

**立法會**  
**Legislative Council**

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**Panel on Environmental Affairs**

**Subcommittee on Improving Air Quality**

**Minutes of meeting**  
**held on Friday, 28 January 2011, at 10:45 am**  
**in Conference Room B of the Legislative Council Building**

**Members present** : Hon Audrey EU Yuet-mee, SC, JP (Chairman)  
Hon Miriam LAU Kin-yee, GBS, JP  
Hon Jeffrey LAM Kin-fung, SBS, JP  
Hon KAM Nai-wai, MH  
Hon Cyd HO Sau-lan  
Hon CHAN Hak-kan  
Hon CHAN Kin-por, JP  
Hon IP Wai-ming, MH  
Hon Tanya CHAN

**Member absent** : Hon LEE Wing-tat

**Public officers** : **For item II**  
**attending**

Dr Kitty POON  
Under Secretary for the Environment

Mr Carlson K S CHAN  
Deputy Director of Environmental Protection (3)  
Environmental Protection Department

Mr MOK Wai-chuen  
Assistant Director (Air Policy)  
Environmental Protection Department

Mr PANG Sik-wing  
Principal Environmental Protection Officer (Air Policy)  
Environmental Protection Department

Mr Gordon LEUNG  
Senior Environmental Protection Officer  
(Cross-Boundary & International) 3  
Environmental Protection Department

**For item III**

Dr Kitty POON  
Under Secretary for the Environment

Mr Carlson K S CHAN  
Deputy Director of Environmental Protection (3)  
Environmental Protection Department

Mr MOK Wai-chuen  
Assistant Director (Air Policy)  
Environmental Protection Department

Mr PANG Sik-wing  
Principal Environmental Protection Officer (Air Policy)  
Environmental Protection Department

**Attendance by invitation : For item III**

The University of Hong Kong

Professor Anthony J HEDLEY  
Honorary Professor

Dr LAI Hak-kan  
Post-doctoral Fellow

**Clerk in attendance :** Mrs Mary TANG  
Senior Council Secretary (1)2

**Staff in attendance :** Mr Franco KWONG  
Council Secretary (1)1

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## **I. Election of Chairman (if required)**

Ms Audrey EU, Chairman in office, advised that according to the existing practice, it was for the Subcommittee to decide whether re-election of Chairman was necessary. Mr CHAN Kin-por, Mr KAM Nai-wai and Ms Cyd HO opined that re-election was not necessary. Other members did not raise objection to the proposal that Ms Audrey EU should remain as the Chairman of the Subcommittee for the 2010-2011 session.

## **II. Progress of measures under the Pearl River Delta Regional Air Quality Management Plan to achieve the 2010 emission reduction targets**

(LC Paper No. CB(1) 1132/10-11(01) — Administration's paper on progress of measures under the Pearl River Delta Regional Air Quality Management Plan to achieve the 2010 emission reduction targets

LC Paper No. CB(1) 1132/10-11(02) — Paper on the Pearl River Delta Regional Air Quality Management Plan prepared by the Legislative Council Secretariat (updated background brief))

2. The Administration was requested to provide an annual breakdown on the estimated supply of low-emission buses through retrofitting of Euro II/III buses with selective catalytic reduction devices, and replacement of old diesel buses with Euro IV/V models for the period from 2011 to 2015.

## **III. HKU Study on Impact of Loss of Visibility on Mortality Risks: A Report of Regional and Global Importance**

Presentation by researchers from The University of Hong Kong Li Ka Shing Faculty of Medicine

(LC Paper No. CB(1) 1188/10-11(01) — Papers provided by The University of Hong Kong)

3. Professor Anthony J HEDLEY gave a power-point presentation on the findings of the environmental research on "Daily visibility and mortality: Assessment of health benefits from improved visibility in Hong Kong".

4. The Subcommittee deliberation (Index of proceedings attached in **Annex**).

**IV. Any other business**

5. There being no other business, the meeting ended at 12:50 pm.

Council Business Division 1  
Legislative Council Secretariat  
17 March 2011

## Panel on Environmental Affairs

## Subcommittee on Improving Air Quality

**Proceedings of the meeting  
on Friday, 28 January 2011, at 10:45 am  
in Conference Room B of the Legislative Council Building**

