Submission on Air Quality Objectives & Air Strategy Consultation  
18 November, 2009

INTRODUCTION

Hong Kong’s pollution levels are causing an epidemic of health problems and premature deaths, including permanent injury to the lungs of children, and premature deaths in the elderly.

Between 1 January 2003 and 31 October 2009, Hong Kong people paid a heavy price in health and monetary terms (Figure 1). The city’s outdated AQOs, the Air Pollution Control Ordinance (APCO) and the various control measures implemented to date do not provide adequate protection:

Figure 1: Short term health impacts of air pollution on the Hong Kong population

<table>
<thead>
<tr>
<th>Year</th>
<th>Premature deaths</th>
<th>Avoidable hospital bed days</th>
<th>Avoidable doctor visits (million)</th>
<th>Tangible Costs (HK$ billion)</th>
<th>Intangible Costs (HK$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1,439</td>
<td>96,859</td>
<td>8.74</td>
<td>2.77</td>
<td>19.5</td>
</tr>
<tr>
<td>2005</td>
<td>1,269</td>
<td>89,562</td>
<td>8.07</td>
<td>2.57</td>
<td>18.2</td>
</tr>
<tr>
<td>2006</td>
<td>1,159</td>
<td>82,973</td>
<td>7.59</td>
<td>2.39</td>
<td>16.8</td>
</tr>
<tr>
<td>2007</td>
<td>1,137</td>
<td>82,345</td>
<td>7.59</td>
<td>2.39</td>
<td>16.6</td>
</tr>
<tr>
<td>2008</td>
<td>1,155</td>
<td>81,023</td>
<td>7.25</td>
<td>2.32</td>
<td>16.5</td>
</tr>
<tr>
<td>Total</td>
<td>6,760</td>
<td>432,763</td>
<td>44.3</td>
<td>14.0</td>
<td>97.9</td>
</tr>
</tbody>
</table>

Public surveys show the deep concern of the Hong Kong public regarding the health impacts of air pollution. Hong Kong’s poor air quality is also having a negative impact on the economic health of the city.

The World Health Organisation’s (WHO) Air Quality Guidelines (AQG) set the global standard for human health. While the WHO recognizes that governments may set interim targets in order to plot a path towards the eventual achievement of the AQG, it is imperative for Hong Kong to meet the AQG expeditiously if the health of its people is to be protection.

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1 Figure 1 is compiled from the Hedley Environmental Index, an online tool that presents real-time information on the health and financial costs of Hong Kong’s air pollution [www.hedley.index.sph.hku.hk](http://www.hedley.index.sph.hku.hk)

RESPONDING TO THE REVIEW

Principles

Three principles should govern the process of setting new AQOs and implementing a new air strategy:

1. The determination of scientific facts about emissions and health impacts should be conducted separately from the politics of implementation.
2. The strategy must set out how the HKSAR Government proposes to improve air quality to an extent where air pollution no longer threatens public health.
3. Reducing exposure to air pollution (especially from the road and marine transport sectors) is essential to protecting public health.

Approach

1. Improve public accountability:

*Communicate air quality shortfall*

An accurate way to communicate the risks of air pollution to the Hong Kong public is to use the WHO AQG as the benchmark, and publish the number of days Hong Kong falls short, and by how much. An annual summary should be released.

*Reporting by the Chief Secretary*

We welcome the Chief Executive’s initiative in this year’s Policy Address appointing the Chief Secretary to oversee the implementation of the proposed control measures.\(^3\) The Chief Secretary should report regularly both on the implementation of measures and on the health benefits so derived.

*Clear timelines allow business to plan for compliance*

Interim targets only works if they are set against a defined timeframe that leads to the ultimate achievement of the WHO AQG. In particular, a clear timeframe allows polluters certainty in planning how to achieve compliance.\(^4\)

2. Deliver the swiftest and broadest health dividends:

*Focus on traffic emissions – create a comprehensive plan with timelines*

Roadside pollution levels (in mass concentration) are substantially higher than ambient pollution levels, and present a correspondingly greater threat to public health. Since control of these emissions lies entirely within Hong Kong’s purview,
and since these measures will deliver the most immediate health dividends the HKSAR Government must make the reduction of road transport emissions, especially from the ageing diesel fleet, an urgent priority.

3. Define contributions – government, polluters and public

**EPD should be a regulator, not negotiator**

The Environmental Protection Department’s mission for air quality is:

“To protect the health and well being of the community by achieving and maintaining satisfactory air quality through intervention in the planning process and by enforcing the controls in the Air Pollution Control Ordinance and the Ozone Layer Protection Ordinance."

We believe the best way to achieve this is for EPD to serve as a regulator – setting standards (based on the best available science) to protect public health. However, EPD appears to have adopted the role of negotiator – trying to balance the public desire for healthy air against the willingness of polluting businesses to adopt the measures necessary to deliver cleaner air.

**Government to act as a catalyst of change**

In some instances the government is the only body able to effect change that extends beyond the current status quo, such as creating pedestrian and low emissions zones, or running pilot studies to accelerate early adoption of new technologies.

**Mandating retirement of commercial diesel vehicles**

Old diesel vehicles are highly polluting. There should be measures to retire them. These might include setting a mandatory retirement age (as for franchised buses), increasing the cost of licences or even setting a pollution tax on vehicles of a certain engine type or age.

4. Exercise environmental leadership

The Outline Plan for the Development of the Pearl River Delta Region 2008-2020 envisages the evolution of the region (including Hong Kong and Macao) to become a “green” living area. To actualize that vision, the authorities on both sides of the boundary must exercise leadership. As the most developed and wealthiest part of the region, Hong Kong should take the lead to clean up.

