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October 5, 2009

The Hon Ms Audrey Eu, SC, JP  
Chair  
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Subcommittee on Improving Air Quality  
Legislative Council  
Room 601, Citibank Tower  
3 Garden Road, Central, Hong Kong

By email and by post

Dear Ms Eu,

**Comments on the government's consultation on  
air quality objectives**

I enclose my comments on the current consultation. I apologise for the late submission and hope that my views will assist your committee's work on the assessment of government's choice of strategy to deal with our air quality crisis.

Yours sincerely,

Anthony J Hedley

Encl.



Tobacco smoke and air pollution kill  
Support tobacco control and clean air policies



## **COMMENTS ON THE GOVERNMENT'S CONSULTATION ON AIR QUALITY OBJECTIVES**

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Everyone working in the environmental health field would want to support and promote, by any means, a strategy for eliminating pollution and protecting population health. However there are fundamental problems with the government's current proposals for initiating this process and it is vital that the deficiencies in this are fully externalised and open to public debate.

I suggest that the government's consultation document on the state of Hong Kong's air quality and its detrimental effect on population health conceals more than it reveals about this enormous environmental hazard. The government document is misleading, disingenuous and lacks transparency and does not provide the public with an unbiased assessment of the choices which it is being asked to make.

I have attempted to address a few of the relevant issues using the items in the government consultation questionnaire as prompts.

### ***Q1. Do you agree that the existing Air Quality Objectives (AQOs) need updating?***

The Hong Kong AQOs have needed updating for more than a decade. Environmental experts have strongly argued for this over more than a decade. In 1998 a team of academics from two universities worked *pro bono* to produce a new set of proposed AQOs on the basis of local scientific evidence on the harm of air pollution to children and adults. The professionals know, at that time, that this was an urgently needed step in air quality management. The report produced at that time was sent for external overseas review but neither the report or its evaluation were placed in the public domain and its contents have never been discussed in the context of Hong Kong's air quality management.

In addressing the current consultation document it is not clear how the general public can answer this technical question in an informed way without appropriate independently formulated and detailed explanatory information. Sensing that the answer to Question 1 is inevitably "yes" I imagine that the majority of respondents will affirm that if the solution to this problem is a new set of environmental regulations then they should be implemented. However for years the government has used the existing outdated and lax AQOs as a defence against criticism of deteriorating air quality and that attitude does not augur well for the future given the problems which we will explore with the new proposed AQOs.

***Revision of the AQOs is necessary but not sufficient: the need for a professional Environmental Protection Department***

*Why has this professional arm of government lost its most senior professional posts?*

*While the AQOs and the legislative process will determine what policy is adopted and incorporated in legislation, the government, Legco and the public need and deserve an intellectually valid and professional analysis of our environmental status and management choices.*

*To what extent has air quality management and this public debate been compromised by an EPD which has been de-professionalised at its senior management level? I believe that the Hong Kong public is now paying a heavy price for the lack of a professional environmental health protection agency.*

***The need for an integrated environmental protection and public health approach***

*There is apparently a complete absence of any official expert public health input to risk assessment, audit, evaluation or accountability procedures in Hong Kong's air quality management. The health authorities have no defined role in this area of health protection. There is no public health report in either of the annual departmental statements by the Director of Environmental Protection or the Director of Health, which explicitly document the attributable harm to health and the burden on health services resulting from air pollution in each year. It is notable that the present government report which is the basis of the consultation does not quote a single statistic from the many academic papers published on the pollution induced damage to Hong Kong's public health over 20 years.*

*The bad health outcomes of air pollution which include impaired lung function in young children, an epidemic of respiratory symptoms in both children and adults, increased doctor visits, hospital admissions and deaths from heart and lung disease and strokes should be presented in a way which emphasises that they are avoidable through competent management of the environment. This should be the explicit and plainly worded starting point of the consultation rather than bureaucratic statements from administrative officers.*

*In addition to any revision of our air quality standards a detailed annual accountability report should from now on be produced jointly by the EPD and DH to demonstrate the extent to which the government is effectively addressing this regional environmental disaster. These reports should be subject to independent external audit.*