Time marker	Speaker	Subject(s)	Action required
<i>Agenda Item I - Election of Chairman (if required)</i>			
000130 - 000205	Ms Audrey EU Mr CHAN Kin-por Mr KAM Nai-wai Ms Cyd HO	It was agreed that re-election was not necessary, and that Ms Audrey EU would remain as Chairman of the Subcommittee for the 2010-2011 legislative session.	
<i>Agenda Item II - Progress of measures under the Pearl River Delta Regional Air Quality Management Plan to achieve the 2010 emission reduction targets</i>			
000206 - 000807	Chairman Administration	Administration's explanation on its paper on "Progress of measures under the Pearl River Delta Region Air Quality Management Plan to achieve 2010 Emission Reduction Targets" (LC Paper No. CB(1) 1132/10-11(01)).	
000808 - 001940	Chairman Ms Miriam LAU Administration Mr CHAN Hak-kan	<p>Ms Miriam LAU's views -</p> <p>(a) given that franchised bus companies would retrofit their Euro IV and V buses with selective catalytic reduction (SCR), there should be sufficient supply of low-emission to enable early commissioning of the low emission zones (LEZs) before 2015;</p> <p>(b) need to provide an annual breakdown on the estimated supply of low-emission buses through retrofitting of Euro II/III buses with SCR devices, and replacement of old diesel buses with Euro IV/V models for the period from 2011 to 2015;</p> <p>(c) efforts should be stepped up to promote the use of biodiesel, including the provision of more information on the effect of biodiesel on vehicle performance to allay drivers' concerns. Consideration should also be given to allowing a higher percentage of biodiesel</p>	The Administration to provide an annual breakdown on the estimated supply of low-emission buses through retrofitting of Euro II/III buses with SCR devices, and replacement of old diesel buses with Euro IV/V models for the period from 2011 to 2015.

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		<p>(say over 10%) to be blended with motor vehicle diesel in line with overseas practices.</p> <p>Administration's response -</p> <p>(a) preparatory work for setting up pilot LEZs in busy corridors in Causeway Bay, Central and Mong Kok in 2015 was underway. It was expected that about 2 500 low-emission buses would be required for the purpose. However, there were only several hundreds Euro IV and V franchised buses. Efforts would be made to increase as far as possible the ratio of these buses in LEZs from 2011 to 2012, with a view to having only low-emission buses in LEZs by 2015;</p> <p>(b) a trial on retrofitting Euro II/III franchised buses with SCR devices would be carried out to upgrade their emission performance to Euro IV standard to increase the number of low-emission buses to tie in with the introduction of LEZs in 2015;</p> <p>(c) while there was no restriction on the percentage of biodiesel to be blended with motor vehicle diesel, motor fuel with biodiesel content exceeding 5% would need to comply with the labeling requirement to alert drivers of the percentage of biodiesel as not all diesel vehicles could tolerate such a biodiesel content. Drivers would need to consult vehicle manufacturers on the use of such motor fuel in their diesel vehicles; and</p> <p>(d) the means to promote biodiesel would be worked out taking into account views on the proposal to increase the biodiesel content of motor vehicle diesel to 10% collated from the public consultation on "Hong Kong's Climate Change Strategy and Action Agenda".</p> <p>The Chairman's suggestion of including the means to promote the use of biodiesel into the list of outstanding items for discussion</p>	

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		by the Panel on Environmental Affairs.	
001941 - 002705	Chairman Mr CHAN Hak-kan Administration	<p>Mr CHAN Hak-kan's enquiry/view -</p> <p>(a) whether additional measures would be adopted with a view to meeting the 2010 emission reduction target in respect of sulphur dioxide (SO<sub>2</sub>) emissions; and</p> <p>(b) more emphasis should be placed on the reduction of respirable suspended particulates (RSP) emissions in setting the emission reduction targets for the next 10 years.</p> <p>Administration's response -</p> <p>(a) figures provided in the paper were for the year 2009. According to the Regional Air Quality Monitoring Network (RAQMN), the average annual concentration of SO<sub>2</sub> and RSP in the Pearl River Delta (PRD) Region had decreased by 38% and 7% respectively in 2009 as compared to 2006 levels, while the concentration of SO<sub>2</sub> and RSP in Hong Kong, had decreased by 45% and 18% respectively between 2005 and 2010;</p> <p>(b) given that the two local power companies had retrofitted their coal-fired power generation units with emission reduction facilities in 2010 as planned, it was expected that SO<sub>2</sub> emissions from the power sector would further drop, thereby enabling Hong Kong to meet the 2010 emission reduction targets;</p> <p>(c) local power companies would be subject to penalty under the Scheme of Control Agreements in the event of failure to comply with the emission caps; and</p> <p>(d) the next emission reduction targets would be set taking into account the progress in meeting the 2010 emission reduction targets.</p>	

