

**Confirmed Minutes of the 264th Meeting
of the Advisory Council on the Environment (ACE)
on 15 July 2024 at 2:30 p.m.**

Present:

Prof John CHAI, BBS, JP (Chairman)
Prof Kenneth LEUNG, JP (Deputy Chairman)
Ms Carmen CHAN, BBS, JP
Ms Ada FUNG, BBS
Mr Eric HO
Ms Linda HO
Mr Alex KWAN
Dr Theresa KWONG
Prof Dennis LEUNG
Mr Simon NG
Mr Albert SU, MH, JP
Ms Christina TANG
Prof WONG Kam-bo
Dr WONG Kwok-yan, MH
Mr Alan LO, JP (Secretary)

Absent with Apologies:

Dr Sylvia CHAN, MH
Prof Alexis LAU, JP
Mr Daryl NG, SBS, JP
Prof Dan TSANG
Dr Raymond YAU
Dr William YU

In Attendance:

Environment and Ecology Bureau (EEB)

Miss Mavis HUI	Chief Information Officer
Ms Karen CHEK	Chief Executive Officer (CBD)
Miss Sally SHEK	Executive Officer (CBD) 1
Miss Glory CHONG	Executive Officer (CBD) 2

Environmental Protection Department (EPD)

Dr Samuel CHUI, JP	Director of Environmental Protection (DEP)
Mr Terence TSANG	Assistant Director (Environmental Assessment)

Agriculture, Fisheries and Conservation Department (AFCD)
Mr Simon CHAN Assistant Director (Conservation)

Planning Department (PlanD)
Mr Kevin NG Chief Town Planner / Technical Services, Planning
Department (PlanD)

In Attendance for Item 3:

EEB

Dr YANG Rong Principal Assistant Secretary (Air Policy)
Mr LEUNG Wai-man Principal Environmental Protection Officer (Air Policy)

EPD

Dr Sunny CHEUNG Assistant Director (Environmental Compliance)
Mr POON Tsz-ming Principal Environmental Protection Officer (Regional
West)

In Attendance for Item 4:

EEB

Mr WONG Chuen-fai, JP Commissioner for Climate Change
Mr LEUNG Wai-man Principal Environmental Protection Officer (Air Policy)
Mr Sebastian WONG Assistant Secretary (Climate Change) 1

Electrical & Mechanical Services Department (EMSD)

Mr Vincent CHOW Assistant Director / Gas & General Legislation

Action

The Chairman welcomed all to the meeting and informed Members that apologies of absence had been received from Dr Sylvia Chan, Prof Alexis Lau, Mr Daryl Ng, Prof Dan Tsang, Dr Raymond Yau and Dr William Yu.

Item 1 : Confirmation of the draft minutes of the 263rd meeting held on 22 April 2024 (Closed-door session)

2. The draft minutes of the last meeting were confirmed without any proposed amendments.

Item 2 : Matters arising (Closed-door session)

3. There were no matters arising from the minutes of the last meeting.

Item 3 : Proposal to amend Air Pollution Control Ordinance to combat the conduct of unlicensed specified processes more effectively through introducing closure notice mechanism and amend the coverage of “cement works”

(ACE Paper 7/2024)

4. The Chairman invited Members to refer to *ACE Paper 7/2024* which proposed to amend the Air Pollution Control Ordinance (APCO) (Cap. 311) to more effectively combat the conduct of unlicensed specified processes (SP) through introducing a closure notice mechanism and amending the scope of “cement works” of SP.

5. A Member declared that he was one of the Members of the Air Pollution Control Appeal Board Panel and was involved in an appeal case related to a licence renewal application of a concrete company. Another Member declared that he was also a Member of the same Panel but was not involved in any appeal case in the past year. The Chairman considered that there was no conflict of interest as Members were invited to give advice on the proposed amendment of APCO and not to comment on any specific cases, and Members had no other view.

(The presentation team joined the meeting at this juncture.)

Presentation cum Question-and-Answer Session (Open session)

6. Dr Samuel Chui gave an opening remark while Dr Sunny Cheung briefed Members on the background and details of the proposed amendment of APCO, views of the trade and the legislative timeline.

