

**Confirmed Minutes of the 171<sup>st</sup> Meeting of  
the Advisory Council on the Environment  
held on 14 June 2010 at 2:30 pm**

**Present:**

Prof Paul LAM, JP (Chairman)  
Prof CHAU Kwai-cheong (Deputy Chairman)  
Ms Teresa AU  
Dr Dorothy CHAN, BBS  
Prof FUNG Tung  
Ms Betty HO  
Mr Michael JEBSEN, BBS  
Mr Edwin LAU, MH  
Prof Joseph LEE  
Dr MAN Chi-sum, JP  
Dr Alfred TAM  
Mr TSANG Kam-lam  
Dr YAU Wing-kwong  
Dr Ray YEP  
Mr Carlson K S CHAN (Secretary)

**Absent with Apologies:**

Mr Oscar CHOW  
Mr Michael LEE  
Ir Dr LO Wai-kwok, BBS, MH, JP  
Prof WONG Ming-hung  
Mr Simon WONG, JP  
Prof Ignatius YU

**In Attendance:**

Ms Anissa WONG, JP	Permanent Secretary for the Environment
Mr Y K CHAN	Acting Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Mr C T LING	Assistant Director/Technical Services, Planning Department
Ms Esther LI	Acting Principal Information Officer, Environmental Protection Department (EPD)
Ms Josephine CHEUNG	Chief Executive Officer (CBD), EPD
Mr Steve TSOI	Executive Officer (CBD), EPD
Miss Kim KWAN	Executive Manager (CBD), EPD

**In Attendance for Agenda Item 3:**

Miss Mary TSANG	Assistant Director (Cross-Boundary and International), EPD
Miss Katharine CHOI	Principal Assistant Secretary for the Environment (Energy), Environment Bureau
Dr Alain LAM	Principal Environmental Protection Officer (Waste Management Policy), EPD
Mr David WONG	Principal Environmental Protection Officer (Cross-Boundary and International), EPD
Mr Ken WONG	Senior Environmental Protection Officer (Cross-Boundary and International) <sup>2</sup> , EPD
Mr YU Wang-pong	Senior Environmental Protection Officer (Water Policy and Science), EPD
Mr CHEUNG Kwok-wai	Senior Conservation Officer (Technical Services), AFCD
Mr Dick CHOI	Senior Marine Conservation Officer (West), AFCD

**In Attendance for Agenda Item 4:**

Mr W C MOK	Assistant Director (Air Policy), EPD
Mr Tony LEE	Senior Environmental Protection Officer (Mobile Source) <sup>2</sup> , EPD

\*\*\*\*\*

Action

**Agenda Item 1 : Confirmation of the draft minutes of the 170<sup>th</sup> meeting held on 17 May 2010**

The draft minutes were confirmed without amendments.

**Agenda Item 2 : Matters arising from the minutes of the 170<sup>th</sup> meeting held on 17 May 2010**

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

**Agenda Item 3 : Framework Agreement on Hong Kong/Guangdong Co-operation – Environmental protection and ecology conservation (ACE Paper 10/2010)**

3. Miss Mary Tsang briefed Members on the co-operation areas on environmental protection and ecology conservation under the Framework Agreement on Hong Kong/Guangdong Co-operation (the Framework Agreement) which set out the strategic direction for future Hong Kong/Guangdong co-operation, including co-operation initiatives in environmental protection and ecology conservation. The objectives were to improve regional environmental quality and transform the Pearl River Delta (PRD) region into a Green Quality Living Area.

4. The meeting supported the Framework Agreement and agreed that it would lay down a solid foundation and roadmap for mutual co-operation between Hong Kong and Guangdong in terms of environmental protection and ecology conservation.

5. A Member supported the six key co-operation areas outlined in the paper. He considered that closer co-operation would be beneficial to both sides. For example, the experience of urban greening and pedestrianization in some Guangdong cities would be a source of reference by Hong Kong for improving urban livability. He asked whether sustainable development, which was an important principle, was included in future co-operation between Hong Kong and Guangdong. Miss Mary Tsang explained that the overall strategic direction of the key co-operation areas had embedded the principle of sustainable development. The idea of green quality living area was people-oriented and centered round the principle of sustainable development.

6. A Member considered it important to integrate the key co-operation areas in a holistic manner at an early stage when considering cross-boundary infrastructures. In considering environmental impact assessment (EIA) reports of cross-boundary projects, experience showed that it was important to have information on the other side of the border. It was necessary for both sides to join hands, especially in planning major cross-boundary nature conservation areas.

7. A Member considered the Framework Agreement an important step forward. He agreed that co-operation under the scope of EIA mechanism should be developed in view of the increasing number of cross-boundary projects and different EIA mechanisms adopted in Hong Kong and Guangdong. The availability of information on the other side of the territory was important for the assessment of environmental impacts of the projects in a comprehensive manner.

