For information
February 2008

LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS

Supplementary Information on
A Proposal to Amend the Air Pollution Control Ordinance (Cap. 311)

Purpose

This paper provides Members with supplementary information in respect of the proposed amendments to the Air Pollution Control Ordinance (Cap. 311).

Background

2. On 30 January 2007, the Environmental Protection Bureau of Guangdong Province (GDEPB) and the Environmental Protection Department (EPD) of the Hong Kong Special Administrative Region Government (HKSARG) jointly announced the implementation framework of the Emissions Trading Pilot Scheme for Thermal Power Plants in the Pearl River Delta Region (Pilot Scheme). It provides a market-based tool to encourage power companies, through emissions trading, to embark upon emission reduction projects. By allowing the trading of the "emission credits" achieved from the emission reduction projects, power companies in the Pearl River Delta (PRD) region can comply with the emission reduction targets laid down by the respective governments of the Guangdong Province and HKSAR more flexibly and cost-effectively.

3. On 17 December 2007, we briefed Members on a proposal to amend the Air Pollution Control Ordinance (Cap. 311) (APCO) with a view to allowing the introduction of emissions trading as an alternative means for local power plants to comply with the emission caps. At the meeting, the Administration undertook to provide Members with the following supplementary information.

Composition and membership of the Air Pollution Control Appeal Board

4. The composition and membership of the Air Pollution Control Appeal Board Panel is attached at **Annex I**.

Operation of emissions trading under APCO

5. To facilitate power plants in Hong Kong to meet the emission caps through emissions trading with other power plants in Hong Kong and in the PRD Region, we propose that emission allowances allocated to a Specified Process Licence (SPL) holder of power plant will be tradable. For local emissions trading, a SPL holder is free to acquire or transfer emission allowances from or to another SPL holder. After the transaction, the relevant SPL holders should make a joint written notification to the Authority (i.e. Director of Environmental Protection) in a timely manner and their quantity of emission allowances will be increased or reduced accordingly.

6. For the trading of emissions with other power plants in PRD, the implementation framework of Pilot Scheme should be followed (see para 8 below). To distinguish between the two types of transaction, the emissions traded under the Pilot Scheme are termed "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 the Authority for approval which may be granted subject to relevant terms and conditions.

7. In the event where the emissions trading partner fails to deliver the emission credits under the Pilot Scheme notwithstanding due diligence being exercised by the SPL holder in contracting for and implementing a trading contract, we propose to allow the issue of additional 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 pollutant emissions of the concerned year. The charge of HK$20,000 per tonne for additional emission allowance is worked out having regard to the local control cost for removal of sulphur dioxide (about HK$12,600 per tonne) and the penalty for excess emission under the US emission trading rules (about HK$27,100 per tonne).

Operation of the Pilot Scheme

8. On 26 February 2007, we briefed Members on the implementation framework of the Pilot Scheme at the panel meeting. According to the implementation framework, the operation of emissions trading under the Pilot

Scheme is set out at **Annex II**.

Overseas experience on emissions trading

9. In March 2007, we provided Members with supplementary information related to the Pilot Scheme, including the overseas experience on emissions trading. The US Acid Rain Programme, the EU Emissions Trading Scheme and the Clean Development Mechanism under the Kyoto Protocol are amongst the more prominent schemes. The latest information of these schemes is set out at **Annex III**.

Environmental Protection Department
February 2008

Annex I

Composition and Membership of
Air Pollution Control Appeal Board
(1 February 2007 to 31 January 2010)

	Name
Chairman :	Mr Ambrose Ho, SC
Members :	Mrs Chan Chen Rosalind
	Ir Chan Sou-tung, Richard
	Mr Chan Yiu-wah, Simon
	Ms Chu Mau-lam, Maureen, MH
	Prof Lam Tai-hing, JP
	Dr Lau Kai-hon, Alexis
	Prof Lee Shun-cheng, Frank
	Ms Shum Mun-ling, Elle, JP
	Mr Tang Wai-chung
	Mr Tsui Hing-chuen, William, JP

Annex II

The Workflow of a Transaction of "Project-based Emission Credits" between Power Plants under the Emission Trading Pilot Scheme for Thermal Power Plants in the Pearl River Delta Region (the Pilot Scheme)

1. The Workflow for the Seller to Form its "Project-based Emission Credits"

1.1 The seller seeks verification of its eligibility to participate in the Pilot Scheme by the local government environmental protection authority.