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002706 - 003928	Chairman Mr CHAN Kin-por Administration	<p>Mr CHAN Kin-por's enquiries -</p> <p>(a) whether emissions from the Guangdong Province still accounted for 80% to 95% of total emissions in the PRD Region and if so, the progress of emission reduction in the Guangdong Province; and</p> <p>(b) the reason for delay in completing the Review of Air Quality Objectives (AQOs), which was already the subject of investigation by the Ombudsman.</p> <p>Administration's response -</p> <p>(a) the higher emission levels in Guangdong were due to a much higher degree of industrial activities in Guangdong than Hong Kong;</p> <p>(b) the latest figures on emission levels in Guangdong in 2003 were provided by the Guangdong Provincial Government (GPG) when the mid-term review of the PRD Regional Air Quality Management Plan was conducted. The emission inventory for 2010 from both sides should be available some time in 2011-2012;</p> <p>(c) GPG had implemented a number of additional emission reduction measures for the 2010 Asian Games with a view to meeting the 2010 emission reduction targets. The two governments would conduct assessment on the delivery of the respective 2010 emission reduction targets in 2011; and</p> <p>(d) the best way to take forward the AQO Review was being examined in the light of the feedback from the public consultation. As the proposed air quality improvement measures for attaining the new AQOs straddled different policy areas and a few proposed measures could be controversial, it would take time to find a way to take them forward.</p>	



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003929 - 004916	Chairman Mr Jeffrey LAM Administration	<p>Mr Jeffrey LAM's views -</p> <p>(a) some cities in PRD Region, such as Foshan, had made good progress in implementing emission reduction measures. Closure of many factories in PRD Region following the financial crisis had also contributed to emission reduction in the region; and</p> <p>(b) given that no marked improvement to the air quality in Hong Kong despite the improvement made in PRD Region, there was a need for more data on emissions from both sides with a view to identifying the sources of air pollution and working out effective measures to improve air quality.</p> <p>Administration's response -</p> <p>(a) the air quality information of major Guangdong cities in PRD obtained from the regional air quality monitoring network were available on the Environmental Protection Department (EPD)'s website. EPD would also report the monitoring results of RAQMN on a six-monthly basis. However, it would be difficult for the Guangdong side to update its emissions inventory on a more frequent basis having regard to the relatively complicated economic structure of PRD Region; and</p> <p>(b) noticeable reductions in the ambient concentrations of SO<sub>2</sub> and RSP in Hong Kong were observed. Apart from local emissions, the air quality of Hong Kong was affected by regional emissions and the prevailing wind direction.</p>	
004917 - 010115	Chairman Ms Miriam LAU Administration	<p>Ms Miriam LAU's views -</p> <p>(a) although the number of days with blue skies were more than before, joint efforts from both sides should continue to further improve air quality;</p> <p>(b) the one-off grant scheme to encourage early replacement of Euro II vehicles</p>	

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		<p>was not attractive, particularly to owners of goods vehicles who were reluctant to pay huge sums of money to upgrade their vehicles. Consideration should be given for the Administration to buy back all pre-Euro and Euro I diesel vehicles, so that these could be removed from the roads permanently; and</p> <p>(c) there was a need to resolve the operational problems associated with the use of Euro IV vehicles in order to encourage early replacement of polluting vehicles.</p> <p>Chairman's views -</p> <p>(a) efforts should be stepped up to encourage the replacement of goods vehicles as owners would tend to sell their polluting vehicles in the secondary market rather than replacing them under the one-off grant scheme; and</p> <p>(b) support for the proposal of buying back polluting vehicles from vehicle owners.</p> <p>Administration's response -</p> <p>(a) it was not appropriate to buy back polluting vehicles from owners using public funds because these vehicles might no longer be needed for running their business; and</p> <p>(b) the subsidy under the one-off grant scheme was considered adequate to compensate vehicle owners in replacing their polluting vehicles.</p>	
<p><i>Agenda Item III - HKU Study on Impact of Loss of Visibility on Mortality Risks: A Report of Regional and Global Importance</i></p>			
010116 - 011849	Chairman Prof Anthony J HEDLEY	Presentation on the findings of the environmental research on "Daily visibility and mortality: Assessment of health benefits from improved visibility in Hong Kong" by Prof Anthony J HEDLEY (LC Paper No. CB(1) 1188/10-11(01)).	