8. A Member welcomed the co-operation initiatives under the Framework Agreement. He suggested setting up an independent advisory committee with experts and non-government organizations (NGOs) from both sides to monitor cross-boundary pollution on a longer-term basis, especially for large-scale projects falling under different disciplines. Instead of examining environmental impacts of projects on an individual basis, focus should be placed on the cumulative impacts of different projects from a regional perspective. The experience in the protection of Mirs Bay and Deep Bay showed that more joint efforts would be required in terms of regional environmental management co-operation.

9. A Member considered the Framework Agreement a meaningful strategy for building a better living environment in the PRD area. He considered that targets and benchmarks should be set for different co-operation areas with time lines. A Member shared his views. Another Member agreed the importance of setting milestones for the strategic framework, say at five-year intervals, to help assess the effectiveness of the initiatives.

10. Miss Mary Tsang explained that depending on the progress of discussion with the Guangdong side, targets and benchmarks would be set for areas which were quantifiable, such as emission reduction targets. For some co-operation areas, it would take some time to reach consensus between the two sides. For example, there were various models being considered for cross-boundary transfer of reusable materials for building a circular economy.

11. A Member enquired about mechanisms to ensure effective implementation of the initiatives. Another Member considered it useful to identify co-operation areas which would involve legislative procedures for setting of priority. He also enquired about the reporting structure for implementation and evaluation of the initiatives in the context of Hong Kong/Guangdong co-operation. Another Member enquired about the coordinating party in the HKSAR government in overseeing the review mechanism.

12. Miss Mary Tsang explained that an established mechanism between Hong Kong and Guangdong was in place to monitor the implementation of

environmental initiatives from a regional perspective. The Framework Agreement was signed by the Chief Executive and the Governor of Guangdong Province and they had liaison mechanism and annual meetings to update and monitor various initiatives under the Framework Agreement. The Secretary for the Environment would co-chair annual meetings of the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection (the Joint Working Group) with the Director of Guangdong Environmental Protection Department to review the progress of environmental initiatives. Panels on specific areas, such as improvement of air quality in PRD region and protection of water quality at Mirs Bay and Deep Bay, were set up under the Joint Working Group to take forward and review progress of various co-operation initiatives. Action plans were updated and agreed between the two sides on an annual basis. In the 2010 action plan, priority was given to improvement of regional air quality, ecological conservation, promotion of green transportation, cleaner production, and co-operation on resource recovery and reuse.

13. A Member considered that efficient exchange of information between the two sides was essential to facilitate sharing of experience, especially on prompt actions in responding to unanticipated environmental incidents.

14. A Member suggested that measures be taken to arouse interest and tap inputs of non-government sectors with a view to fostering research and development of innovative environmental technologies through existing avenues. For example, the theme-based research supported by the Research Grant Council under the University Grant Committee and researches under the Innovation and Technology Commission were appropriate platforms to encourage the development of innovative technologies and collaboration between Hong Kong and Guangdong. Miss Mary Tsang said that various channels had been deployed to gauge views and inputs from non-government sectors to help take forward the initiatives. For example, a discussion forum with the participation of academics, professional bodies, business sectors and NGOs was held in April 2010 for the purpose.

15. A Member considered that the Framework Agreement was a multi-targeted and multi-tasked framework which should be implemented as early as possible. He suggested multi-level involvement of different sectors of the community, such as NGOs, for implementation of the initiatives. The involvement of the Hong Kong Productivity Council in launching the cleaner

production programme was a good example. Support should be provided to NGOs to arrange visits to the Mainland to strengthen exchange and co-operation on the environmental front.

16. A Member was glad to note the efforts made in coming up with the Framework Agreement. Apart from the coverage of six key co-operation areas, he suggested that reducing greenhouse gas emissions should be included in future collaboration with Guangdong. The area on promoting the use of electric vehicles (EVs) was only one of the means to reduce greenhouse gas emissions.

17. Miss Mary Tsang explained that the Framework Agreement also supported Guangdong and Hong Kong to work with Macao to jointly formulate a Regional Co-operation Plan on Quality Living Area (the Regional Co-operation Plan). The Regional Co-operation Plan had included low carbon development as one of the core themes through promoting cleaner production, developing recycling and reusing of reusable materials, promoting energy saving, developing green transportation, establishing low carbon economy and promoting low carbon living.

18. A Member enquired about the concept of promoting low carbon living patterns and how the concept could be integrated with other sectors of the society. Miss Mary Tsang explained that the promotion of public awareness on low carbon living lifestyle, such as the three Rs (reduce, reuse and recycle) and green living habits, would be further enhanced, not only in Hong Kong but also in the communities of the PRD area in view of the increasing affluent life style in the region.

