

## Bill Committee on Air Pollution Control (Amendment) Bill 2013 Ir Dr C W Tso's Views & Comments

- As a retired professional engineer residing in Hong Kong, I deeply share the community's aspiration for cleaner and fresh air. It is beyond dispute that clean air is vital to the health and well-being of the people and plays an important role in maintaining the competitiveness of Hong Kong as an international business and financial centre. I am in full support of the pressing need as desired by the community to amend the Air Pollution Control Ordinance (Cap.311) to set out new Air Quality Objectives ("AQOs") to replace those promulgated in 1987.

### Measures to Improved Air Quality

- Given the power sector and transport sector are responsible for most locally generated air pollutants, I agree that the 19 measures listed in Annex C of Air Pollution Control (Amendment) Bill 2013 ("Bill"), viz. cleaner fuel for electricity generation, early replacement of aged vehicles, wider adoption of hybrid and electric vehicles, bus route rationalisation, setting up low emission zones, expanding rail network, promotion of energy efficiency, etc. will definitely help improve air quality in Hong Kong and protect public health.
- It is not that clear that the 22 measures covering (1) emission capping control, (2) traffic related measures, (3) infrastructure development and planning, (4) energy efficiency measures and (5) measures outside the AQOs Review as stipulated in Annex C of the Bill are also aiming to meet the following Hong Kong's 2015 and 2020 emission reduction targets (Hong Kong Government's Press Release on 23 Nov 2013). It is also incomprehensible that the time line for the implementation of aforesaid 22 measures and the data on how the new AQOs related to 2015 or 2017 emission reduction targets are conspicuously absent.

Emissions	SO <sub>2</sub>	NO <sub>x</sub>	RSP	VOC
<b>2010 (Tonnes)</b>	35,500	109,000	6,340	33,700
<b>2015 Targets</b>	-25%	-10%	-10%	-5%
<b>2020 Targets</b>	-35% to -75%	-20% to 30%	-15% to 40%	-15%

- It is noted that according to EPD's 2010 emission inventory of Hong Kong, electricity generation in Hong Kong is responsible for the production of 50% SO<sub>2</sub>, 25% of NO<sub>x</sub> and 16% RSP local pollutants. It is not too sure whether by increasing the ratio of natural gas in local electricity generation to 50% with additional emission abatement measure (Annex C of the Bill), the following emission caps imposed on power plants through the Technical Memoranda under current APCO can be met:

	2010 Emission Caps			2015 Emission			2017 Emission Caps		
	SO <sub>2</sub> (Tonne)	Nox (Tonne)	RSP (Tonne)	SO <sub>2</sub> (Tonne)	Nox (Tonne)	RSP (Tonne)	SO <sub>2</sub> (Tonne)	Nox (Tonne)	RSP (Tonne)
<b>CLP</b>	15,750	26,710	790	5,702	17,532	531	5,199	16,500	500
<b>HEC</b>	9,370	15,890	470	6,780	10,020	300	5,200	9,450	250
<b>Total</b>	25,120	42,600	1,260	12,482	27,552	831	10,399	25,950	750
<b>Reduction</b>	<b>Base</b>			<b>50.3%</b>	<b>35.3%</b>	<b>34.1%</b>	<b>58.6%</b>	<b>39.1%</b>	<b>40.5%</b>

5. Given electricity generation is also responsible for about 67% of CO<sub>2</sub> as local greenhouse gas emission, the Administration should clarify whether the proposed revamping of fuel-mix, such as 50% imported nuclear energy, as outlined in the Consultation Document on Hong Kong's Climate Change Strategy and action Agenda for the Coming Decade is a concerted effort to attain the new AQOs.
6. Bearing in mind the marine navigation is now responsible for just over 50% of Hong Kong's sulphur dioxide emission, swift action is deemed necessary to impose low sulphur fuel restriction on all vessels, particular the ocean-going vessels using heavy bunker fuel oil, entering into Hong Kong waters.

### **Transitional Arrangement**

7. It is noted that the Bill provides for a time-limited transitional period of 36 months from the commencement date (1 Jan 2014) of the new AQOs, within which the new AQOs will not apply to an application for variation of an EP. As such blanket exemption would give an impression to facilitate some controversial projects, such as the waste to energy incineration project, not required to comply with the new AQOs if variation of EP is needed before end of 2016, the rational of adopting 36 months deserves further elaboration and substantiation. To alleviate such concern, it is suggested to adopt either (i) reducing the blanket exemption period to 12 months, or (ii) only granting such exemption would be in the public interest.
8. The Administration's commitment to adopt the new AQOs for conduction the air quality impact assessment for all government projects for which EIA studies have not yet commenced should best be extended from an "endeavour" basis to a "firm" basis.

### **Review Mechanism**

9. The Administration's long term goal of achieving the WHO AQGs is commendable. It is also pleasing to note that the Administration has undertaken to put in place a review mechanism to ascertain the extent to which the new AQOs have been achieved, the progress (*should include effectiveness*) of the air management strategy (*should include improvement measures*) and the need and practicality of further tightening the AQOs. It would be more forward by setting a target year, say 2030 or 2040, for achieving the WHO AQGs.
10. Given the complexity of the issues involved in air quality objectives, the proposed frequency of the mandatory review should not be less than once every five years is a reasonable and pragmatic approach. The review should take consideration of the latest technology development, the practice of other advanced countries/economies, any changes in WHO AQGs and local economic, social and political situations. Extensive public engagement should be conducted to seek the views and suggestion of the community. The Administration should consider raise the role and authority of the Advisory Council on the Environment in the review process of AQOs.

### **Concluding Remarks**

11. In summary, I fully support phased approach to adopt a combination of WHO ITs and AQGs as the New AQOs as stipulated in Annex B of the Bill for Hong Kong to suit our specific local situations. Having said that, I feel there are strong reasons to tighten the concentration limit of PM<sub>2.5</sub> and hope this will be rigorously considered in the next periodic review process.

12. Given the new AQOs are set with the protection of public health as a key consideration, the Administration should explain the absence of “public health” in Section 7A(2) (a) and (b) of the Bill.
13. The adoption of new AQOs on 1 January 2014 and setting of 2015 and 2020 emission reduction targets should be able to help Hong Kong improve its air quality, which plays an important role in maintaining the competitiveness of Hong Kong as an international business centre. As air quality polices should be premised on protection of public health, it is opined that the Hong Kong Government should commit to adopting WHO’s Air Quality Guidelines as early as practicable. At the same time, the Government should also strengthen cooperation with the mainland authorities over the monitoring, prevention and mitigation of air pollution problems with a view to building a quality living area in the Greater Pearl River Delta.
14. Hong Kong is an open society with diverse vested interests. Adoption of the new AQOs and setting the 2015 and 2020 emission reduction targets would lead to changes in supply-side fuel and energy mix, and most likely an increase in electricity tariff, transport fare and costs of living, all of which would inevitably invite extensive and intensive debate. The administration should actively engage the public and stakeholders in the implementation of all air improvement measures.



Ir Dr C W Tso  
Adjunct Professor  
School of Energy and Environment  
City University of Hong Kong  
Room 5702, Academic 1  
Tat Chee Avenue, Kowloon Tong  
Tel: 3442 9490  
Email: [chewtso@cityu.edu.hk](mailto:chewtso@cityu.edu.hk)

**19 May 2013**