

**立法會**  
***Legislative Council***

LC Paper No. CB(1)1419/16-17  
(These minutes have been seen  
by the Administration)

Ref : CB1/PL/EA

**Panel on Environmental Affairs**

**Minutes of meeting**  
**held on Monday, 17 July 2017, at 8:30 am**  
**in Conference Room 2 of the Legislative Council Complex**

- Members present** : Dr Hon Junius HO Kwan-yiu, JP (Deputy Chairman)  
Hon LEUNG Yiu-chung  
Hon Tommy CHEUNG Yu-yan, GBS, JP  
Hon Jeffrey LAM Kin-fung, GBS, JP  
Hon CHAN Hak-kan, BBS, JP  
Hon Paul TSE Wai-chun, JP  
Hon Steven HO Chun-yin, BBS  
Hon WU Chi-wai, MH  
Hon MA Fung-kwok, SBS, JP  
Hon Charles Peter MOK, JP  
Hon CHAN Chi-chuen  
Hon Kenneth LEUNG  
Hon KWOK Wai-keung, JP  
Dr Hon Elizabeth QUAT, BBS, JP  
Hon Martin LIAO Cheung-kong, SBS, JP  
Ir Dr Hon LO Wai-kwok, SBS, MH, JP  
Hon Andrew WAN Siu-kin  
Hon CHU Hoi-dick  
Hon SHIU Ka-fai  
Hon HUI Chi-fung  
Hon Kenneth LAU Ip-keung, MH, JP
- Member attending** : Hon Starry LEE Wai-king, SBS, JP

**Members absent** : Hon Tanya CHAN (Chairman)  
Hon WONG Ting-kwong, GBS, JP  
Dr Hon Priscilla LEUNG Mei-fun, SBS, JP  
Hon Frankie YICK Chi-ming, SBS, JP  
Hon LEUNG Che-cheung, SBS, MH, JP  
Hon Dennis KWOK Wing-hang  
Dr Hon Fernando CHEUNG Chiu-hung  
Hon HO Kai-ming  
Hon KWONG Chun-yu

**Public Officers attending** : **For item III**

Mr WONG Kam-sing, GBS, JP  
Secretary for the Environment

Mrs Alice CHEUNG, JP  
Deputy Director of Environmental Protection (3)  
Environmental Protection Department

Mr Dave HO  
Acting Assistant Director of Environmental Protection  
(Air Policy)  
Environmental Protection Department

Mr Brian LAU  
Principal Environmental Protection Officer (Air Policy)  
Environmental Protection Department

**For item IV**

Mr WONG Kam-sing, GBS, JP  
Secretary for the Environment

Ms Queenie LEE  
Principal Assistant Secretary for the Environment  
(Electricity Reviews)

Mrs Alice CHEUNG, JP  
Deputy Director of Environmental Protection (3)  
Environmental Protection Department

Mr Dave HO  
Acting Assistant Director of Environmental Protection  
(Air Policy)  
Environmental Protection Department

Mr Brian LAU  
Principal Environmental Protection Officer (Air Policy)  
Environmental Protection Department

**Clerk in attendance** : Ms Anita SIT  
Assistant Secretary General 1  
(for Clerk to Panel)

**Staff in attendance** : Mr Joey LO  
Senior Council Secretary (1)8

Ms Anki NG  
Senior Council Secretary (1)1

Mr Jason KONG  
Council Secretary (1)1

Miss Mandy POON  
Legislative Assistant (1)1

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**I. Confirmation of minutes**

(LC Paper No. CB(1)1268/16-17 — Minutes of the meeting held  
on 27 March 2017

LC Paper No. CB(1)1297/16-17 — Minutes of the meeting held  
on 24 April 2017)

The Deputy Chairman chaired the meeting in the absence of the  
Chairman.