Proposed Amendments

7. A Member was worried that the exclusion of one temporary tanker connecting to the cement works in the calculation of the capacity threshold might provide a loophole for operators to circumvent control. Dr Samuel Chui responded that the revised definition of “cement works” would bring under control those operations with concrete production scale with the total installed capacity of concrete mixers exceeding three cubic metres or the total hourly concrete production rate exceeding 20 cubic metres per hour, which would help prevent circumvention of the control. Moreover, the capacity of the standalone temporary tanker shall also be less than 50 tonnes. In fact, the temporary road tankers have a capacity of around 8 tonnes.

8. A Member further enquired and Dr Sunny Cheung advised that there was no estimation on the number of new licences for the SPs as a result of the revised definition of cement works from total silo capacity to total storage capacity. The Member highlighted the importance of proper monitoring to ensure compliance in the future. Another Member asked and Dr Cheung explained that as SPs conducted

at sea were previously not under the regulation of the Ordinance, relevant statistics on sea operations were thus not available.

9. Two Members were worried about the lack of control for those SP operations under the production capacity threshold of 50 tonnes. Dr Sunny Cheung indicated that the Air Pollution Control (Construction Dust) Regulation had set out the requirements for proper storage and operation of bagged cement, such as setting up dust screens and spraying water to prevent the spread of dusts during operation, which covered also those operations under the total storage capacity threshold of 50 tonnes. In case of non-compliance, EPD could take action under the said Regulation or issue an abatement notice requiring the operator to mitigate the pollution.

10. A Member enquired and Dr Sunny Cheung advised that amongst the 31 types of SPs, the control of SPs conducted at sea would only be extended to cement works as EPD had noticed the cement works operations on vessels. The Member suggested that EPD should extend the control of sea operations to all other types of SPs for the prevention of any circumvention and the simplicity of monitoring and execution. Dr Cheung responded that EPD would keep in view the situation of all SPs and take appropriate follow-up actions in consultation with the relevant trades if appropriate. Another Member indicated that close monitoring and appropriate follow up actions were essential for the continuous improvement of ambient air quality.

Ongoing Monitoring

11. In reply to a Member's questions, Dr Sunny Cheung advised that the validity of licences ranged from two to five years, depending on the type and scale of the SP, and the nearby premises concerned. While there was no penalty point system currently, SP operators were required to report any pollution incidents to EPD and take immediate remedial actions before resuming operations.

12. Addressing a Member's concern on proper control of operations, Mr Poon Tsz-ming pointed out that EPD would take into consideration the past environmental performances, complaint and prosecution records of SP operators when a licence renewal application was processed. Dr Samuel Chui supplemented that in case pollution was caused at unlicensed premises, EPD could require the operator concerned to take remedial actions through an abatement notice.

13. As regards a Member's question on on-site inspection, Mr Poon Tsz-ming replied that EPD would conduct regular and surprise inspections of the SPs. On average, EPD conducted about 700 inspections for all of the SPs annually. Dr Sunny Cheung supplemented that for each SP, EPD would conduct about four to six inspections annually. In case of complaints, EPD would conduct more frequent inspections.

14. A Member suggested that scientific indicators or baseline parameters should be adopted for measuring the compliance or pollution level of SPs. Dr Sunny Cheung confirmed that relevant baseline indicators were in place for measuring the pollution level of SPs. To strengthen monitoring, a Member suggested that operators should be required to install real-time surveillance in respect of the relevant environmental parameters and disclose the data to EPD regularly. Dr Cheung indicated that operators were required to submit environmental reports regularly. In some cases such as electricity companies, they were required to provide real-time telemetry data to EPD.

15. A Member suggested that EPD should put together a list of SP operators with records of their environmental performances with a view to encouraging positive competition and facilitating the trade to choose cement suppliers with good environmental performances. Dr Sunny Cheung thanked the Member for the suggestion.

Streamlining Procedures

16. In response to a Member's enquiry on the streamlined application process, Dr Sunny Cheung explained that EPD aimed to reduce the processing time required for licence applications (simple cases) such as enclosed-type cement grouting equipment to around one to two months. For the relatively complicated cases, the processing time had also been reduced from around more than a year to less than nine months in recent years with the adoption of the Significant Impact Level approach which simplified the air quality impact assessments.