*While we urgently need revision of the current AQOs the government has failed to demonstrate how any new air quality interventions will be implemented, monitored and evaluated with the necessary expertise on an appropriate timescale.*

***Did we need an outside consultant to modify the AQOs?***

*My view is that the government did not need a costly consultancy "to better protect the public from the adverse effects of air pollution". The consultants have no track record in this field of environmental and public health and the consultancy has contributed nothing new to our knowledge and other insights as to the solution of this serious hazard to the well being of the Hong Kong population. We could and should have engaged in this debate fully two years ago,*

at least, and by now could have been at a much more advanced stage of consensus. There is ample expertise within the remaining professional officers of the EPD, academic and other environmental NGOs to have addressed this issue and formulated an evidence-based strategy which could then have been the basis of discussion with all interested parties.

In the meantime I am concerned that the consultancy and the proposed AQOs will apparently be used as a new instrument for procrastination without proper regard for the continuing medical and health impacts on our community.

***Q2. Do you agree that the AQOs should be set with reference to the guidelines and interim targets (ITs) published by the World Health Organisation and that a staged approach be adopted to update the AQOs with a view to achieving the WHO Air Quality Guidelines (AQGs) as a long term goal?***

This is probably the most disingenuous question in the consultation. Here the government is trying to set the agenda with a tendentious form of words. The general public should, for public health reasons, firmly answer "NO" to this question.

First, there is no reason why the WHO AQGs should not be adopted as the new HK AQOs. If they were we could then begin to discuss the process of effective *exposure reduction* towards the AQG and the timescales which are appropriate. The term "*with reference to the guidelines & etc*" is a mechanism for pretending that our new AQOs are based on the collective global scientific evidence which underpin the AQGs, without actually having to adopt them and then deal with the vested interests who would require to clean up transportation, power generation and manufacturing. Under Question 4 below I explain why all but one of the proposed AQOs do not match either ITs or AQGs in the WHO report.

The term "*a staged approach*" almost certainly means that once the new but unsatisfactory AQOs are enshrined in the Air Pollution Control Ordinance the government will have total control over compliance and timescales and any leverage for accountability by the public will be reduced or lost.

The adoption of these permissive modified AQGs as AQOs will impede our progress towards exposure reduction because under the ordinance these single limit values will effectively block the process of *continuous* reduction of ambient pollution and the health gains which follow from them. Such a prescriptive policy by government will directly damage children's lungs. The government's phrase "*long term goal*" is particularly threatening to public health. This is a euphemistic way of the government saying that population health, including the future life-time health of children can and will be traded off in favour of other interests over an indeterminate period. That choice is one which should be made by an informed public and should be at the forefront of this consultation.

It must be remembered that although the full WHO AQGs are single limit values there is no suggestion that they demarcate the boundary between safe and unsafe air. Adverse health effects have already been demonstrated at levels well below the AQGs. These values can only be regarded as a maximum acceptable level of pollutants and even lower levels should be regarded as desirable targets.

The government should cease to emphasise, as one of its justifications for procrastination and as a distraction to the public, that "*no country in the world (has adopted) the WHO AQGs in*

*their entirety as legal standards*". We need to recognise that we are not dealing with other jurisdictions; we are, or should be, trying to address an environmental disaster here in Hong Kong. The most salient fact is that there is probably no other country or region with a comparable level of social, economic and technical development which has allowed a comparable level of poor air quality to develop without taking effective counter measures. Other countries clearly intend to address the revision of their air quality standards and will likely adopt measures which are much more radical than the current standards. Countries within the European Union which fail to comply with the Union's targets are subject to legal action. The United Kingdom is one of them. In addition and quite apart from the serious health consequences of this attempt to deny the need for urgent action in the consultation process, the government offers a strange response to a ubiquitous problem which threatens the economy, degradation of urban fabric and the aesthetic attractions of Hong Kong as a global destination. One would have expected that pride in the city would have trumped any arguments for a *laissez-faire* approach. The world-wide adverse publicity arising from the problems of "Asia's World City", in the international media in every developed country, is a signal that those in charge of sustaining our environment need to review their priorities.

