立法會
Legislative Council

LC Paper No. CB(1)1027/20-21
(These minutes have been seen by the Administration)

Ref : CB1/PL/EA

Panel on Environmental Affairs

Minutes of meeting
held on Monday, 26 April 2021, at 2:30 pm
in Conference Room 2 of the Legislative Council Complex

Members present	**:**	Hon Vincent CHENG Wing-shun, MH, JP (Chairman) Hon Paul TSE Wai-chun, JP (Deputy Chairman) Hon WONG Ting-kwong, GBS, JP Hon CHAN Hak-kan, BBS, JP Hon Frankie YICK Chi-ming, SBS, JP Hon KWOK Wai-keung, JP Hon Elizabeth QUAT, BBS, JP Ir Dr Hon LO Wai-kwok, SBS, MH, JP Dr Hon Junius HO Kwan-yiu, JP Hon SHIU Ka-fai, JP Hon Kenneth LAU Ip-keung, BBS, MH, JP Hon Tony TSE Wai-chuen, BBS, JP
Member absent	**:**	Hon Steven HO Chun-yin, BBS
Public Officers attending	**:**	**For item IV** Mr WONG Kam-sing, GBS, JP Secretary for the Environment Mr Owin FUNG Deputy Director of Environmental Protection (3) Environmental Protection Department

Mr Dave HO, JP
Assistant Director (Air Policy)
Environmental Protection Department

Dr MAK Shing-tat
Principal Environmental Protection Officer (Mobile Source)
Environmental Protection Department

Mr Gary TAM
Principal Environmental Protection Officer (Recycling Upgrade)
Environmental Protection Department

For item V

Mr TSE Chin-wan, BBS, JP
Under Secretary for the Environment

Mr Owin FUNG
Deputy Director of Environmental Protection (3)
Environmental Protection Department

Mr Dave HO, JP
Assistant Director (Air Policy)
Environmental Protection Department

Dr Alick CHANG
Senior Environmental Protection Officer (Air Policy)4
Environmental Protection Department

Ms Queenie LEE
Principal Assistant Secretary for the Environment (Renewable Energy Review and Development)
Environment Bureau

Mr Andy HO
Chief Electrical and Mechanical Engineer (Electricity Team)
Environment Bureau

Clerk in attendance : Ms Angel SHEK
Chief Council Secretary (1)1

Staff in attendance : Mr Jason KONG
Senior Council Secretary (1)1

Miss Bowie LAM
Council Secretary (1)1

Miss Mandy POON
Legislative Assistant (1)1

Action

I. Confirmation of minutes

(LC Paper No. CB(1)808/20-21 — Minutes of the meeting held on 22 February 2021)

The minutes of the meeting held on 22 February 2021 were confirmed.

II. Information papers issued since last meeting

2. Members noted that the following paper had been issued since the last meeting:

LC Paper No. CB(1)752/20-21(01) — Referral from the Subcommittee on Issues Relating to the Improvement of Environmental Hygiene and Cityscape on regulatory issues relating to construction trucks/dump trucks carrying construction and demolition materials/waste

III. Items for discussion at the next meeting

(LC Paper No. CB(1)810/20-21(01) — List of follow-up actions

LC Paper No. CB(1)810/20-21(02) — List of outstanding items for discussion)

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3. Members agreed to discuss the following items at the next regular meeting scheduled for Monday, 24 May 2021, at 2:30 pm:

(a) Voluntary Scheme for Phasing Out Personal Care and Cosmetic Products Containing Microbeads; and

(b) enhancing quality of coastal waters of Victoria Harbour.

IV. Roadmap on the Popularisation of Electric Vehicles

(LC Paper No. CB(1)810/20-21(03)	—	Administration's paper on "Hong Kong Roadmap on the Popularisation of Electric Vehicles"
LC Paper No. CB(1)810/20-21(04)	—	Updated background brief on "Promoting the use of electric vehicles" prepared by the Legislative Council Secretariat
LC Paper No. CB(1)834/20-21(01)	—	Joint submission from Civic Exchange, Clean Air Network and World Resources Institute (English version only) (Restricted to Members))

Briefing by the Administration

4. The Secretary for the Environment ("SEN") advised that the Hong Kong Roadmap on Popularisation of Electric Vehicles ("the EV Roadmap") had been announced in March 2021 and would be reviewed roughly every five years. The EV Roadmap set out the following targets and plans: (a) no new registration of fuel-propelled private cars ("PCs"), including plug-in hybrids and hybrids, in 2035 or earlier; (b) conducting trials for electric commercial vehicles ("e-CVs"), with a view to setting a more concrete way forward and timetable for the promotion of e-CVs around 2025; and (c) through the work of a task force, keeping abreast of high-end development of new decarbonization technologies globally for formulation of forward-looking policies.