17. A Member asked whether the streamlined process was applicable to all types of SPs. Considering that cement works accounted for about one-fourth of all SPs, Dr Sunny Cheung indicated that the streamlined process would only apply to cement works for the time being. He said that EPD would keep in view of the need of the trades to further optimise the application process of other SPs.

18. Two Members enquired about the procedures and lead time required for closing down unlicensed operations. Dr Samuel Chui explained that in case EPD refused the renewal application of an existing licence, the SP operator might appeal to the Appeal Board in accordance with the Air Pollution Control (Appeal Board) Regulations, during which the licence would remain effective. In the event of unlicensed operation even after the dismissal of the appeal, EPD could close the relevant premises and suspend their operation by means of closure notice. Dr Sunny Cheung supplemented that EPD would issue a closure notice to the unlicensed operator with a reasonable deadline for them to close down an unlicensed operation.

Long-term planning

19. Addressing a Member's question on the distribution of the SP premises in Hong Kong, Dr Sunny Cheung replied that SP premises were mainly located in Tuen Mun, Yuen Long, Tsing Yi and Yau Tong. The Chairman and two Members suggested that the Government should have a holistic and long-term land use planning with a view to minimising the disturbances of the relevant premises to the residents nearby. The Chairman added that there should be strategic consideration in deciding an optimal location for such premises as the back-and-forth transportation would increase carbon footprint if the SP premises were too remote. Dr Samuel Chui shared with Members that the Development Bureau had taken the matter into consideration in its land use planning. For example, Tseung Kwan O Area 137 was designated for public fill for construction wastes whereas Area 132 for factories as these areas were farther away from residential areas.

Conclusion

20. Members were supportive of the proposal as the amendments could strengthen the legal means to protect the environment and safeguard public health. The Chairman remarked that SPs such as cement works were important to the development and infrastructure of Hong Kong and appreciated that different tiers of control measures such as ongoing inspection, warning system including the issuance of abatement notice and penalty system were in place. He concluded the discussion and invited the Government representatives to take on board the suggestions of Members. EPD

(Dr Samuel Chui and the presentation team left the meeting at this juncture.)

Item 4 : The Strategy of Hydrogen Development in Hong Kong (ACE Paper 8/2024)

21. The Chairman referred Members to *ACE Paper 8/2024* which was a brief on the Strategy of Hydrogen Development in Hong Kong published in June 2024.

22. There was no declaration of interest by Members.

(The presentation team joined the meeting at this juncture.)

Presentation cum Question-and-Answer Session (Open session)

23. With the aid of a PowerPoint presentation, Mr Wong Chuen-fai briefed Members on the opportunities and challenges as well as the Government's four core strategies for hydrogen development and the related action plan.

Opportunities and Challenges

24. A Member enquired about the cost of hydrogen in comparison to traditional fossil fuels and the energy efficiency for deploying green hydrogen for electricity generation. Mr Wong Chuen-fai shared that the price of grey hydrogen was about two to three times higher than those of fossil fuels while green hydrogen was even more costly. Based on the projection of the International Energy Agency, Mr Wong said that the cost of green hydrogen was expected to drop in the foreseeable future with the increase in supply over time in tandem with global technological advancement and scaled-up production. To get ready for the future development of hydrogen energy, the Government aimed at providing the necessary support and putting in place a system conducive to its development and safe application in Hong Kong.

25. A Member raised questions on the possibility of local production and using hydrogen as a main source of energy supply in Hong Kong. The Member suggested EPD to look into the relevant areas including the estimated size of local supply and demand for hydrogen, the percentage of hydrogen to be imported, the cost implications etc. Mr Wong Chuen-fai responded that local mass production of hydrogen for wide application in Hong Kong would not be likely and regional cooperation for the importation of green hydrogen would be necessary. He added that Hong Kong would capitalise on its role as a “super connector” and “super value-adder” to reach out to overseas and Mainland enterprises and talents to promote business opportunities arising from hydrogen development.

26. As price is a factor which limited the wider usage of hydrogen, a Member suggested that the Government should take part in hydrogen production, for example, through the conversion of waste to hydrogen. Mr Wong Chuen-fai shared that one of the landfill operators in Hong Kong was going to commence a trial project to convert landfill gas to hydrogen while the Airport Authority Hong Kong was exploring the possibility to convert its waste into hydrogen. He remarked that the Government would continue to facilitate the trades to explore relevant hydrogen production technologies through, for instance, the Inter-departmental Working Group on Using Hydrogen as Fuel.