The government's arguments that the WHO AQGs are "*far tougher*" than other national standards, should be set against the fact that the government allowed Hong Kong's air quality to deteriorate very rapidly over a decade or so and exceed even lax outdated AQOs. Taken together with the views expressed in the consultation document this does not inspire confidence that we are about to see a change in political will and competent environmental management.

The diplomatic language of the WHO report should not be used as a reason or excuse to introduce ineffective measures and delay the attainment of urgently needed health protection for children. The WHO as an agency of the United Nations observes neutrality and sensitivity in its dealings with member countries of the World Health Assembly. Its relatively permissive statements on levels and timescales of pollution abatement are designed to accommodate poor marginalised territories which would not have a hope of implementing the full AQGs in the near term. However for the HKSAR government to use this particular terminology as an excuse and a mechanism for delaying progress towards cleaner air amounts to a shameful solcism. In particular it is not a public health approach.

In its approach to defining the new proposed AQOs the consultant and the government have not adequately addressed the issue of *exposure reduction*. A major obstacle to this is the very high level of roadside pollution across urban Hong Kong. The diurnal variations in roadside pollutants, particularly PM<sub>10</sub> and NO<sub>2</sub> point to local sources as the major and avoidable hazards. Table 4.1 in the government consultation document clearly demonstrates that our extremely high levels of NO<sub>2</sub> are generated solely within Hong Kong.

Pollution abatement at the roadside is well within government control on a short timescale, given the necessary political will. The implementation of transport emission controls has taken far too long, is based on *volunteerism* and fails to take a comprehensive approach to identified problems. Until the government takes charge of this situation and ensures that effective *mandatory* measures are fully complied with we will continue to have dangerously high roadside pollution in Hong Kong. We have shown that this affects at least half the population on a daily basis and the exposure prevalence is probably very much higher.

***Q4. Do you agree to the proposed new AQOs which have been set with reference to a combination of WHO AQGs and ITs?***

The answer to this question must be "NO", given that only one of the AQOs is consistent with any of the AQGs or ITs.

This will probably be a surprise to the majority of respondents to the consultation but there is no doubt that the proposed measures have been modified in a way which will predictably prevent the necessary improvements being achieved on an acceptable timescale and will prevent the achievement of the only AQO consistent with WHO criteria which is for Nitrogen Dioxide.

The problem is that the government proposes that a variable number of "exceedances" should be permitted. These violations of the AQO (or supposed WHO criteria) have been informally argued by government officials as "unimportant". This in turn raises the question as to why they are considered by government to be necessary. A formal decision analysis approach using a range of statistical methods shows that if these exceedances are allowed as part of the new Ordinance then improvements in air quality will be delayed or air quality may actually deteriorate further and the targets will not be achieved. Further deterioration in control of SO<sub>2</sub> emissions and ambient concentration is a particularly serious potential outcome. All of this will be protected by the new law. We have documented and illustrated these phenomena in a separate report to Legco and the EPD.

In this respect the government's report must be regarded as a major deception in terms of its misrepresentation of the WHO IT and AQG. Table 5 of the government consultation report makes no mention whatever of the introduction of exceedances. This arbitrary modification of the WHO Guidelines may (and probably will) have a profound effect on the degradation of air quality and the health effects which result from it. The proposed AQOs cannot in any sense be legitimately described as "benchmarked" to the WHO recommendations.

*The process by which the consultants and government came to contrive this modification of the WHO guidelines should be fully externalised and examined in detail because it appears to indicate that government is seeking to establish Objectives which can accommodate the present highly polluted environment rather than remove it.*

***Q5. Do you agree that a mechanism should be put in place to regularly review the AQOs no less than every five years?***

A qualified "YES" in principle would be appropriate here but the suggested term of 5 years is quite unacceptable.

The regional health hazard of pollution should be the subject of continuous and detailed monitoring and appraisal. An annual report (jointly between the EPD and DJJ and other expert groups) on the extent to which identified trends are consistent with stated goals, and the attributable health consequences of those trends, is necessary to maintain the required high profile of this problem and the priority which it demands. No argument is presented by government to support the suggestion of a five year interval. Government reviews can be notoriously prolonged and the post review period of assessment adds to the timescale. A five year review could easily lead to seven year intervals between any possible action on failing strategies.

