

Air Quality Objectives Concern Group – Response

CLEAN AIR – CLEAR CHOICES

Public Engagement Exercise

Hong Kong October 15, 2007

Introduction

In June 2007, the Council for Sustainable Development (CSD) launched an engagement exercise on air quality, Clean Air – Clear Choices (CACC). The stated purpose of the exercise is “the meaningful progression of the debate on air quality” (CACC, para 3.3).

CACC 3.3 The balance of who or where contributes what to Hong Kong’s skies can distract from the critical exercise of getting something done to improve the air. The meaningful progression of the debate on air quality is one of the principal missions of Hong Kong’s Council for Sustainable Development. To this end, the Council in 2006 produced a report, Clean Air and Blue Skies – the Choice is Ours, in which, among other things, it recommended to the Hong Kong Government action on many areas its research found of most pressing concern with Hong Kong’s air¹.

While the Air Quality Objectives Concern Group (AQOCG²) is highly supportive of public debate on this issue, we have concerns about the way the current exercise has been structured:

- The subject of the exercise comprises three different issues with no logical connection.
- None of the issues is addressed in sufficient detail.
- The structure suggests, incorrectly, that other problems have been/are being dealt with.
- The discussion and questions sow confusion on particular issues.
- The questions are unlikely to gather useful data.

Key Concerns

The people of Hong Kong have been speaking up about air quality – on the streets, in the media, in academia, and in the arts, especially since the particularly bad winter of 1998-1999. Civic Exchange’s various reports and recent book, *Still Holding Our Breath: A Review of Air Quality Policy in Hong Kong 1997-2007*, join a raft of other recommendations calling for action from many quarters.³ There is widespread support at community level for strong action, and no shortage of ideas, with many innovative, highly relevant evidence-based proposals.

We acknowledge the various government initiatives, such as the switch to LPG taxis and use of ultra low sulphur diesel, that have led to modest improvements in specific forms of air pollution, especially at street level. We also acknowledge that many of the problems are complex and do not have easy or fast solutions. Nonetheless, thousands of highly polluting vehicles are still on the road, and there are significant emissions from power generation, marine and port activities.

1 The content was copied from the “Clean Air – Clear Choices” document which is part of the Council on Sustainable Development engagement exercise on air quality.

2 See Appendix I for a list of members.

3 Some of these reports include “An Alternative Policy Address 2007 -2008” Civic Exchange October 2007, “Relative Significance of Local vs Regional Sources: Hong Kong’s Air”, Civic Exchange and Institute for the Environment, UKUST, March 2006, “An Air Management Plan for Hong Kong” Civic Exchange August 2006, and “Air Pollution: Costs and Paths to a solution” Civic Exchange; The Department of Community and Family Medicine, Chinese University of Hong Kong; Institute for the Environment, The Hong Kong University of Science and Technology and The Department of Community Medicine, School of Public Health, Hong Kong University.

In addition there are rising air pollution ‘imports’ from the mainland. Hong Kong’s overall air quality remains well below acceptable levels by any recognised criteria, making further actions imperative.

Structure of the Exercise

Viewed in this context, the current CSD exercise is curiously structured. It groups together three disparate topics, which are linked only by their relationship to air pollution, into one package. Each topic is worthy of its own consultation, and could be linked with other, more related topics (e.g. road pricing with public transport provision and transport planning). Lumped together, they cannot be presented in the level of detail they need. We fear theirs may give the illusion that the air pollution problem is being comprehensively covered, when in fact the approach remains quite limited and fragmented.

Origins of Current Exercise

The choice of topics originated in a CSD report published in November 2006, Clean Air and Blue Skies – The Choice is Ours (CABS). This report contained a number of specific recommendations, many matching initiatives the government was already undertaking or planning to undertake. In addition, the report highlighted four areas “where the scope for stakeholder engagement would be appropriate” (CABS, p. 64):

- Measures for high Air Pollution Index (API) days,
- Demand side management to reduce energy consumption,
- Banning of idling engines, and
- Road pricing.

CABS p 64 Issues where the scope for stakeholder engagement would be appropriate are provided as follows:

- *Deciding on appropriate actions to be taken during high API days, such as discouraging vehicle usage by premium road pricing fees, reducing the use of oilbased paints, solvents and cleaners, and stopping the use of diesel-powered equipment.*
- *Putting into practice demand side management to foster energy efficiency and conservation measures through the most effective means. Examples include 25.5OC settings for all offices and schools in the private sector or more use of offpeak electricity through use of suitable incentives or, conversely, tax penalties. As the demand for electricity is price inelastic, this may be done through a mixture of legislation or incentives. Other possible means include mandatory energy codes, mandatory green building codes for new buildings etc.*
- *Banning idling engines.*
- *Use congestion charging mechanisms such as road pricing to reduce traffic congestion.*

The current exercise carries three of these forward, and leaves the idling engine issue to a separate government consultation to be undertaken at some point in the future.