2. The minutes of the meetings held on 27 March 2017 and  
24 April 2017 were confirmed.

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**II. Information papers issued since last meeting**

3. Members noted that the following papers had been issued since the last meeting:

(LC Paper No. CB(1)1217/16-17(01) — Referrals arising from the meeting between Legislative Council Members and Heung Yee Kuk members on 12 May 2017 regarding the setting up of a conservation fund to promote revitalization of rural areas, and measures to conserve areas with high ecological value (Chinese version only) (Restricted to members)

LC Paper No. CB(1)1304/16-17(01) — Administration's paper on "Cleaner Production Partnership Programme Progress Report for 2016-2017")

**III. Legislative proposal to mandate marine vessels to use compliant fuel within Hong Kong waters**

(LC Paper No. CB(1)1286/16-17(01) — Administration's paper on "Proposal to mandate vessels to use compliant fuel within Hong Kong waters"

LC Paper No. CB(1)1286/16-17(02) — Background brief on "Control of marine emissions" prepared by the Legislative Council Secretariat)

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Briefing by the Administration

4. The Secretary for the Environment ("SEN") briefed members on the proposal to mandate vessels to use compliant fuel within Hong Kong waters starting from 1 January 2019 for improving air quality. To reduce air pollution from the marine sector, the Administration had already introduced various measures including imposing a statutory cap on the sulphur content of locally supplied marine light diesel ("MLD") since 1 April 2014, requiring ocean-going vessels ("OGVs") to switch to use compliant fuel while at berth in Hong Kong since 1 July 2015, and launching an incentive scheme since September 2012 to waive 50% of the light facilities and port dues for OGVs that switched to use low sulphur content fuel while at berth.

5. SEN supplemented that the Administration had also been working closely with the Mainland to step up marine emission control in the Pearl River Delta ("PRD") region. In December 2015, the Ministry of Transport issued an Action Plan for establishing three Domestic Emission Control Areas ("DECAs") in Mainland waters ("the Action Plan"), one of which was in the PRD region. A working group comprising representatives from the Guangdong maritime authorities, the Environmental Protection Department ("EPD") and the Marine Department ("MD") ("the Working Group") was also formed to collaborate on the implementation of the PRD DECA.

Discussion

*Control of fuel sulphur content*

6. Mr LEUNG Yiu-chung recalled that during the 1980s, the sulphur content of the fuel used in industrial boilers was once required to be reduced to not exceeding 0.25% by weight due to heavy air pollution in the Kwai Chung area. He enquired about the reasons for mandating vessels in the proposal to use compliant fuel with sulphur content not exceeding 0.5% instead of 0.25% by weight.

7. SEN responded that two regulations had been enacted to control marine emissions, namely, the Air Pollution Control (Marine Light Diesel) Regulation (Cap. 311Y) which introduced a statutory sulphur limit of 0.05% on MLD to reduce emissions from river trade vessels ("RTVs") and local vessels since 1 April 2014, and the Air Pollution Control (Ocean Going Vessels) (Fuel at Berth) Regulation (Cap. 311AA) ("the Fuel at Berth Regulation") to mandate OGVs to use compliant fuel while at berth in Hong Kong since 1 July 2015.

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8. The Acting Assistant Director of Environmental Protection (Air Policy) ("Atg ADEP(AP)") responded that the sulphur content of diesel used in industrial boilers was required to be reduced to 0.5% in 1990 and further reduced to a lower sulphur content thereafter to 0.005% by weight in 2008. Under Annex VI to the International Convention for the Prevention of Pollution from Ships ("MARPOL") of the International Maritime Organization ("IMO"), the current sulphur content of any fuel oil used on board ships shall not exceed 3.5% m/m. IMO had also announced in October 2016 to implement a global sulphur cap of marine fuel oil at 0.5% starting from 1 January 2020.

9. The Deputy Director of Environmental Protection (3) ("DDEP(3)") supplemented that the proposed effective date for mandating vessels to use compliant fuel within Hong Kong waters was 1 January 2019, which was a year earlier than the effective implementation date set by IMO, and hence was a more stringent requirement than that set under international convention. In addition, the Fuel at Berth Regulation in force since July 2015 only required OGVs to switch to use compliant fuel while at berth in Hong Kong, while the proposed regulation required vessels to use compliant fuel within Hong Kong waters and not just at berth, and covered all vessels (not just OGVs) with certain exemptions.

10. Noting that Annex VI to MARPOL had provided for a mechanism for IMO Members to designate their waters as an ECA within which all vessels must use fuel containing not more than 0.1% sulphur from January 2015 onwards, and with the common use and adequate supply of local fuel containing 0.05% sulphur, Mr Kenneth LEUNG questioned why the present proposal only required vessels to use low sulphur fuel with sulphur content of not more than 0.5%. Mr Steven HO enquired whether the rationale for setting the sulphur content of compliant fuel at 0.5% under the proposed regulation was to ensure that vessels entering into Hong Kong waters from Mainland waters, such as those in DECAs, would be using the same fuel by January 2019. The Deputy Chairman enquired about the way forward for further lowering the sulphur content of fuel used by OGVs in Hong Kong.