We need an annual review of this all pervading threat to the health of the community. The nature and magnitude of this problem fully justifies the resources needed for this task.

***Q6. To what extent do you agree that the proposed emission control measures should be implemented for achieving the new AQOs and improving air quality in general? What other measures do you think the government should consider?***

Many NGOs, academics and other environmental interest groups have made well founded suggestions for comprehensive emission controls. These must embrace infrastructure developments, traffic, air and marine navigation and power generation. We need urgent *mandatory* action on all of these. We also need to see how powerful vested interests, especially those concerned with regional development are going to be dealt with. Many of these developments such as bridges over the Pearl River Delta are already a foregone conclusion, even before environmental impact assessment (EIA) reports are available. EIAs must now include the attributable population illness and premature deaths which will result from these developments under different projections of emission controls and their violations.

We need a radical change of outlook here. For example the previously mentioned problem of *volunteerism* must be addressed. Polluters are harming others and rigorous control is part of the government's duty of care. The costs of subsidies should be set against the ongoing community costs of pollution induced health problems and lost productivity, now and in the future. Seven or more years to convert Hong Kong's taxi and mini-bus fleets was far too long and a proper accountability mechanism would show the public the consequences of that in human terms.

My present view of many of the proposals for emission controls is that they are too vague to be adequately assessed in health outcome terms, the timescales are uncertain and many appear to be gratuitous "over the horizon" suggestions which may join the long litany of proposals which have been raised without effect for thirty years or more, such as electronic road pricing or pedestrianisation of streets.

Proposals for emission controls are vague, lack fail-safe implementation methods and timescales.

***Q7. How soon do you think these proposed emission control measures should be implemented?***

We require major emission reductions, especially at street level, immediately. In particular the government's failure to sell the idea of conversion to higher Euro specifications for commercial vehicles must be fully resolved within the next 12 months.

There is no justification for any continuing delay on this matter and it stands as a litmus test of the government's commitment to protect public health. If we cannot achieve a clean up of the commercial trucking industry, given the funds and the technology, then air quality strategies in general are doomed to fail.

There is no reason why the government should not have implemented effective measures a long time ago. The Chief Executive promised a 4 year programme in 1999. Why is the government still asking the public how soon they want the damage to heart and lungs to cease?

***Q8. 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?***

All properly informed members of the public would want to answer YES to this question.

This question is worded in a way that appears to suggest to members of the public that the only consequence for them, which will follow from the achievement of cleaner air, is a higher cost of living. This question should have been put clearly in the context of the community burden arising from our current *direct, indirect and intangible costs* associated with illness, health care, lost time at school and work, loss of quality adjusted life years and premature deaths. At present that amounts very conservatively to about \$20 billion a year. In that sense we are living well beyond our means to the detriment of mainly the most vulnerable and deprived members of the community who experience the worst effects of pollution including higher mortality.

Given the enormous social inequity created by pollution there are good arguments for funding the investment and ongoing costs from existing government revenue.

We have not yet seen from the consultant or government any *comprehensive assessment* of the health impacts of the proposed new AQOs. The analysis of benefits is limited in its scope and does not fully explore the cost-effectiveness of air pollution abatement for the Hong Kong population. At an earlier public forum in Kowloon the consultants on the platform panel stated that (words to the effect) "*this issue has been dealt with by the academics*". A \$6 million consultation should have focussed on this as the key issue and provided government with fully documented tools to assess the community benefits of clean air. Why did this not happen? As a result the public is not presented with informed and realistic choices.

*There are many unanswered questions about the methods used to discount the costs and benefits in the consultant's report. In particular, have they discounted future health benefits for children? The public should know the answer to this before they answer Question 7 of the consultation questionnaire.*

***Q9. Do you have any other views on the Review?***

The process has been far too protracted and a waste of scarce resources. The agenda and outcome is at risk of being determined by vested interests and not by public health priorities

*Quality of life in Hong Kong for many decades in the future will be determined by the effectiveness of government action now on the management of our environment.*