**Specific recommendations**

1. **The case for a tighter target for SO2**
Research shows the dominant driver of SO2 exceedances in Hong Kong is emissions from ocean-going vessels that continue to burn bunker fuel while moored at Kwai Chung. Data from EPD’s air quality monitoring network shows that little or no effort would be required to attain full compliance with the proposed AQO for SO2 (24 hours) of Interim Target-1. Scientists have noted that compliance with WHO Interim Target-2 can be achieved by reducing emissions from ocean-going ships.

Hong Kong and China are signatories to the MARPOL Convention, which under Annex VI will mandate the introduction of significantly cleaner fuels in 2020. However, there is a global trend among port cities and port authorities to pre-empt MARPOL’s mandatory emissions reductions and to unilaterally reduce marine and port emissions for the sake of public health. Moreover, the control of emissions from moored vessels lies within the power of the HKSAR Government. These measures could include:

a. Pollution tax on moored vessels.
b. Requirement to switch to shore-side power, “sock on a stack” or other emission control technologies that can deliver similar results.
c. Requirement to meet a local emissions cap.

EPD will be in a much stronger position to justify the introduction of these measures by the introduction of a tighter SO2 interim target.

2. Reducing emissions from the franchised bus fleet

The Government has announced that it is willing to allocate funding to accelerate the retirement of ageing franchised buses, and is believed to be in negotiations with franchise operators. Our calculation shows that in order to meet the 17-year time limit for retirement of buses, over 500 buses will need to be replaced by the end of 2010. Since these buses must retire anyway under the franchises, we do not believe that replacement of these vehicles should be subsidized. However, bringing forward the replacement of Euro I and Euro II buses that are not due to retire (according to the 17-year rule) within the next 2 years would be worthwhile.

Other measures should be considered include:

a. Supporting a trial of hybrid buses that could reduce fuel consumption by around 30%, thereby reducing emissions of both toxic pollutants and carbon dioxide.
b. Fund an on-road trial for electric trolley buses which would completely remove bus emissions from the roadside and protect the bus fleet against anticipated rises in fuel costs.
c. A review of the bus franchise agreements with a view to including emissions standards and other environmental performance metrics.
d. Requiring all franchised buses to display their Euro standard as a public awareness measure (similar to the warning on cigarette packets).
e. Ban advertising on all pre-Euro III buses.
2009 AQO CONSULTATION QUESTIONNAIRE
(Response from Civic Exchange)

1. Do you agree that the existing AQO’s need updating?
   Yes. The current AQOs do not protect the public from the health impacts of air pollution

2. Do you agree that protection of public health should be the key consideration in updating the AQOs?
   Yes. To date the HKSAR Government has not focused adequately on public health, otherwise the Consultation Document would have contained more health information, such as a baseline of the current health impacts of air pollution. Amendments should be made expeditiously and such information should be released annually.

3. Do you agree that the AQOs should be set with reference to the guidelines and interim targets published by the World Health Organisation and that a staged approach be adopted to update the AQOs with a view to achieving the WHO Guidelines as a long-term goal?
   Hong Kong should use the WHO Air Quality Guidelines as its Air Quality Objectives, and must set a date for achieving them. In setting interim targets, the targets must still be ambitious and to be achieved within a clearly defined timeline.

4. Do you agree to the proposed new AQOs which have been set with reference to a combination of WHO AQGs and Its?
   No. The WHO AQGs should be the new AQOs. However, given the difficulties of achieving AQOs that are the equivalent of the WHO AQG in the short-term, the proposed interim targets can be considered, except for the proposed IT-1 level for SO2 (24hrs). Instead, IT-2 should be used to serve as a driver for change, especially in reducing marine emissions.

5. Do you agree that a mechanism should be put in place to regularly review the AQOs no less than every five years?
   Yes. This should be made mandatory. Furthermore the process should follow global best practice – a team of air and public health professionals should be identified to constantly monitor local and global developments, as is done in the United States.5

6. To what extend do you agree that the proposed emissions control measures set out in chapter 6 should be implemented for achieving the new AQOs and

5 USEPA has built a dedicated research team comprised of air quality and public health experts who track global developments in air, emissions control, and public health science, and base their recommendations on this information. Only when these recommendations have been made does debate begin with polluters, the public and other stakeholders on how to achieve this standard and what resources should be allocated is made.
improving local air quality in general? What other measures do you think the Government should consider?
All 36 measures need to be implemented with the support of the Chief Secretary and relevant Policy Secretaries. Air quality management requires comprehensive multi-tasking. Measures to reduce roadside concentrations, especially from road and marine emissions should be integrated into a cohesive plan and implemented as a matter of urgency, closely followed by marine emissions, and switching away from coal for power generation.

7. How soon do you think these emissions control measures should be implemented?
With the same urgency as that applied to fighting viral diseases – the short-term health effects are more severe, and the cumulative impacts over time are greater still.

8. Are you willing to bear the costs arising from the implementation of the proposed emission control measures, such as higher electricity tariff and bus fares, as well as adjustments in your way of living?
Yes. The public must foot at least a part of the bill for improving quality of life. However, the shareholders of road transport, shipping, port operation and power generation operators should also bear a part of the costs. There may also be cases where public subsidy is the best approach, such as in building rail infrastructure.

9. Do you have any other views of the review?
   a. The terms of reference proposed a review of air quality legislation. The Air Pollution Control Ordinance in particular is in need of review.
   b. Without a timeline for the imposition of new emission targets, polluters have little incentive to clean up.
   c. EPD would better serve the public by acting as a regulator of air quality, rather than a negotiator trying to balance the interests of polluters’ against public health.
   d. The Department of Health should play a visible role in setting the AQOs to strengthen the focus on protecting public health.
   e. Without setting a baseline showing the current health impacts of air pollution it is hard for the public, polluters and the Administration to appreciate the urgency to clean up.