

By post and by fax at 2838 2155

10 October 2017

Air Policy Group (1)  
Environmental Protection Department  
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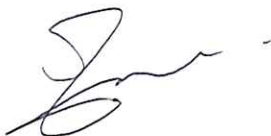
Dear Sir/Madam

**Public Engagement on the Review of Air Quality Objectives**

Regarding the captioned Public Engagement exercise launched on 11 September 2017, the Institution is pleased to provide herewith our views and suggestions on the subject matter for your consideration.

Thank you for your attention.

Yours faithfully



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The Hong Kong Institution of Engineers

Enc

WC/ML

Enclosure

**Views from the Hong Kong Institution of Engineers to  
Public Engagement on the Review of the Air Quality Objectives**

**General**

The Hong Kong Institution of Engineers (HKIE) endeavours to join hands with the Government in the pursuit of green and quality living environment. In order to realise synergies through an integrated approach for planning and implementation, the HKIE suggests the Government to holistically review the Air Quality Objectives (AQOs) together with the other environmental-related action plans and consultation reports, such as the “Hong Kong’s Climate Action Plan 2030+” and the recently released “Smart City Blueprint for Hong Kong”. The Government’s leadership and close coordination across various responsible Bureaux/ Departments are indispensable.

2. Meanwhile, to better inform the public of the current Hong Kong air quality as well as the findings and suggested improvement measures as identified by the AQOs Review Working Group, the HKIE suggests the Government to commence a public consultation on the review of AQOs in 2018 with a detailed cost-benefit analysis and forecast of the AQOs provided for public deliberation.

**Road Transportation**

3. According to *2015 Hong Kong Emission Inventory Report*, road transport was a major emission source of NO<sub>x</sub>, VOC and CO, accounting for 18%, 18% and 51% of the total emissions in 2015. To effectively curb the roadside emissions, the HKIE supports the Government to promote electrical vehicles (EVs) and explore the use of new-energy vehicles and hybrid cars. The Government should also encourage and facilitate replacement of petrol/diesel vehicles with cleaner alternatives and set a clear timeline for banning new vehicles which use fossil fuel.

4. In particular, switching the existing vehicle fleet of selected public transport routes to EVs can be a feasible means. The Government is suggested to expedite the trial process and start the actual operation as soon as possible. The Government should also take lead to facilitate the installation of more EV charging infrastructure for private EV users.

5. We agree to establish emission control zones in congested traffic areas which are only for the entry of vehicles with zero or low emissions. With regard to the proposed establishment of lower vehicle speed limits zones, the concern of the poor emissions performance of internal combustion engine (ICE) vehicles at low speed should be fully addressed. The Government is also recommended to consider prohibiting ICE private cars from entering the congested traffic areas during the period with extremely high Air Quality Health Index.

6. We support the proposed measures to foster a pedestrian-friendly environment. More pedestrian-friendly barrier-free pavement systems (e.g. elevated corridors/

subways with accessible facilities) and air-conditioned underground pedestrian zones should be built so as to reduce the disturbance to the vehicular traffic and minimise public health risk due to serious roadside emissions.

7. Noting that the applications of liquefied or compressed natural gas in heavy vehicles (e.g. trucks and minibuses) have been widely adopted in the Mainland and overseas, the Government is suggested to explore the possibility of introducing natural-gas powered heavy vehicles in Hong Kong while taking consideration of the availability of suitable sites for storage and refueling infrastructure.

8. Also, the Government is suggested to explore the feasibility of smart traffic management through cloud computing and artificial intelligence system to help alleviate traffic congestion and its effects on vehicular emissions.

### **Marine Transportation**

9. To facilitate smooth implementation of the proposed short-term measures of requiring local vessels to use electricity from the power grid while at berth, the Government should provide clear guidelines, stating the charging standard and exemption periods etc., to the practitioners.

10. In the long term, we support the use of cleaner fuel (e.g. electricity, other fuels with lower emissions) by local vessels to reduce the emissions from marine transportation, in particular urging the transport operators in adopting electric ferries for short haul trips. The Government should also take the lead to include electric ferries in its ferry fleet.

11. Similar to the measures imposed to other non-road vehicles, we suggest that the emission standard of the exempted non-road mobile machinery installed in the vessels should also be regulated under the Air Pollution Control Ordinance. On the other hand, the Government should consider providing incentives for the relevant stakeholders to switch to power-driven machines.

12. The use of liquefied natural gas (LNG) for marine vessels has been an international trend as a proven and available commercial solution. Air emissions from LNG powered vessels are significantly lower as compared to diesel or heavy fuel oil powered vessels. The Government should take a further step to develop the technical requirements and associated safety regulations for using LNG in marine vessels and explore the development of LNG bunkering facilities in Hong Kong.

### **Energy and Power Generation**

13. Buildings are the largest energy consuming sector, accounting for about 90% of the electricity consumption. To make major cut in energy use and greenhouse gas emissions, incentives and effective measures from the Government for promotion and implementation of energy efficiency improvement and saving schemes in buildings should be in place.

14. With regard to the proposed measures of importing more nuclear electricity from the Mainland, it is concerned that this may lead to the increased reliance of

energy import from the Mainland. In deliberation of the feasibility and effectiveness of this proposed measure, the reliability of the electricity supply grid and the possible impacts, such as voltage dip and electricity supply interruption arising from possible disturbance in the transmission network of the Mainland, must be taken into account, particularly during adverse weather situations. Also, the offsetting effect on the regional air quality should be evaluated if the nuclear power exported to Hong Kong is traded off by increasing coal fired generation in Guangdong.

15. In view of the normal retirement life of coal-fired generating units and to meet the new carbon intensity reduction target of 65% to 70% by 2030, we suggest the Government to work closely with the power companies in mapping out a roadmap with a concrete timeline and corresponding action plans to phase down these generating units by replacing them with gas units or generating facilities using non-fossil fuels.

16. The HKIE agrees that the promotion of local renewable energy (RE) helps reduce emissions from fossil fuel generation. To facilitate the development of distributed RE in the private sector, we suggest the Government to collaborate with different stakeholders in promoting the introduction of Feed-in Tariff and green certificate schemes to encourage the community to consider investing in distributed RE.