The rationale for choosing these policy areas is not explained in the 2006 paper. In the current exercise, three reasons are given:

1. “[the issues are] among the recommendations that the Council believed the Government is not already involved in pursuing in terms of policy” (CACC, para 2.7),
2. “...there is a need to engage the community owing to their territory-wide implications” (CACC, para 2.7), and
3. “Hong Kong’s first focus must be on local problems” (CACC, para 3.11).

CACC 2.7 In its 2006 report the Council stated there were clear options available to Hong Kong if it were to protect public health and see blue skies again. It set out a comprehensive set of suggested measures, both bold and incremental, together with guideline costings, on mitigation. It advised next steps regarding institutional issues, Government moves, the electricity generating sector, the transport sector, and the industrial sector. It made 14 recommendations for the Government to consider and implement speedily, acknowledging that Government was already working on them to varying degrees. The three topics that are the focus of this public engagement were among the recommendations that the Council believed the Government is not already involved in pursuing in terms of policy and where there is a need to engage the community owing to their territory-wide implications

CACC 3.11 Whilst it is important to tackle the regional air quality issues, whether through Government channels or business practices, Hong Kong's first focus must be on local problems, starting by taking all the necessary precautionary measures and implementing the necessary policies

Why the Exercise is Inadequate

In our view, the first reason could give the impression that these three issues are the only remaining items on a long list of air quality problems, and that the Government has solved the others. This is not the case; as we illustrate in Appendix II, many of the recommendations from the 2006 paper have not been addressed, and there are areas that the 2006 paper does not cover. As for the second reason, each of the recommendations in the 2006 paper have territory-wide implications. For example, the CSD estimates the cost of their recommendations for the transport sector (not including road pricing) at HK\$10 billion, and states “such additional costs may be borne by vehicle owners, bus companies or be passed to passengers or taxpayers” (CABS, p. 63).

The third reason that the focus “must be on local problems” seems to be an odd one. Controlling the type of fuel or emission controls used by Hong Kong’s power stations, as an example, is no less local than a demand side management programme to reduce the amount of energy produced.

Certain issues (such as marine emissions) are excluded from public engagement because CSD states that they “are the subject of previous and ongoing discussions, some involving commercially sensitive negotiations that are in progress, and some political, regional and international negotiations” (CACC, para 3.18).

CACC 3.18 Areas such as marine emissions are not part of this current engagement process. These are the subject of previous and ongoing discussions, some involving commercially sensitive negotiations that are in progress, and some political, regional and international negotiations. For example, marine emissions will require agreement between the Mainland, Hong Kong and other ports in the region to begin the dialogue on a coastal emissions regime. The maritime industry is working on this problem on a global scale and the Hong Kong Government is closely monitoring overseas development and is prepared to introduce relevant marine emission-control measures where and when applicable.

In our view these are not valid reasons for removing these particular issues from public debate. Whether the government is formulating domestic policy or negotiating in the name of Hong Kong people in the international arena, the voices of the people should continue to be heard. On the other hand, at least one of the chosen topics, demand side management, has been the subject of previous commercially sensitive negotiations with the power companies, and may continue to be, given that the Scheme of Control Agreements are up for renewal in 2008.

The Three Areas

It appears, therefore, that the reasons for selecting these three topics are questionable and we need to ask whether they are the most appropriate choices for the CSD to focus its attention on. Below we look at each of the three chosen areas in turn, and also consider how the questions asked in the exercise may steer the debate in certain directions. While participants are theoretically free to stray from the questions, and even from the three chosen topics, the majority of participants will likely be directed toward a questionnaire, either in print or online format. In a structured questionnaire of this type, there is little scope for divergence or nuanced answers.

First Area: High Pollution Day Alerts

This topic is more about living with air pollution than preventing it. There are a number of competing interests here. Some of the options are directed at reducing air pollution (though arguably, none of the listed measures are likely to have much impact), while others are directed at reducing exposure. There are also important tradeoffs that need to be considered. For example, encouraging people to use public transport (or walk or cycle) will increase the amount of outdoor exercise and therefore exposure; cancelling outdoor activities and keeping people inside may increase the amount of electricity used for air conditioning.