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011850 - 012853	Chairman Mr KAM Nai-wai Prof Anthony J HEDLEY	<p>Mr KAM Nai-wai's enquiries -</p> <p>(a) whether it was appropriate to use the emission levels of the four major air pollutants, namely SO<sub>2</sub>, nitrogen oxides (NO<sub>x</sub>), RSP and volatile organic compounds (VOC), as the parameters in assessing air quality;</p> <p>(b) the reason for the little improvement in air quality in Hong Kong despite the good progress of emission reduction measures as claimed by the Administration;</p> <p>(c) whether there was any correlation between temperature and air quality; and</p> <p>(d) the impact of roadside air quality on public health.</p> <p>Prof Anthony J HEDLEY's response -</p> <p>(a) the use of average annual concentrations of air pollutants as an indicator might be misleading as emission levels would vary with the seasons;</p> <p>(b) while some progress had been made to improve air quality, the extent of improvement was relatively small and the pollutant levels remained high;</p> <p>(c) air pollution could increase susceptibility to seasonal viruses and increase the risk of illnesses, such as pneumonia and respiratory diseases;</p> <p>(d) there should be greater focus in terms of audit and evaluation on exposures, as cool season pollutant exposure was very intense on public health; and</p> <p>(e) roadside emissions were the main source of air pollution. To resolve this problem, old and polluting vehicles should be removed from roads.</p>	
012854 - 014205	Chairman Mr CHAN Kin-por Administration	<p>Mr CHAN Kin-por's enquiries -</p> <p>(a) the discrepancies between the RSP level</p>	

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	<p>Prof Anthony J HEDLEY</p>	<p>provided by the Administration (i.e. 45 microgram per cubic metre (<math>\mu\text{g}/\text{m}^3</math>) in 2010) and by The University of Hong Kong (HKU) (i.e. 50 - 70 <math>\mu\text{g}/\text{m}^3</math> between 2001 and 2010);</p> <p>(b) the air quality improvement measures proposed by HKU; and</p> <p>(c) the means to tackle regional pollution.</p> <p>Administration's response that the RSP level provided by the Administration was the average annual concentration levels, which were identical with those provided by HKU. The figures of 50-70 <math>\mu\text{g}/\text{m}^3</math> presented by another slide of the HKU study covered only the cool season between October and March.</p> <p>Prof Anthony J HEDLEY's response -</p> <p>(a) the HKU study was based on the air pollutant data provided by the Administration;</p> <p>(b) the RSP level of 45 <math>\mu\text{g}/\text{m}^3</math> was 125% above the limit set by the World Health Organization and was absolutely incompatible with health risk protection;</p> <p>(c) consideration should be given to adopting a carrot and stick approach as advocated by the Civic Exchange in encouraging the replacement of old polluting vehicles;</p> <p>(d) given the massive fiscal surplus, the Administration should consider subsidizing the replacement of franchised bus fleet with cleaner models. This would bring about significant improvements in child health;</p> <p>(e) support for the trial on use of ultra-low sulphur diesel by local ferries as this would help reduce <math>\text{SO}_2</math> emissions which were highly toxic and detrimental to public health;</p> <p>(f) the impact on air quality should be taken into account in the development of</p>	

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		<p>industries and infrastructure; and</p> <p>(g) the Administration should take the lead to improve air quality and make exemplary interventions to encourage the Mainland to follow suit.</p>	
014206 - 020423	<p>Chairman Prof Anthony J HEDLEY Administration</p>	<p>Chairman's enquiries -</p> <p>(a) the possible measures to reduce NO<sub>x</sub> emissions;</p> <p>(b) discrepancies between the Department of Health (DH) and HKU in dealing with public health; and</p> <p>(c) the basis upon which the 1 200 avoidable deaths per year was arrived at.</p> <p>Prof Anthony J HEDLEY's response -</p> <p>(a) the level of NO<sub>x</sub> emissions was used as an indicator in public health studies since it was a stable compound which could be measured very easily;</p> <p>(b) land/marine transport and power generation were the major sources of NO<sub>x</sub> emissions in Hong Kong. Even the cleanest fuel, such as liquefied petroleum gas, would contribute to NO<sub>x</sub> emissions. The high NO<sub>x</sub> emissions in Hong Kong was associated with hospital admissions and mortality rates;</p> <p>(c) the systematic problem between EPD and DH in respect of public health policies might have prevented useful and cohesive governance. According to his understanding, DH did not endorse EPD's proposal on AQOs; and</p> <p>(d) the effects of visibility on mortality were worked out after eliminating background/seasonal factors and constructing core models to examine the variations.</p> <p>Administration's response -</p> <p>(a) the air quality in Hong Kong was</p>	

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		<p>affected by regional emissions as evidenced by the fact that the roadside RSP level had dropped but the general RSP level remained unchanged;</p> <p>(b) much effort had been made to reduce roadside emissions, including the use of cleaner fuels and the replacement of polluting vehicles;</p> <p>(c) NO<sub>x</sub> emissions were a complex issue and affected by ozone/ VOC emissions and sunlight;</p> <p>(d) NO<sub>x</sub> emissions from the vehicle fleet could be reduced through retrofitting franchised buses with SCR devices and properly maintaining vehicles; and</p> <p>(e) the Food and Health Bureau and relevant departments, including DH, were involved in formulating the policies to improve air quality. The Administration attached great importance to the impact of air pollution on public health, and would step up efforts to improve air quality.</p>	