11. DDEP(3) responded that the reason for setting the fuel standard at sulphur content of not more than 0.5% instead of 0.1% was that the 0.1% sulphur content fuel was not readily available in most Asian ports. It would therefore not be practical to tighten the sulphur content of the fuel to 0.1%. For DECAs in Mainland waters (including the one in the PRD region), most vessels would be required to use fuel with sulphur content not exceeding 0.5% by weight (or alternative measures including the use of clean energy or treatment of exhaust gas that could achieve the same control on emissions) by

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January 2019. As the sulphur content of fuels available in other Asian ports at present was 0.5% in general, setting the compliant fuel at not exceeding 0.5% sulphur content level in the proposed regulation would bring about a regional synchronous effect and maintain Hong Kong's competitiveness among neighbouring ports.

12. DDEP(3) further advised that the Working Group had been collaborating on the implementation of the PRD DECA in phases under the Action Plan. The Mainland would also conduct an assessment of the implementation of DECAs before end 2019 and determine whether the fuel sulphur requirement would be further tightened and whether other control measures would be introduced. The Administration would consider whether further amendment on the proposed regulation would be required.

13. Noting that most fishing vessels were already using MLD containing only 0.05% sulphur, Mr Steven HO enquired whether the proposed regulation would have any significant impact on the local fishing industry regarding fuel use. DDEP(3) responded that as local vessels such as fishing vessels and RTVs were already using MLD, the proposed regulation would not have any significant operational impact on such vessels. Target vessels affected by the proposed regulation would be OGVs which were currently using fuel with sulphur content up to 3.5%.

*Further legislative changes*

14. Mr Kenneth LEUNG enquired about the legislative procedure for further reducing the fuel sulphur content when new agreement(s) had been reached with Guangdong to further improve air quality in the PRD region. Mr Steven HO enquired whether the Administration was discussing with Guangdong on reaching further agreements to limit the fuel sulphur content and whether any further amendment on the relevant legislation would be necessary. DDEP(3) advised that for further reducing the fuel sulphur content, amendments to the relevant legislation would be submitted by way of subsidiary legislation for negative vetting by the Legislative Council ("LegCo"). Mr HO urged the Administration to step up promotional efforts and inform the shipping trade on the way forward for further controlling marine emissions, which would enhance the trade's preparation for meeting future legislative changes.

*Enforcement arrangements*

15. Mr Martin LIAO enquired whether enforcement work on the proposed regulation would be undertaken by EPD or MD, and about the manpower arrangements for enforcing the proposed regulation. DDEP(3)

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responded that the proposed regulation would cover the scope of control under the Fuel at Berth Regulation which was currently being enforced by EPD. The intention was that the proposed regulation would be enforced by EPD. Additional manpower resources for enforcing the proposed regulation would be necessary, and EPD was reviewing the manpower requirements.

16. In response to the enquiry of Mr Kenneth LEUNG on how enforcement work would be conducted on OGVs under the proposed regulation, Atg ADEP(AP) advised that according to IMO requirement, enforcement work would take place when OGVs berthed at the relevant ECA ports. Enforcement officers would board the vessels to inspect the relevant documents and collect fuel samples to analyze their sulphur content. EPD would conduct studies in collaboration with the Mainland authorities on the application of new technologies such as remote sensors and sniffers to detect fuel sulphur content.

*Incentive schemes*

17. Mr SHIU Ka-fai enquired on behalf of Mr Frankie YICK who was absent from the meeting. Mr SHIU said that the Hong Kong Liner Shipping Association had no objection in principle to the proposed regulation, but enquired about possible extension of the Port Facilities and Light Dues Incentive Scheme ("the Incentive Scheme") which would expire on 31 March 2018. Waiver provided under the Incentive Scheme could offset about 35% to 50% of the additional fuel cost of OGVs, while the reduction offered by nearby ports such as Shenzhen could offset about 60% to 75% of the additional fuel cost. In addition, in line with the international trend of reducing fuel sulphur content, the Mainland authorities had offered a higher incentive for OGVs that switched to use fuel with sulphur content not exceeding 0.1%, which might fully offset the additional fuel cost. To maintain Hong Kong's competitiveness within the region, he enquired whether the Administration would consider similar incentive schemes for the Hong Kong port.