Some of the questions appear to be poorly thought out. Questions 9 and 10, for instance, about cancelling outdoor activities, make the assumption that air quality will necessarily be better indoors than outdoors. In many cases it may not be. It also introduces a category – events involving large crowds – that is irrelevant to the subject.

Questionnaire: Question 9 and 10:

9. On high air pollution alert days, what sort of outdoor events organised by the Government should be cancelled?

- All outdoor events
- All events involving large crowds such as outdoor concerts
- All events involving physical activity such as sports days
- None at all

10. On high air pollution alert days, what sort of outdoor events organised by the private sector should be cancelled?

- All outdoor events
- All events involving large crowds such as outdoor concerts
- All events involving physical activity such as sports days
- None at all

Questions 11, 12, and 13 appear to be aimed at marginally reducing air pollution on high alert days, but the measures suggested are all at the level of individual choice and are largely unenforceable. Working from home and using public transportation are widely recognised as measures that should be encouraged broadly and not just in emergencies. Working from home is unfeasible for many occupations.

Questionnaire: Question 11, 12, 13:

11. In addition to warnings, possible mandated actions and education, what should we do on a high air pollution day? You may tick more than one box.

- Use public transport as much as possible
- Reduce use of personal electrical equipment as much as possible
- Wear casual clothes as appropriate
- Work from home whenever as appropriate
- Others (please specify)

12. In addition to warnings and education, what should the Government do on a high air pollution day? You may tick more than one box.

- Require Government employees to use public transport as much as possible
- Require Government employees to reduce use of electrical and diesel-powered equipment as much as possible
- Require employers to allow staff with special medical needs, like people with respiratory or heart diseases, to work from home
- Allow Government employees to wear casual clothes as appropriate
- Allow Government employees to work from home as appropriate
- Allow schools and tertiary institutions to let students study at home whenever possible

13. What should employers do on a high air pollution day? You may tick more than one box.

- Require employees to use public transport as much as possible
- Require employees to reduce use of electrical and diesel-powered equipment as much as possible
- Allow employees to work from home as appropriate
- Allow employees to wear casual clothes as appropriate
- Others (please specify)

Measures that would have higher impacts on both pollution generated and human exposure to pollution, such as closing roads, cancelling school, and shutting down non-essential industries, which are done routinely and compulsorily here during typhoons and in some places on high pollution days, are not mentioned.

Second Area: Road Pricing

The idea of road pricing was first raised in Hong Kong in the 1980s. Road pricing is a contentious issue with well-organised resistance, and the government has been reluctant to push it forward for many years. Any consultation on the subject should be carried out with great sensitivity and transparency. Details of the design of such a scheme can have enormous impacts on people in particular professions or neighbourhoods, and if the details are not spelled out, fear and rumour can detract from meaningful discussion. It is impossible to answer question 15 (“How strongly do you agree/disagree that road pricing should be part of Government policy to address air pollution in Hong Kong?”), for example, without knowing any details of the scheme.

Questionnaire: Question 15:

15. How strongly do you agree/disagree that road pricing should be part of Government policy to address air pollution in Hong Kong?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

The discussion in CACC, combined with the questionnaire, is unfortunately somewhat ambiguous or even contradictory on certain basic points. For example, paragraphs 5.2.7 and 5.2.8 imply that alternative routes are necessary; paragraphs 5.2.23 and 5.2.24 then ask if they are. In fact what road pricing requires is choices, but not necessarily alternative routes as the choice. Provision of alternative routes will create new sources of pollution and tend to cancel any benefits from toll roads. Instead we should be asking if less polluting modes of transport are available.

One desired effect of a road pricing scheme would be to encourage private vehicle users to switch to buses (CACC para 5.2.9); however, in para 5.2.19, buses and minibuses are lumped with taxis, question 20 lists rail as an alternative but not buses, and buses are noticeably absent from question 21 on subsidies. Question 17, on what factors the charge would be based on, lists “private use”, an undefined and probably unmeasurable factor, but does not list distance, which is measurable and relevant. In the same question, driving time and time period (time of day) are different answers, yet they share one tick box.

Questionnaire: Question 17:

17. What factors do you support when determining the fees for road pricing? You may tick more than one box.

- Pollution output of vehicle
- Driving time / period
- District driving in
- Private use
- High air pollution days
- Others (please specify)

A successful technical trial of an Electronic Road Pricing scheme was carried out in 1989-1999, and a feasibility study published in 2001 found that such a scheme could shift 40% of private car journeys onto public transport. While this

is mentioned in CABS, the presentation in CACC and the questionnaire make it sound like we would be designing the system from scratch. On the whole, the current exercise may be viewed as increasing, rather than allaying, fear and uncertainty about road pricing.