5. Regarding supporting measures and facilities, SEN advised that the EV-charging at Home Subsidy Scheme ("EHSS") had received over 330 applications, which covered more than 82 000 parking spaces, since its launch in October 2020. Together with the gross floor area concession

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arrangement for new developments, the Administration envisaged that over 150 000 private parking spaces would be equipped with electric vehicle ("EV") charging infrastructure before 2025. To give impetus to the provision of public charging facilities by the private sector, the Administration planned to marketize EV charging services and would impose charging fees in government car parks from around 2025. For training of professionals and mechanics in the EV field, the Administration would closely liaise with post-secondary institutions and the trade to facilitate the provision of appropriate courses. To ensure proper handling of retired EV batteries and promote their second-life applications, the Administration would seek to legislate for a producer responsibility scheme on retired EV batteries in the next few years.

6. With the aid of a PowerPoint presentation, the Deputy Director of Environmental Protection (3) ("DDEP(3)") provided further information on the major areas of public concern in relation to promoting the use of EVs and other new energy vehicles.

(*Post-meeting note*: The PowerPoint presentation materials were circulated to members on 26 April 2021, vide LC Paper No. CB(1)837/20-21(01).)

Discussion

7. Mr CHAN Hak-kan said that he was an EV user. He expressed support for the EV Roadmap, and commended the Administration for: (a) setting a target date for stopping new registration of fuel-propelled PCs; (b) adopting a forward-looking attitude towards the promotion of other new energy vehicles and fuel technologies; and (c) making efforts to promote the electrification of public transport. Ms Elizabeth QUAT also expressed strong support for the EV Roadmap. Mr SHIU Ka-fai said that he was supportive of the general direction of the EV Roadmap.

8. Dr Junius HO expressed support for promoting the use of EVs with a view to attaining zero vehicular emissions. He considered that the current EV adoption rate in Hong Kong was low. SEN responded that currently, electric PCs ("e-PCs") made up 2.9% of all PCs in Hong Kong. In the first quarter of 2021, about one out of every seven new PCs was electric. Such adoption rates of e-PCs compared favourably with other major economies in Asia.

Phasing out fuel-propelled vehicles

9. Mr KWOK Wai-keung and Dr Junius HO held that the target dates for stopping new registration of fuel-propelled PCs and achieving zero vehicular emissions, which were before 2035 and before 2050 respectively, were too

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conservative. Mr KWOK also sought elaboration on how the Administration would promote the adoption of other new energy vehicle technologies should they become mature.

10. SEN responded that some economies would only stop new sales of fuel-propelled PCs in 2040. The Hong Kong targets were not conservative. In future reviews of the EV Roadmap, which would be conducted roughly every five years, the Administration would study the feasibility of advancing the targets having regard to the development of new energy vehicle technologies.

Private charging facilities

11. Mr Tony TSE opined that the Administration should assist the public in overcoming the financial and technical difficulties often encountered in the installation of EV charging facilities at parking spaces of existing private residential buildings, including the difficulty in obtaining the consent from other property owners for the installation works and sharing of the associated costs. The Chairman expressed a similar view.

12. The Chairman considered that the target of having at least 150 000 parking spaces in private residential and commercial buildings equipped with EV charging infrastructure (covering close to half of all such parking spaces in the territory) before 2025 was ambitious. He asked how the Administration would ensure achievement of the target. He suggested that the Administration should take the lead and promote the installation of EV charging infrastructure in, among others, the car parks of quarters for civil servants and police officers.