1.2 The seller submits to the local government environmental protection authority a report on the emission reduction plan (the "plan") prepared by a professional consultant serving as an independent third party. The report should include the following information:

- the generating units under operation before and after implementation of the plan
- the pollutants involved
- the base emission target of the existing generating units
- the specific details, technologies, amount of investment and implementation schedule of the plan
- the emission target to be achieved after completion of the plan
- the anticipated reduction in total emissions, the year of achievement and the corresponding operating conditions
- the technical specifications of the emission monitoring system and the total emission calculation method applicable to the plan
- other relevant information

The government environmental protection authorities of the trading partners will jointly examine the plan and determine the number and

validity period of “project-based emission credits” expected to be achieved, technical specifications of the emission monitoring system and the total emission calculation method applicable to the plan, the effective period of the approval, etc.

1.3 After completing other applicable approval procedures (including environmental impact assessment) of the construction project, the seller shall implement the approved plan. Should there be any major amendment to the approved plan, the number of project-based emission credits expected to be achieved shall be re-determined in accordance with the procedures stated in Paragraph 1.2 above. The seller shall inform the buyer of the outcome once it is available.

1.4 After completion of the plan, the seller shall submit an acceptance report to the local government environmental protection authority. If necessary, the authority concerned may, together with the Emissions Trading Management Panel (Management Panel), conduct an independent acceptance test on the plan by itself and/or through its agent. The authority concerned shall, after taking into account the technical advice from the Management Panel, approve the acceptance test results on the plan.

1.5 During every trading year after completion of the acceptance test, the seller shall submit to the local government environmental protection authority an annual report on the total emission reduction prepared by a professional consultant serving as an independent third party. The report will validate the actual operating conditions of the plan, the actual annual emission of the concerned pollutants and the total number of project-based emission credits actually achieved. The report shall be jointly examined by the environmental protection authorities of respective governments of the

trading partners to affirm the total number of project-based emission credits actually achieved, and to determine the validity period of the emission credits in accordance with the approval result mentioned in Paragraph 1.2 above and the acceptance result mentioned in Paragraph 1.4, etc.

2. Workflow for Transfer of Emission Credits

2.1 Under the Pilot Scheme, both the buyer and seller are free to choose their trading partners and decide for themselves details of the emission trading contract as well as the time of entering into the contract.

2.2 Both the buyer and seller shall, within 5 working days after signing the contract, submit a copy of the contract to the environmental protection authorities of respective governments for record, who shall then inform the Management Panel.

2.3 The seller shall transfer the project-based emission credits actually achieved to the buyer in accordance with the approval made by respective environmental protection authorities on the actual amount of emission reduction as well as terms and conditions of the contract.

2.4 Both the buyer and seller shall, within 5 working days after transferring the emission credits, inform the respective environmental protection authority which will then inform the Management Panel for a formal record to be made on the transfer of emission credits.

Annex III

Details of Some Overseas Emissions Trading Schemes

Scheme	US Acid Rain Program	European Union Emission Trading Scheme	Clean Development Mechanism (CDM) under Kyoto Protocol
Start	1995	2005	2005
Geographical Reach	Continental US	European Union	Global
Pollutant for Trading	Sulphur dioxide	Carbon dioxide	Six greenhouse gases (CO_2, CH_4, N_2O, PFCs, HFCs, SF_6)
Target Group	Fossil-fuel burning power plants	Large industrial and energy intensive installations	A wide range of activities
Number of Sources	~ 3000 units	~ 10,000 units	Up to Jan 2008, ~900 registered projects
Market Volume	In 2006, around 10 million tonnes of SO_2 were transferred among economically unrelated organizations. The market price is currently US$500 per tonne.	In 2006, 1100 million tonnes of CO_2 were traded for a sum of US$24.4 billion (~ US$22/tonne)	In 2006, 450 million tonnes of CO_2-equivalent were traded for a sum of US$4.8 billion (~ US$11/tonne). China has a dominant market-share of the CDM with 61%.
Benefits	1) By 2006, SO_2 emission has been reduced by 46% using 1980 as base year. 2) The capital cost of abatement equipment dropped significantly. For example cost of a scrubber, a standard SO_2 removal device, dropped from US$249 per kW in 1995 to US$100 per kW in 2000	Greenhouse gas emissions in the EU-27 decreased by 7.9 % between 1990 and 2005, and are projected to remain approximately at 2005 levels by 2010. If the currently planned additional policies and measures are implemented on time, emissions could decrease down to 11 % below their 1990 levels by 2010.	Successfully promote technology transfer and financial support to assist the developing countries in cutting down emissions.