Third Area: Demand Side Management (DSM)

This is another area with significant history in Hong Kong. CACC mentions the DSM programme involving the electric utilities that ran from 2000 to 2003, but doesn't give the details or the results. It was aimed at non-residential customers, and consisted largely of rebate programmes for energy-saving devices, paid for by a levy of approximately 0.5% on non-residential bills. The origin of the figure of HK\$106 million in financial support quoted in CACC is not clear. The uptake of these was so successful that the budget was exhausted within the first year. The budget was not renewed, the programme was not extended, and there does not seem to be any further discussion of it in Legislative Council.

While there are a variety of other energy efficiency initiatives in place involving voluntary participation, the government was aware back in 1999 of the limits of voluntary measures, and promised to consult on statutory measures in 2001 – a promise that has still not been kept.

In the US, the most effective DSM mechanism has been built around the concept of 'negawatts' programmes, where the regulatory regime provides for the decoupling of a utility's electricity sales from its profits, thereby allowing a utility to pursue DSM schemes aggressively and earn an attractive profit. Implementing a negawatt programme in Hong Kong would require a change to the Schemes of Control, as detailed in Civic Exchange's two submissions to the consultation on the future of the energy market in 2006.⁴ The government has avoided discussing this alternative for many years, and the current exercise does not bring it up either.

While the questions in the CACC pamphlet hint at the complexity of the issue, it is worrying that one of the case studies is largely about renewable energy quotas, and the section is illustrated with a picture of solar panels, both unrelated to DSM. The questionnaire only has three questions on DSM. The first ("what things would you be prepared to do at a personal level") doesn't have anything to do with policy. The other two ("what things do you think should be mandatory" and "what policies would you support") provide a seemingly miscellaneous collection of mandatory measures and incentives for people to support or not support, without even a ranking mechanism.

Questionnaire: Question 22-24:

22. What things would you be prepared to do at a personal level to manage your energy demand or save energy?

You may tick more than one box.

- Persuade your household to purchase energy efficient household appliances
- Turn off unnecessary lights and air conditioning
- Encourage friends and relatives to adopt energy efficiency and conservation practices
- Avoid excessive electricity usage wherever possible
- Replace existing lighting with energy efficient light bulbs
- Others (please specify)

⁴ Civic Exchange, Rocky Mountain Institute, and WWF, "Submission in Response to Consultation Paper on Future Development of the Electricity Market in Hong Kong (Stage I Consultation), 30 April 2005 <http://www.civic-exchange.org/publications/2005/EDLB%20Consultation.pdf> and "Submission in Response to Consultation Paper on Future Development of the Electricity Market in Hong Kong Stage II Consultation", Panel of Environment Affairs meeting on 27 March 2006, Hong Kong: Civic Exchange, 2006, <http://www.civic-exchange.org/publications/2006/electricitysub.pdf>

23. What things do you think should be mandatory to manage energy consumption? You may tick more than one box.

- Street lighting turned off when there is low traffic
- Advertising lights turned off in the early morning
- School/office lighting and air conditioning should be switched off in empty offices
- School/office temperature should be maintained at 25.5 degrees or above in the summer
- Purchase energy efficient office equipment in companies and corporations
- Purchase energy efficient office equipment in all Government departments
- Use environmentally friendly practices in building design and construction
- Replace existing lighting with energy efficient light bulbs
- Others (please specify)

24. What policies would you support to encourage greater energy efficiency? You may tick more than one box.

- Cheaper off-peak electricity for consumers
- Incentives for building managers who achieve energy performance targets
- Incentives for professionals who design buildings with superior energy performance
- Others (please specify)

Conclusion

Billing this as an “engagement exercise” rather than a consultation, the CSD has gone to considerable lengths to reach a much wider audience than is addressed by the average government consultation. Naturally some loss of detail in the material presented and the opinions gathered is inevitable, in the quest for such large numbers of participants. Unfortunately the exercise has been structured in such a way that the loss – and in some cases the distortion – is considerable. The questions seem unlikely to generate meaningful data, and the data collected could be highly misleading for policy formation and assessment purposes.

There is a need for public education on the complex and technical issues of air pollution. At the very least, issues like the difference between regional and roadside pollution, the health costs of air pollution, and the contribution of different activities (e.g. air travel, container handling) to the levels of different pollutants need to be understood before informed opinions can be collected. The current exercise does not deliver this level of education.

