consumption. For the 2010 allowances, the allocation to individual power plants has been determined with reference to their amount of electricity generated for local consumption for the five-year period from 1999 to 2003. To cater for the change of the market share in electricity generation, we propose that starting from 2010, the allocation will be updated regularly, and in any event not less than once every three years, in accordance with their total amount of electricity generated for local consumption for the immediate past five years.

10. In addition to the regular updating according to individual power plants' respective market share, the overall emission caps for the power sector may also need to be revised in future in view of the need to continuously improve air quality. In case of such revision, we will take account of the following relevant factors –

- (a) the need to attain and maintain the relevant air quality objectives;
- (b) the use of the best practicable means for the prevention of emissions; and
- (c) whether the emissions would be, or be likely to be, prejudicial to public health.

11. To provide sufficient lead time for power companies to adjust their operation (e.g. installation of emission abatement facilities, adjustment of fuel strategy and securing emissions trading opportunities), we propose that for any change in the allocation of emission allowances, including that resulted from the regular updating, an advance notice of no less than four years will be given.

12. To cater for the requirements of potential new comers, we propose to allocate a small amount of emission allowances broadly equivalent to 1% of the total emission allowances for the power sector, which should be sufficient for the new power plant to enter the local electricity market. Details are as follows –

Total Installed Capacity of the New Electricity Works	Sulphur dioxide (tonnes)	Nitrogen oxides ⁽¹⁾ (tonnes)	Respirable suspended particulates (tonnes)
Less than 300 MW	2 × Total installed capacity in MW / 3	4 × Total installed capacity in MW / 3	Total installed capacity in MW / 30
Equal or more than 300 MW	200	400	10

⁽¹⁾ *Expressed as nitrogen dioxide*

Since all new power generation units in Hong Kong must use gas or cleaner fuel, the quantity of emission allowances required is small and should have little impact on the overall emission levels of Hong Kong.

13. For unspent emission allowances, we are not in favour of allowing unqualified "banking" of these allowances for use by the concerned power plants in the future as it may cause an undue increase of emissions in a particular year. On the other hand, we recognise the case to allow some flexibility for the power stations to meet their operational requirements. We therefore propose that the validity period of a maximum of 2% of the total emission allowances issued can be extended until the end the following year.

Facilitating Emissions Trading

14. To facilitate the power plants in Hong Kong to meet the emissions caps through emissions trading with other power plants in Hong Kong and in the Pearl River Delta (PRD) Region, we propose that emission allowances allocated to a SPL holder of power plant will be tradable. The SPL holder is deemed to have discharged his/her legal responsibility if he/she surrenders within three months after the close of year to DEP sufficient amount of emission allowances or emission credits obtained through emissions trading to cover the actual emission quantities in the year. Failure to do so will constitute a breach of the terms and conditions of the SPL and subject to prosecution under the APCO. To achieve a greater deterrent effect and help restore the damage that may be resulted, we also propose to require power plants the recovery of any deficit emission allowances in the following year.

15. Emission allowances granted under an SPL can be transferred or traded locally subject to a joint written notification by the concerned SPL holders being duly made to the Authority. For emissions traded with other power plants in PRD, these will be under the coordination of the Emission Trading Pilot Scheme for Thermal Power Plants in the Pearl River Delta Region (the Pilot Scheme). To distinguish the two, the emissions traded under the Pilot Scheme are named "emission credits". If a SPL holder wishes to use these credits for covering the actual emission quantities, the SPL holder should make an application to DEP for approval which may be granted subject to suitable terms and conditions.

16. In cases where the emissions trading partner fails to deliver the emission credits under the Pilot Scheme but due diligence has been exercised by the SPL holder in contracting for and implementing a trading contract, we propose to allow the issue of additional and non-transferable emission allowances no more than the amount of undelivered emission credits to the SPL holder at a cost of HK\$20,000 per tonne solely for reconciling the excess amount of air pollutants of the concerned year.

17. For "force majeure" events completely beyond the control of the SPL holder but resulting in excess emissions, we propose that DEP may issue additional and non-transferable emission allowance no more than the excess emissions incurred to the SPL holder at no cost solely for reconciling the excess amount of air pollutants of that concerned year.

Amending the Appeal Board Provisions

18. Section 35(2) of the APCO empowers DEP to refer an Appeal Board's decision for review by the CE in Council. To eliminate any possible challenge that the CE in Council is not an independent and impartial tribunal for conducting reviews, we propose to repeal section 35 of APCO. In addition, to ensure the independence and impartiality of the Appeal Board under APCO, we should take the opportunity to revise the Ordinance by stipulating that public officers would be barred from serving in the Appeal Board, except for a judge or former judge who may be appointed as the Chairman of the Appeal Board.

IMPLICATIONS

Financial and Civil Service Implications

19. The proposal will not incur particular expenditure to the Government. The amendments to the APCO will be enforced mainly through existing staff resources.

Economic Implications

20. There is a strong public desire to improve the air quality. As the largest emission source in Hong Kong, the power sector must reduce its emissions substantially in accordance with the emission caps to achieve improvement in air quality. The introduction of emissions trading will allow for a more cost-effective means for the power companies to achieve the emission caps.

Environmental Implications

21. The proposal will facilitate compliance of the power companies with the 2010 emission reduction targets and subsequent targets. It will also allow for the implementation of emissions trading, which is a cost-effective means for achieving the emission reduction targets. The accomplishment of the emission reduction targets will help achieve the air quality objectives of Hong Kong. Besides, it will also alleviate the visibility, smog as well as acid rain problems in Hong Kong and its neighboring region. Better air quality will improve the image of Hong Kong and enhance Hong Kong's

attractiveness to tourists and foreign investment, thereby maintain the competitiveness of Hong Kong in the long run.

CONSULTATIONS

22. The two local power companies have been consulted on the proposed amendments. We have taken on board many of the comments made by the two power companies. We would continue to discuss with the power companies before finalising the proposed amendments.

LEGISLATIVE TIMETABLE

23. Subject to Members' views, we plan to finalise the proposal and introduce the Air Pollution Control (Amendment) Bill to the Legislative Council in early 2008 with a view to bringing the amendments into operation in 2008.

ADVICE SOUGHT

24. Members' comments are sought on the proposal to amend the Air Pollution Control Ordinance as set out in paragraphs 7 to 18 of the paper.

Environmental Protection Department
December 2007