27. A Member opined that EPD might consider the construction of waste-to-hydrogen facilities as such infrastructures should be provided by the Government. Mr Wong Chuen-fai explained that the Government should exercise fiscal prudence and might consider the possibility when the market became more mature with the availability of positive trial results.

28. Pointing out the small local market and Hong Kong’s reliance on importation for most products, a Member enquired about the positioning of Hong Kong in hydrogen development. While acknowledging the limited size of the local market, Mr Wong Chuen-fai aspired that successful demonstration projects in Hong Kong would help showcase the relevant technology for hydrogen development to the

world and offer business opportunities to the trades for reaching out to the global market.

29. Although green hydrogen was preferred over grey hydrogen, a Member highlighted the need to consider the cost, energy efficiency and stability in supply with reference to the experience of other renewable energy. Mr Wong Chuen-fai agreed that there were uncertainties about the relative competitiveness of various forms of new / green energy. Having said that, hydrogen was a new energy with great potential to provide solutions to the common problems associated with the unstable supply of renewable energy, as hydrogen was an efficient secondary carrier of energy, and hence a good storage media for traditional renewable energy such as wind and solar power, which could be intermittent by nature.

30. A Member was concerned about the potential problems of by-products or waste generation from the production or usage of hydrogen. Based on the information available, Mr Wong Chuen-fai expected that the associated environmental problems would be minimal as hydrogen was considered a clean energy. On the Member's question on the control of hydrogen container storage, Mr Vincent Chow responded that EMSD would suitably revise the Gas Safety Ordinance to cover the regulation of the production, storage and transportation of hydrogen.

31. A Member shared that researchers in tertiary institutions were unable to conduct large-scale testing or to scale up their projects due to the lack of investors or funding. The Member suggested that the Government should provide opportunities and facilitate the marketisation of their researches so as to nurture technological development of and research on the new energy industry. Mr Wong Chuen-fai advised that the Green Tech Fund had provided funding for various hydrogen trial research and development projects. He said that the Government would strive to attract investments and funding from other places to facilitate local climate action.

32. Two Members highlighted the importance of publicity and public education to raise public awareness and acceptance of the application of new energy. Agreeing with Members' comments, Mr Wong Chuen-fai said that the Government would step up its publicity and public education efforts.

Application

33. A Member opined that the Government should explore the possibility of wider application of hydrogen energy in the household environment as well as in premises with high energy consumption such as data centres. Mr Wong Chuen-fai explained that, for the time being, hydrogen had higher application potential in transport and mobile machinery due to the energy-intensive nature of these applications. So far there was a lack of trade products and equipment for promotion of trial application in household environment. This notwithstanding, Mr Wong said that the Government would support the trade, academic or research institutions to

develop new hydrogen technology and facilitate its application in various scenarios. With reference to an example in San Francisco, a Member suggested that the Government should promote the use of hydrogen in vessel transportation such as ferries. Mr Wong responded that EEB would continue to encourage ferry operators or relevant stakeholders to conduct trial projects on new energy vessels.

34. Given the long timeframe required for the construction of new power generation units, a Member reminded that the Government should make early preparations to facilitate the electricity companies to deploy hydrogen in the future. The Member added that the Government should facilitate hydrogen usage through mandating the necessary infrastructure down to the building level. With reference to the prevailing green building measures such as Gross Floor Area Concessions, she suggested that incentives such as tax concessions or new building requirements should be put in place to encourage the trades to adopt hydrogen. Explaining that about 60% of the total carbon emissions in Hong Kong came from electricity generation, Mr Wong Chuen-fai echoed that it was important to promote low-carbon transition in electricity generation. While the electricity companies were exploring the feasibility of adding hydrogen to their fuel mix, and current feedback from the industry suggested that there would unlikely be major technical hurdle in using some hydrogen in existing gas turbine generators, he remarked that regional cooperation for importing other zero-carbon energy from Mainland would also be important for improving the fuel mix ratio.