Appendix I

Air Quality Objective Concern Group (AQOCCG)

The Air Quality Objectives Concern Group (AQOCCG) brings together concerned researchers from science, health and public policy backgrounds who care about the health impacts of Hong Kong's worsening air Pollution. The AQOCCG calls for Hong Kong's AQO to be set at levels that protect public health and for the World Health Organisation's (WHO) Air Quality Guidelines adopted as soon as possible. It urges the Hong Kong Government to set AQOs at levels that inform rather than mislead the public and policy makers about the costs of failing to reduce air pollution.

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Appendix II

The CSD's 2006 paper, CABS, gives 14 recommendations that are described as "a matter of urgency" (CABS section 7.2). Conveniently, four of these recommendations precisely match legislation or incentive programmes that were in the pipeline when the paper was published:

- Equipping pre-Euro heavy diesel vehicles with catalytic converters and particulate traps
- Encouraging the uptake of hybrid vehicles
- Capping VOC content in materials
- Accelerating the conversion of light vehicles to cleaner fuels

The response to another recommendation, a review of the Air Quality Objectives, was also announced around the time of the publication of CABS. The World Health Organisation had issued revised guidelines in October 2006. The review itself was not started until June 2007, and was designed to take 18 months, and be followed by a period of public engagement. We are unlikely to see any revisions to Hong Kong's AQOs before 2009.

In the original recommendation, "encouraging the uptake of hybrid vehicles" included "leading by example in purchasing vehicles for government fleets". This part of the recommendation did not make it into Government Vision and Mission on Air Quality (GV&M), and the government has made no effort to increase its procurement of hybrid vehicles.

One other recommendation called for legislation:

- Mandating the use of ultra-low-sulphur diesel in industry, catering, construction, port and ferry activities in Hong Kong

While government has cleaned up its own house, by requiring all government works projects to use ULSD (this had already been announced in the 2005 Policy Address) there has been no move to extend this requirement to the private sector.

A number of recommendations are for action in the private sector, but facilitated by government:

- Sourcing of ultra-low-sulphur coal for electricity generation
- Acceleration of installation of flue gas desulphurisation equipment
- Facilitating the use of LNG for power generation
- Retrofitting franchised buses with particulate traps and phasing out older models
- Promoting cleaner production methods for HK-owned businesses in the PRD
- Development of green procurement, merchandising and investment code for PRD business activities

Government hired a consultant to promote cleaner production methods (to be taken up on a purely voluntary basis), but otherwise has been fairly passive. There has been some success with ultra-low-sulphur coal and LNG, but it is difficult to see the government's role in this. The target for flue gas desulphurization will not be met, despite government's 'urging'. Government is "working with" the bus companies on upgrading their fleets, but not offering any incentives. There are still some 2050 out of 5868 pre-Euro and Euro I buses on the road.⁵ For the last recommendation, the GV&M cites two private sector initiatives, the Clean Air Charter and the One Factory, One Year, One Environment Programme. Both are voluntary, and involve self-set targets. Neither one is a code of conduct for procurement, merchandising or investment.

Two of the recommendations would require a degree of cooperation with the mainland, or at the very least would impact substantially on mainland economic interests:

- Develop a clear policy on transmission of electricity across the border
- Prevent Hong Kong car owners from filling up with low-grade, high-sulphur diesel on the mainland and using it on Hong Kong roads

The first of these is based on two contradictory concerns: that power plants are emitting pollutants in Hong Kong while producing electricity for the mainland, and that if they stop doing so, the demand will be met by mainland production, which may have a worse overall impact on regional air pollution. To address this properly would require looking at the condition of mainland plants, and the relative local effects of Hong Kong-based and mainland-based emissions. The government's response in GV&M does not do this; instead, it relies on the overall emissions cap for each power station. In effect, what this means is that any reduction achieved in emissions per kilowatt will be negated by increasing the output and selling the surplus to the mainland.

For the second recommendation, the GV&M notes that better fuels are now available in Guangzhou and Shenzhen. While it is hard to imagine a policy that would prevent Hong Kong drivers from buying legally available fuel and bringing it back, stationing dedicated smokey vehicle spotters on the roads coming back from the crossing points might deter them sufficiently.

In summary, apart from measures already in place or in the works, there has been very little movement from government in response to the CABS recommendations.

⁵ Government Information Service Press Release "Control Emissions from Buses" Table 1 Total number of pre Euro and Euro I is 2050 out of a total of 5868 buses. <http://www.info.gov.hk/gia/general/200611/22/P200611220141.htm>