13. SEN advised that EHSS would help building owners overcome difficulties in the installation of EV charging-enabling infrastructure in their car parks, which in turn could facilitate the installation of chargers at individual parking spaces. Applications to EHSS already covered more than 82 000 parking spaces so far; and about 68 000 parking spaces in new developments had been approved for gross floor area concessions and would be equipped with charging infrastructure. The Administration therefore considered the said target achievable.

14. Ms Elizabeth QUAT enquired about the way forward for EHSS should it be oversubscribed. SEN responded that public response to EHSS was more enthusiastic than expected and subsidies under the scheme would be granted on a first-come-first-served basis. The Administration would study the way forward for EHSS in due course having regard to the implementation of and experiences gained from the approved projects.

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15. Mr SHIU Ka-fai expressed strong reservation about subsidizing the installation of EV charging-enabling infrastructure in private car parks through EHSS, as he considered that owners of parking spaces or EVs should bear the installation costs of their own EV charging facilities. He sought elaboration on the actual cost per parking space of such installation works. Mr Tony TSE cautioned the Administration to monitor the utilization and maintenance of EV charging-enabling infrastructure supported by EHSS.

16. SEN, DDEP(3) and the Assistant Director (Air Policy) ("AD(AP)") advised that the ceiling of subsidy under EHSS was $30,000 per eligible parking space or $15 million in total for an entire development, whichever was the lower. The actual cost of installation works would depend on the scope of works. Based on the information submitted by the applicants so far, the actual costs could be lower than the subsidy ceiling because the power supply capacities of most of the concerned buildings were sufficient for EV charging-enabling infrastructure, hence no major upgrading works for the electrical systems would be required. SEN emphasized that, to ensure prudent use of funds earmarked for EHSS, the Environmental Protection Department ("EPD") had communicated with different government departments to tap into their experience in implementing other subsidy schemes, including those relating to repair and maintenance of old buildings.

17. Mr KWOK Wai-keung enquired whether the Administration would consider making arrangements with the two power companies to offer concessionary electricity tariffs for the charging of EVs. SEN said that the suggestion was worth consideration. He pointed out that governments around the world were encouraging EV users to charge EVs at night to optimize the use of electricity during off-peak hours. In Hong Kong, the two power companies were progressively replacing electromechanical meters with smart meters. The smart meters would enable the implementation of peak demand management measures for individual premises, which might include the offering of incentive tariff rates at specific hours for peak shifting.

Public charging facilities

18. The Chairman suggested that the Administration should encourage major property developers and landlords to provide more public charging facilities in their parking spaces.

19. Mr Tony TSE urged the Administration to enhance support for the development of public charging facilities, preferably those with universal compatibility and supporting quick charging, in order to boost e-CV adoption.

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20. DDEP(3) advised that the Administration would actively promote collaboration between relevant stakeholders, including landlords and property management companies, to enhance the provision of public EV charging facilities. Since announcement of the EV Roadmap, some private organizations had approached EPD and expressed interests in the installation of more EV charging facilities on their premises, which could contribute to the attainment of zero vehicular emissions and carbon neutrality before 2050. It was expected that marketization of EV charging services would also give impetus to the provision of additional public charging facilities by the private sector.

Electric commercial vehicles

21. Mr Tony TSE expressed concern that the adoption rate of e-CVs was lower than that of e-PCs, even though the Administration appeared to have taken considerable efforts in the past few years to promote the use of EVs. Ms Elizabeth QUAT and Dr Junius HO emphasized the need to set a roadmap and targets for the adoption of e-CVs. Ms QUAT urged the Administration to work out innovative measures with reference to the experiences of neighbouring cities that had successfully electrified commercial vehicles on a large scale, such as Shenzhen.

22. SEN and DDEP(3) said that the Administration also accorded high priority to the promotion of e-CVs. The relatively higher adoption rate of e-PCs was attributable to the maturer e-PC technologies, whereas the unique and demanding operating environment of Hong Kong's commercial vehicles had posed more challenges to the switch to e-CVs. The Administration would conduct more trials with the trade to test the technical and commercial viability of different types of e-CVs for use in the local environment. Subject to the development of e-CV technologies and results of the trials, the Administration would endeavour to formulate a more concrete way forward in the coming years for popularization of e-CVs. Reference to the experiences of other cities would be made in the process.