18. DDEP(3) responded that the Administration was well aware of the trades' concerns on maintaining fair competition within the region, and the additional cost implications arising from the proposed regulation which might affect the competitiveness of Hong Kong port vis-à-vis neighbouring ports in PRD. The Administration would continue to keep in view developments in ports in the region particularly those in the PRD. The Administration would also consider the necessity for extension of the Incentive Scheme and introduction of other incentive schemes following the assessment of the implementation of DECAs before end 2019 by the Mainland.



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*On-shore power supply*

19. Noting that apart from fuel switching at berth, a switch to use on-shore power supply ("OPS") and cleaner fuel might also reduce emissions from OGVs at berth, Mr HUI Chi-fung enquired about the measures taken, the progress made and the incentives provided by the Administration on the provision of OPS. Atg ADEP(AP) responded that the Marine Transportation Sub-group ("the MT Sub-group") under the Air Quality Objectives Review Working Group had considered various possible measures for improving air quality, one of which was the use of OPS by OGVs while at berth at terminals. Given the lack of space for the installation of OPS facilities and the small number of container vessels capable of using OPS, the MT Sub-group considered the measure impracticable.

20. Atg ADEP(AP) supplemented that for cruise terminals, most of the OPS-ready cruise ships were sailing along the North American routes and only about 10% was sailing around Hong Kong waters. With the implementation of a global sulphur cap of marine fuel oil at 0.5% from 1 January 2020 by IMO and the increasing trend for cruise ships to equip with scrubbers instead of using OPS connection system to comply with the fuel sulphur requirements, the use of OPS system by cruise ships might be reduced. The Administration would continue to keep close monitoring of the development so that timely action could be taken on the use of OPS for cruise ships.

*Exemptions under the proposed regulation*

21. Mr MA Fung-kwok expressed concern about marine emissions from vessels exempted from compliance with the proposed regulation as such vessels might emit large amounts of pollutants while calling at the Hong Kong port. He suggested the Administration consider implementing administrative measures for such vessels, including military vessels, to berth at spaces distant from the densely populated shores of the Victoria Harbour. Mr Kenneth LEUNG expressed a similar concern.

22. DDEP(3) responded that the exemptions under the proposed regulation were in line with international practice. The number of military vessels calling at the Hong Kong port was relatively small when compared to about 28 000 OGVs calling at the Hong Kong port in 2015-2016. The location of berthing spaces of military vessels depended on their tonnage and no administrative measures had been implemented for allocating specific berthing spaces for such vessels. SEN advised that EPD would discuss the suggestion of Mr MA Fung-kwok with the relevant departments including MD.

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**IV. Review of the Sixth Technical Memorandum for Allocation of Emission Allowances for Power Plants**

(LC Paper No. CB(1)1286/16-17(03) — Administration's paper on "Review of the Sixth Technical Memorandum for Allocation of Emission Allowances for Power Plants"

LC Paper No. CB(1)1286/16-17(04) — Updated background brief on "Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences" prepared by the Legislative Council Secretariat)

Briefing by the Administration

23. SEN briefed members on the review of the Sixth Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences ("TM") and the promulgation of the Seventh TM. He highlighted that electricity generation was one of the major local sources of emission of air pollutants. When setting the emission allowances under the Sixth TM in 2016, the Administration committed to a review of the TM in 2017 to take account of the latest development on the building of new gas-fired units by the two power companies, namely, the Hongkong Electric Company, Limited and CLP Power Hong Kong Limited, which would affect the fuel mix for electricity generation and hence emissions in future years. SEN proposed to further reduce the emission allowances for power plants starting from 1 January 2022 by way of issuing the Seventh TM under Section 26G of the Air Pollution Control Ordinance (Cap. 311) ("APCO"). As compared with the emission allowances for 2021 set under the Sixth TM, the proposed Seventh TM would see a further tightening of 11%, 15% and 25% for respirable suspended particulates, nitrogen oxides and sulphur dioxide respectively for the electricity sector.

