

**AIR QUALITY OBJECTIVES (AQO) REVIEW WORKING GROUP
ENERGY AND POWER GENERATION SUB-GROUP**

**Digest of the 2nd Meeting
held on 18 August 2016 at 2:30 p.m.
in Room 4690, 46/F., Revenue Tower, 5 Gloucester Road, Wanchai**

Present:

Ms Christine LOH	Under Secretary for the Environment
Mr. Joseph LAW Ka-chun	(Chairperson) , Environment Bureau (ENB)
Ir YEE Tak-chow	
Professor Larry CHOW	
Ir Edmond FONG Wai-man	
Ms. Susanna NG	
Mrs. Christine CHEUNG	
Ir Cary CHAN	
Mr. Brandon LIU	
Dr. CHAN Ka-lung	
Mr. Prentice KOO	
Mr. MOK Wai-chuen	Assistant Director of Environmental Protection (Air Policy), Environmental Protection Department (EPD)
Mr. Brian LAU Man-pang	Acting Principal Environmental Protection Officer (Air Policy), EPD
Ms. Queenie LEE Lai-kwan	Principal Assistant Secretary for the Environment (Electricity Reviews), ENB
Mrs. MA CHOW Pui Fun, Dorothy	Principal Assistant Secretary for the Environment (Energy), ENB
Mr. Raymond LEE Wai-man	Chief Assistant Secretary (Works 3), Development Bureau (DEVB)
Mr. Barry CHU Kei-ming	Chief Engineer/Energy Efficiency A, Electrical and Mechanical Services Department (EMSD)

Absent with apologies:

Mrs. Alice CHEUNG	Deputy Director of Environmental Protection
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(3), EPD

Professor Raymond SO Wai-man

Dr. William YU

In Attendance:

Mr. C.H. KAN	Senior Environmental Protection Officer (Air Policy) 4, EPD
Ms. Josephine HO	Acting Senior Environmental Protection Officer (Air Policy) 1, EPD
Mr. Simon LAM	Environmental Protection Officer (Air Policy) 11, EPD
Dr. Jackie NG	Assistant Environmental Protection Officer (Air Policy) 12, EPD
Mr. Nick TSANG	Environmental Protection Officer (Air Policy) 43, EPD

Chairperson's Remarks

The **Chairperson** welcomed Members to the second meeting of the Energy and Power Generation Sub-group.

Agenda Item 1 – Confirmation of digest of the first meeting

2. Members had no comment on the draft digest of the first meeting held on 8 July 2016. The Administration advised Members that the confirmed digest would be uploaded to a dedicated AQO Review webpage, which could be accessed by the public.

Agenda Item 2 – Proposed new air quality improvement measures and their key considerations (E&PG Paper 3/2016)

3. Mr. Joseph LAW Ka-chun and Ir. YEE Tak-chow declared their interests as employees of power companies.

4. The Administration informed Members that the meeting was to confirm the proposed new air quality improvement measures, which were raised in the previous meeting and were summarized into the following seven categories as in the paper –

A. Building energy efficiency measures;

- B. Use of renewable energy;
- C. Fuel mix for electricity generation;
- D. Power generation plants;
- E. New solar energy technology;
- F. Use of biomass as fuel; and
- G. Energy storage.

and to discuss the key considerations for implementing them to facilitate deliberations on their practicability in the forthcoming meetings.

5. The Administration advised Members that some of the proposed measures on building energy efficiency, renewable energy and fuel mix for electricity generation (i.e. categories A to C) had already been considered and implemented progressively by the Government. To help Members consider them in perspective, ENB representatives, upon the request of the Chairman, gave an account of the prevailing policy, targets, plans and initiatives on these proposed measures.

6. After discussion, Members' views and comments on the key considerations of the proposed measures were summarized in the **Annex**.

7. The meeting would discuss at the next meeting the proposed measures under the categories of "Fuel mix for electricity generation" and "Power generation plants" as well as the demand side management (DSM) measures under the "Building energy efficiency measures" if time permitted.

8. In response to a Member's enquiry, the Administration explained that the sub-group would focus on the practicability to implement the proposed air quality improvement measures, whereas their emission reduction potential and benefit analysis would be taken care of by the Air Science and Health sub-group.

Agenda Item 3 – Any other business

9. No other business was raised.

Agenda Item 4 – Date of the next meeting

10. The next meeting would be held on 7 October 2016 (Friday). The meeting was adjourned at 4:35 p.m.

[Post-meeting note: The next meeting has been rescheduled to 15 November 2016 (Tuesday).]