23. DDEP(3) supplemented that, for the purpose of reintroducing electric taxis into Hong Kong, the Administration and the taxi trade had been discussing related issues and looking for suitable EV models. As observed, the warranties for EV batteries usually covered 150 000 km to 240 000 km, and a typical taxi ran for more than 100 000 km a year. If EVs were used for replacing conventional taxis, change of batteries might be needed frequently under the current technology and might lead to operating cost concern. The Administration would continue to work closely with the taxi trade to identify viable operational modes and EV models including Mainland-manufactured EVs.

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24. Mr CHAN Hak-kan queried the effectiveness of many trials of electric public transport vehicles conducted in the past. As the performance of electric taxis and some single-deck electric buses tested out was unsatisfactory, he asked about how the Administration and the transport trade would overcome the problems in future, and whether any transport operator had procured EVs on its own to replace conventional vehicles after the government-sponsored trials.

25. SEN and DDEP(3) responded that the battery capacities of electric taxis and the first few batches of single-deck electric buses tested out before could not fully meet the local operating requirements, which were characterized by long operating hours and travel distances. Nevertheless, with the rapid development of e-CV and battery technologies, it was expected that the constraints on battery capacity could be overcome in the near future. In fact, newer single-deck electric bus models tested out recently had operational performance and reliability comparable to conventional diesel buses. Due to the improved performance of e-CVs and the narrowing of cost difference between them and conventional vehicles, transport operators had shown increased confidence in the adoption of e-CVs. A case in point was the recent decision of the Kowloon Motor Bus Company (1933) Limited to procure both single-deck and double-deck electric buses on a self-financing basis to replace some conventional diesel buses. Meanwhile, the New Energy Transport Fund had also approved funding for franchised bus companies to embark on trials of double-deck electric buses.

Repair and maintenance of electric vehicles

26. Mr KWOK Wai-keung considered that the Administration should promote market competition with a view to reducing EV maintenance and insurance costs, and require EV manufacturers/suppliers to open up technological information to enable vehicle repair workshops to provide EV repair and maintenance services. As some jobs (such as vehicle mechanics and gas station attendants) would be eliminated or require new skill sets due to the phasing out of fuel-propelled vehicles, the Administration should put in place arrangements for helping the affected workers acquire new skill sets and/or change their careers. The Chairman asked how the Administration would address the projected manpower shortage in the EV repair and maintenance sector.

27. SEN and DDEP(3) responded that repair and maintenance of EVs required a skill set that was different from what the existing conventional vehicle mechanics possessed. To promote green employment, the Administration would work with post-secondary institutions on organizing training/retraining programmes for both new and existing mechanics. The Vocational Training Council also stood ready to strengthen its course provision

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in this area based on market needs. The Administration would also maintain close communication with auto-fuel retailers on managing the economic and employment impacts of the transition from fuel-propelled vehicles to EVs.

28. AD(AP) supplemented that in tandem with the implementation of new emission standards for vehicles, the Administration had been organizing a series of technical workshops and seminars for the vehicle repair trade in collaboration with vehicle manufacturers/suppliers, with the aim of enhancing the skills and knowledge of mechanics in the repair and maintenance of newer models of fuel-propelled vehicles. A similar approach could be adopted for training in EV repair and maintenance. It was envisaged that with the wider adoption of EVs in future, and their increasing repair and maintenance demand, EV manufacturers would tend to collaborate with the vehicle repair trade and education institutions on service provision and relevant training. Under a study project relating to the popularization of EVs supported by the Environment and Conservation Fund, some meetings had been organized for EV manufacturers/suppliers and the vehicle repair trade to exchange views on the future collaboration modes for EV repair and maintenance.

Other issues

29. In response to Mr Tony TSE and Mr KWOK Wai-keung's views and suggestions, SEN advised that the Administration would endeavour to carry out preparatory work as early as possible for timely introduction and implementation of the producer responsibility scheme on retired EV batteries.

30. Dr Junius HO suggested implementing a quota system for vehicles with reference to Singapore's vehicle quota system in order to contain the overall number of vehicles.