35. A Member enquired whether hydrogen infrastructures would be operated by the Government or by the private sector. To encourage wider use of hydrogen, she suggested that flexibility should be allowed for the public to put in place their own hydrogen facilities for the achievement of net zero carbon within their own premises. Mr Wong Chuen-fai pointed out that hydrogen could help fill existing gaps such as clean electricity supply for construction sites in remote areas where there was a lack of access to the power grid.

36. Addressing a Member's question, Mr Wong Chuen-fai advised that, when planning for the establishment of hydrogen filling stations, the Government would take into account their accessibility to vehicles and mobile machinery at strategic locations such as construction sites and container terminals.

37. A Member held the view that the Government should make early planning to facilitate the use of hydrogen in new and large-scale development projects such as Kau Yi Chau Artificial Islands. Mr Wong Chuen-fai indicated that the Government had already incorporated flexibility to establish refilling stations for new energy such as electricity or hydrogen in the new development projects such as the Northern Metropolis and Kau Yi Chau Artificial Islands.

Long-term goals

38. Two Members stressed the importance of devising a roadmap and detailed action plan for the development and application of hydrogen as they would help the trades plan ahead and adjust their business strategies. Given the uncertainty in the developments of hydrogen technology and green energy, Mr Wong Chuen-fai indicated that it would be premature to devise a roadmap to commit any long-term targets at the current moment. Instead, EEB would facilitate trial projects of the industry and review the timing to devise a roadmap subject to the global hydrogen development. While there might not be a concrete roadmap, a Member asked about the Government's ultimate goal. With the target to achieve carbon neutrality by 2050, Mr Wong responded that hydrogen was potentially one of the critical tools, as stated in Hong Kong's Climate Action Plan 2050.

39. A Member furthered that the Government could provide a high-level blueprint with key milestones such as the percentage of hydrogen energy to be used for electricity generation or lay down a plan to prioritise the use of hydrogen in suitable sectors such as construction sites. Mr Wong Chuen-fai responded that the Government's strategy was to retain flexibility and would closely keep in view the technological advancement and global market development.

40. For long-term planning, a Member said that the Government should have a comprehensive analysis on the financial and human resources required to incentivise the trades' participation and to train the necessary personnel. Another Member added that the Government should prepare for the training and supply of talents required in the new energy industry such as electric vehicles, hydrogen vehicles etc. and facilitate the smooth transition of the existing manpower. Mr Vincent Chow advised that EMSD had been working with the Vocational Training Council in providing training courses for the registered technicians on the maintenance of electric vehicles. To prepare the next generation for new energy development, he added that EMSD would include relevant information in outreach talks at schools.

41. Pointing out that hydrogen technology was new and emerging, the Chairman opined that it might be premature to devise a concrete roadmap at the current juncture. He considered that it would be more desirable to allow flexibility in the scale and pace of development as well as the Government's role and the extent of application. Having said that, he highlighted that the Government should keep in view the technological development and review the possibility to set out a roadmap or action plan to facilitate early preparation of stakeholders and the community as a whole.

Conclusion

42. The Chairman was appreciative of the Government's forward-looking direction and outline of hydrogen development in Hong Kong. He concluded the

discussion and invited the Government representatives to take on board Members' suggestions and update the ACE on the subject in the coming year.

(Three Members left the meeting during Question-and-Answer Session of Item 4.)

(The presentation team left the meeting at this juncture.)

Item 5 : Report on the 45th Waste Management Subcommittee Meeting (ACE Paper 9/2024) (Closed-door session)

43. The Secretariat reported the key discussions at the 45th Waste Management Subcommittee (WMSC) Meeting as summarised in *ACE Paper 9/2024* on behalf of the WMSC Chairman who was unable to attend the meeting. At the 45th WMSC meeting, Members had raised questions on the work plan, timetable, pre-requisites for the subsequent implementation of MSW charging and offered extensive views and comments for improving the charging scheme and sustainable waste management in the long term. Members aspired that MSW charging could be implemented as early as possible and suggested that the Government could consider implementation in phases.

Item 6 : Any other business (Closed-door session)

44. There was no other business for discussion at the meeting.

Item 7 : Date of next meeting (Closed-door session)

45. Members would be advised on the agenda in due course.

46. There being no other business, the meeting ended at 5:25 pm.

**ACE Secretariat
November 2024**