Proposed new air quality improvement measures	Members' views and comments on the key considerations
A. Building energy efficiency measures	
1. Encourage stakeholders in the commercial sector and the non-government sector, e.g. universities and hospital to adopt demand-side management (DSM) measures	<p>Members generally concurred on the importance of promoting energy saving and building energy efficiency through DSM measures and recognized Government's current effort in this area.</p> <p>The Administration informed Members that there are other established platforms, e.g. Energy Advisory Committee to specifically discuss on policy issues of energy saving and green building. Instead of going into every details of these policy issues in this sub-group meeting, the Chairperson suggested Members to provide advices on specific areas that they would like the Administration to consider regarding the implementation of the DSM measures, e.g. A Member suggested that the Administration should focus on gearing up community support and participation in existing DSM programmes rather than introducing new measures.</p>
2. Explore building energy efficiency measures for old existing buildings which are not covered by the Building Energy Efficiency Ordinance	<p>The Administration would provide further background information on existing DSM programmes as well as measures of building energy efficiency for Members' reference.</p>
3. Encourage major electricity users to reduce peak load demand so as to reduce the operation and emissions from coal-fired generation units for coping with peak load demand	<p>The Administration would provide further background information on existing DSM programmes as well as measures of building energy efficiency for Members' reference.</p>
B. Use of renewable energy	
1. Encourage or provide incentives for the private sector to develop distributed power generation by renewable energy (RE)	<p>Regarding the development of RE, the Administration informed Members that there had been ongoing discussions within the Government during the review on the scheme of control agreement with the power companies and the setting of the 2030 carbon reduction target for combating climate change. The Chairperson advised that the result of the latter one would be</p>
2. Facilitate distributed RE systems to connect to the power grid	
3. Encourage the development of more small scale waste-to-energy facilities, such as waste incinerators, organic waste treatment plants, etc.	

Proposed new air quality improvement measures	Members' views and comments on the key considerations
for waste disposal as well as recovering energy for local use	released as early as the end of this year and suggested Members to defer the discussion on this issue when more information were available at late time. Members agreed on this arrangement.
4. Increase the use of wind and solar energy in electricity generation	
<i>C. Fuel mix for electricity generation</i>	
1. Replacement of coal-fired generation units by gas-fired units	The Administration informed Members that the Steering Committee on Climate Change chaired by the Chief Secretary for Administration was studying the long term carbon emission reduction target for Hong Kong. One of the important factors it would consider would be the long term fuel mix of Hong Kong, including the retirement schedule of our coal plants. Fuel mix plan was a complex policy matter involving consideration of a wide range of issues. Apart from environmental consideration, we would also need to consider other energy policy objectives of safety, reliability and affordability.
2. Consider importing more nuclear electricity from the Mainland	Members generally agreed that discussions of different fuel mix scenarios should take into account the four upholding energy policy objectives, i.e. safety, reliability, environmental performance and affordability. The Administration would provide further background information relating to the fuel mix plan for Members' reference.
<i>D. Power generation</i>	
1. Upgrade burners of gas-fired generation units to improve fuel efficiency and emission performance	Members had no comment on the key consideration factors for the discussion of this measure. Nevertheless, a Member explained that where

Proposed new air quality improvement measures	Members’ views and comments on the key considerations
	practicable power companies would upgrade components of their generation units to improve fuel efficiency as well as emission performance.
2. Review operations of gas-fired power generation units with a view to identifying further emission reduction potential	<p>A Member suggested that the gas-fired generation units should be used to meet the base load of electricity demand as far as possible.</p> <p>In response to such suggestion, a Member explained that operations of the power plants were governed by Specified Process (SP) License and Technical Memorandum (TM) for the allocation of emission allowance issued by the Government. Wherever technically feasible, power companies were required to maximize the use of gas-fired units in coping with the electricity demand. Subject to other operational constraints such as variations of electricity demand, supply of natural gas and scheduled maintenance program, there was limited room for power companies to further increase the operation of gas-fired generation units so as to further reduce emissions.</p>
<i>E. New solar energy technology</i>	
1. Explore the idea of “SolarRoad” for promoting the use of solar energy	<p>Members had no comment on the key consideration factors for this measure.</p> <p>Members agreed to discuss this measure under Item B: “Use of renewable energy”.</p>
<i>F. Use of biomass as fuel</i>	
1. Explore the use of waste materials such as corncobs, waste wooden pallets as fuel	<p>In response to Members’ suggestions, the following consideration factor would be added for this measure:</p> <ul style="list-style-type: none"> - Land requirement for biomass storage and combustion plant

Proposed new air quality improvement measures	Members' views and comments on the key considerations
	Members agreed to discuss this measure under Item B: "Use of renewable energy".
<i>G. Energy storage</i>	
1. Explore the feasibility of using electric vehicles (EV) as electrical energy storage for power grid	Members had no comment on the key consideration factors for the discussion of this measure.
2. Explore the use of old EV batteries as an electrical energy storage system for the power grid	<p>The Administration advised Members that an international competition would soon be launched to encourage the public to explore ways to make good use of the retired EV batteries. The Administration would announce details of the competition in late August 2016.</p> <p>Members agreed to wait for the outcome of the competition for further discussion.</p>