31. Mr SHIU Ka-fai expressed grave concern about the price asymmetry between the international crude oil market and the local auto-fuel retail market, which led to the unreasonably high prices of auto-fuels in Hong Kong. He sought explanation on the reasons for the phenomenon. SEN responded that the operation of the local auto-fuel retail market was within the purview of the Panel on Economic Development, to which the Administration had explained that all auto-fuels sold locally were imported refined oil products instead of crude oil; and retail prices of auto-fuels depended on a host of factors, such as the import prices of refined oil products and other operating costs. Hence, retail price adjustments could not be deduced simply by the changes in international crude oil prices.

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Conclusion

32. The Chairman concluded the discussion by reminding the Administration to heed members' views and concerns above when implementing measures for promoting the popularization of EVs.

V. Review of the Eighth Technical Memorandum for Allocation of Emission allowances for Power Plants

(LC Paper No. CB(1)810/20-21(05) — Administration's paper on "Review of the Eighth Technical Memorandum for Allocation of Emission Allowances for Power Plants"

LC Paper No. CB(1)810/20-21(06) — 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

33. With the aid of a PowerPoint presentation, the Under Secretary for the Environment ("USEN") briefed the Panel on the proposal of further reducing emission allowances for power plants starting from 1 January 2026 by way of issuing a new technical memorandum ("TM") under section 26G of the Air Pollution Control Ordinance (Cap. 311) ("APCO"). Compared with the Eighth TM issued in end 2019, the overall emission allowances for the electricity sector regarding sulphur dioxide ("SO_2"), nitrogen oxides ("NO_x") and respirable suspended particulates ("RSP") would be reduced by 9%, 10% and 6% respectively under the proposed new TM (i.e. the Ninth TM).

34. USEN said that APCO stipulated that each emission year in respect of a TM should commence on 1 January, and the TM should be promulgated at least four full years prior to the emission year. In other words, the Ninth TM should be promulgated within 2021 in order to allow the emission allowances to become effective in 2026. The Administration planned to publish the Ninth TM in the Gazette on 7 May 2021 and table it at the Council meeting of 12 May 2021 for negative vetting.

(*Post-meeting note*: The PowerPoint presentation materials were circulated to members on 26 April 2021, vide LC Paper No. CB(1)837/20-21(02).)

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Discussion

35. Ms Elizabeth QUAT, Dr Junius HO and Mr Frankie YICK expressed support for the Administration's proposal.

Tariff implications

36. Ms Elizabeth QUAT said that while the public generally supported further development of renewable energy ("RE") to enhance air quality, they were equally concerned about the impact of RE development on the electricity tariff level. She sought elaboration on whether the achievement of the emission caps under the Ninth TM would involve additional capital investment by power companies, including whether the proposed development of an offshore wind farm had been taken into account.

37. Mr Tony TSE asked about the normal service lives of power generating units; and whether the Government could request the power companies to retire generating units that had reached the end of their service lives (which usually had poorer emission performance compared with newer generating units) for the purpose of reducing air pollution.

38. USEN responded that:

(a) the normal service lives of generating units were around 25 to 35 years, and some existing coal-fired units were scheduled for retirement in the coming few years;

(b) the two power companies had been implementing their respective Development Plans relating to the provision and future expansion of electricity supply systems, which were submitted to and approved by the Government in accordance with the Scheme of Control Agreements. The Development Plans covered, among other things, the construction of new gas-fired units and retirement of existing coal-fire units to increase the proportion of gas generation in the fuel mix for electricity generation;

(c) the Administration expected that compliance with the Ninth TM would not involve additional capital investment by the two power companies beyond the above Development Plans, or major change to the fuel mix for electricity generation. Therefore, the Ninth TM's impact on electricity tariffs should be insignificant, if not none. Nevertheless, it was premature at this stage to make any meaningful assessment on the impact, as the future levels of

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electricity tariffs would depend on a number of other factors; and

(d) the offshore wind farm project being studied by a power company had not been taken into account under the Ninth TM, because the project was unlikely to be completed by 2026 even if it would be pursued.

Monitoring mechanism

39. Mr Tony TSE asked about the mechanism for monitoring the power companies' compliance with the Ninth TM, and potential challenges faced by the power companies in fulfilling the TM's requirements.