24. SEN pointed out that pursuant to Section 26G(4) of APCO which required a TM to be issued at least four years before the commencement of the emission year that it would take effect, the new emission allowances under the Seventh TM would take effect from 1 January 2022 if it could be promulgated within 2017. Members noted that the Administration planned to

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submit the Seventh TM to the LegCo for negative vetting in mid-October 2017.

Discussion

*Reducing carbon dioxide emissions*

25. Mr Kenneth LEUNG supported the proposal to further reduce emission allowances for power plants starting from 1 January 2022. Noting that the Administration had set a carbon intensity reduction target of 50%-60% by 2020 when compared to 2005, he enquired whether there were any new technological developments to enable the measurement of carbon dioxide ("CO<sub>2</sub>") emissions from power plants. He also pointed out that the Environmental Protection Agency of the United States of America had laid down the "carbon pollution standards for existing power plants" in 2015 and suggested that the Administration make reference to their methods and criteria for setting the standard. The Deputy Chairman also considered it necessary to explore means to regularly measure CO<sub>2</sub> emissions from power plants to facilitate monitoring work.

26. Atg ADEP(AP) advised that the setting of CO<sub>2</sub> emission caps for power plants had been considered in previous TMs discussions. There was currently no proven practicable technology for controlling CO<sub>2</sub> emissions from power generation. Some countries which had set CO<sub>2</sub> emission caps had been storing captured CO<sub>2</sub> emissions in underground caverns to meet the caps. The lack of deep underground caverns in Hong Kong for storing captured CO<sub>2</sub> would also make the setting of CO<sub>2</sub> emission caps infeasible. Increasing the use of natural gas for power generation in lieu of coal would effectively reduce CO<sub>2</sub> emissions from power generation. Currently, CO<sub>2</sub> emissions from power plants were calculated with reference to the quantity and property of fuel used in accordance with the Intergovernmental Panel on Climate Change ("IPCC") guidelines.

27. SEN supplemented that capping emissions from power plants as required under a TM was for improving air quality while setting the overall carbon intensity reduction target was for combating climate change. Carbon footprints of a city came from various sources including power plants, vehicle and marine emissions and cattle farming, etc..

*Changes in electricity demand*

28. Mr HUI Chi-fung noted from the Administration's paper (LC Paper No. CB(1)1286/16-17(03)) that according to the information provided by the two power companies, the electricity demand for Hong Kong

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Island was forecasted to drop by around 2% and that for Kowloon and the New Territories was forecasted to increase by around 1% in the period 2022 to 2023. In order to achieve the target of reducing energy intensity in Hong Kong by 2025 under the "Energy Saving Plan for Hong Kong's Built Environment 2015~2025+" ("Energy Saving Plan"), he enquired whether there was any scientific method for assessing whether the estimated changes in local electricity demand provided by the two power companies were reasonable. He also enquired whether the Administration would consider setting more stringent targets under the Energy Saving Plan to further reduce electricity demand and emission allowances under the Seventh TM.

29. The Principal Assistant Secretary for the Environment (Electricity Reviews) responded that in forecasting the electricity demand, the power companies would consider a host of factors, including economic and population growth forecast, development of industrial and commercial sectors, large-scale infrastructure projects and ancillary facilities, as well as historical trend of electricity demand, etc.. The power companies would also take into account the Government's energy efficiency policies and measures, including those under the Energy Saving Plan. To ensure that the electricity demand forecasts provided were reasonable, the Administration would make reference to various information including independent electricity demand forecasts conducted by independent energy consultants. The electricity demand forecasts provided by the power companies in recent years were generally in line with the Government's assessment.

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30. At the request of Mr HUI Chi-fung, the Administration agreed to provide information on how the Administration assessed whether the estimated changes in local electricity demand provided by the two power companies in their forecasts in previous years were reasonable, including the factors and statistics, if any, which the Administration had taken into consideration.

*(Post-meeting note: The Administration's response was circulated to members vide LC Paper No. CB(1)1335/16-17(02) on 2 August 2017.)*

**V. Any other business**

31. As it was the last meeting of the Panel in the current legislative session, the Deputy Chairman thanked members, the Administration and the Secretariat for their support and assistance over the year.

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32. There being no other business, the meeting ended at 9:37 am.

Council Business Division 1  
Legislative Council Secretariat  
13 September 2017