40. USEN responded that continuous emission monitoring systems had been installed in the stacks of power plants and emission data of air pollutants were transmitted to EPD for online monitoring purpose. In addition to that, EPD would also estimate the emission of air pollutants using operational and fuel consumption data where necessary. The two power companies considered that compliance with the emission allowances would be contingent upon the availability of fuels of right quality. In this connection, they had raised concern about the difficulty in sourcing adequate low-emission coal. Moreover, forced outages or a drop in the performance of the generating units or emission control equipment due to ageing problems or natural deterioration might undermine the power companies' ability to comply with the emission allowances.

Air quality in 2026

41. Ms Elizabeth QUAT asked whether the concentrations of the three types of air pollutants covered by the Ninth TM (i.e. SO_2, NO_x and RSP) in Hong Kong were expected to meet the ultimate targets of the World Health Organization's Air Quality Guidelines ("WHO AQGs") and other relevant air quality targets of the Guangdong-Hong Kong-Macao Greater Bay Area ("the Greater Bay Area") in 2026.

42. USEN responded that reducing the emissions from electricity generation through issuance of a new TM could improve Hong Kong's overall air quality. With the implementation of other local measures and joint efforts with other cities in the Greater Bay Area to improve air quality, the Administration expected that the new Air Quality Objectives proposed under the Air Pollution Control (Amendment) Bill 2021 would be complied with in 2026. Despite the above, further air quality improvement measures would be required in order for Hong Kong to achieve the ultimate targets of WHO AQGs in the long run.

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Long-term strategies and measures for emission reduction

43. Dr Junius HO considered that the Administration should set out long-term strategies and measures for reducing emissions from electricity generation in the updated climate action plan for Hong Kong.

44. Mr Frankie YICK expressed a similar view and considered that, as part of the efforts to promote energy conservation, the Administration should publish a roadmap for reducing emissions from electricity generation, with rough estimates of future electricity tariff levels under different scenarios. He also asked when the Administration would announce the updated climate action plan.

45. Ir Dr LO Wai-kwok enquired when the Administration would update the fuel mix for electricity generation with a view to further reducing emissions; and how the electricity sector could achieve carbon neutrality in the long run given the constraints on RE development in Hong Kong. He urged the Administration to expedite its work on various fronts for decarbonization, with a view to achieving the carbon neutrality target in time.

46. USEN responded that:

(a) it was announced in The Chief Executive's 2020 Policy Address that Hong Kong would strive to achieve carbon neutrality before 2050. Against this backdrop, a major focus of the long-term development of the electricity sector would be on decarbonization;

(b) as stated in Hong Kong's Climate Action Plan 2030+, the key aspect of the current carbon reduction plan for electricity generation was phasing down the use of coal and replacing it with natural gas by 2030. To achieve carbon neutrality by 2050, Hong Kong would need to explore the use of different types of zero-carbon energy. As Hong Kong had only modest RE potential, it was envisaged that collaboration with other cities in the Greater Bay Area and/or import of zero-carbon energy would be necessary;

(c) the Administration was updating the climate action plan, and expected that the results could be announced in the third quarter of 2021. Strategies and measures for decarbonization, including the post-2030 fuel mix for electricity generation, would be addressed in the updated climate action plan; and

(d) as the costs of implementing decarbonization measures in future would be determined largely by the progress of development and

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commercialization of relevant technologies, it was difficult to estimate future electricity tariff levels. Nevertheless, to strengthen public education on energy conservation, the Administration would seek to include cost-benefit analyses of potential decarbonization measures in the updated climate action plan.

Other issue

47. As Japan had announced its plan to discharge wastewater generated in the cooling process of reactors at the Fukushima Nuclear Power Station into the ocean, Dr Junius HO strongly opined that the Administration should make clear its stance on Japan's decision and take proactive actions to protect public health, such as banning the import of certain food products from Japan.

48. USEN pointed out that the Ministry of Foreign Affairs of the People's Republic of China had expressed its stern position on Japan's decision. He would relay Dr Junius HO's concern and suggestion to the Centre for Food Safety and the Hong Kong Observatory, which monitored food safety and ambient radiation level respectively, for their consideration of follow-up actions as appropriate.

Conclusion

49. The Chairman concluded that members supported the Administration's proposal.

VI. Any other business

50. There being no other business, the meeting ended at 4:28 pm.

Council Business Division 1
Legislative Council Secretariat
23 June 2021