19. On concerted actions to prevent and tackle air pollution, a Member asked whether the power sector was included under the Framework Agreement. Miss Mary Tsang explained that the Framework Agreement was an agreement made between the two governments and the power sector was not included *per se*. Nonetheless, both governments had been making efforts to work with respective power sectors to meet the emission reduction targets and promote adoption of pollutant reduction technologies, the wider use of cleaner fuels and renewable energy. For example, all power plants in Guangdong were required to install flue-gas desulfurization systems with on-line monitoring mechanism.

20. A Member considered that an Energy Plan, similar to the Regional Co-operation Plan, should be developed under the Framework Agreement. Given the plans to develop nuclear power and available resources to develop renewable energy in Guangdong, there would be scope to study the possibility of integrating the power networks and matching the energy plans of the two sides. Miss Katharine Choi explained that Hong Kong had been closely engaging the Mainland for increasing the import of low carbon energy, such as nuclear energy and natural gas, for power generation, in the context of the Air Quality Objectives (AQO) Review and combating climate change. Nonetheless, issues on technical feasibility, cost effectiveness and cost implications had to be carefully considered.

21. A Member enquired about the progress of post-2010 arrangements for emission reduction in the PRD region and implications of the AQO Review in Hong Kong. Miss Mary Tsang said that a joint study on the post-2010 arrangements for emission reduction in the PRD region was being undertaken. In view of the long-term implications of the emission reduction targets, detailed data collection and studies would be required. A research team under the Joint Working Group had been set up to carry out the study. The findings of the AQO Review would be taken into account in the joint study. Further discussions between the two sides would be held on completion of the study.

22. On enhancing cleaner production in the region, a Member considered that the cleaner production programme should also cover non-Hong Kong owned enterprises and encourage them to adopt cleaner production technologies and practices in order to meet the environmental standards. Another Member anticipated that the environmental benefits of the cleaner production programme would be limited if the programme was only confined to Hong Kong-owned enterprises in the PRD region.

23. On promoting wider use of EVs, a Member considered that the promotion of electric public vehicles would have more environmental benefits than focusing on electric private cars. Miss Katharine Choi said that efforts were being made to explore different types of EVs, including public vehicles. One of the bus companies in Hong Kong was testing electric buses. Some mini-buses, vans and trucks in EV versions would be imported to Hong Kong. Another Member considered that the development of green transportation should extend beyond the promotion of EVs. Cycling should be promoted as an environment-friendly mode of transportation in the PRD area.

24. Miss Mary Tsang explained that the development of green transportation was not limited to the promotion of EVs. The Guangdong side was actively liaising with Hong Kong on sharing the experience of Hong Kong in developing an efficient mass transportation system which was a low carbon and efficient mode of transportation. In view of low car ownership and use of mass transportation system in Hong Kong, the transport sector only accounted for about 16% of the local carbon footprint which was very low as compared with other developed cities.

25. A Member enquired about the implications of different motor fuel standards in Hong Kong and Guangdong. Miss Mary Tsang explained that the Guangdong side had made noticeable progress in upgrading the fuel quality. The general motor fuel standard in Guangdong Province used to be National II standards. But it had been upgraded to National III standard, which was equivalent to Euro III standard, for the entire PRD region since January 2010. To improve the air quality for preparation of the Asian Games to be held in Guangzhou in November 2010, the Guangdong government was making effort to advance the supply of motor fuel at National IV standard.

26. On co-operation in protecting marine water quality, a Member considered that the general public would anticipate more co-operation between the two sides on the supply of clean water and food.

27. On promoting the development of circular economy, a Member considered that it was necessary to enhance co-operation with the Guangdong side given the high operating cost in developing local recycling industries. However, he noted that the Mainland tightened up regulations on import of recyclable materials from time to time. Dr Alain Lam said that not all recyclable materials were allowed for import to the Mainland under prevailing regulations. The HKSAR government would continue to liaise with Guangdong government to explore possible modes of co-operation in cross-border recycling of reusable materials with a view to promoting the development of circular economy in the PRD region. The Council would be briefed on new developments.

28. On co-operation in ecology conservation, a Member considered it important to enhance communication between the two sides on development projects in the border area. To ensure a balanced development on both sides of the border, joint measures should be taken to restore the mangrove areas damaged on the Shenzhen side. An action plan on mangrove restoration in the PRD Estuary should be laid down, especially for the ecological enhancement of the Frontier Closed Area. Mr Cheung Kwok-wai said that he understood the Guangdong government was planning a number of mangrove restoration projects in the PRD area. In Hong Kong, a number of mangrove restoration projects were conducted in recent years. Experience sharing on this aspect would be useful to promoting the development of a better eco-system in Deep Bay. Meetings between the two sides were held on an annual basis to exchange views on conservation issues and management of the Inner Deep Bay wetlands.

29. On co-operation in marine resources conservation, the Chairman noted that while co-operation on the conservation of Chinese White Dolphins would be further enhanced under the Framework Agreement, it seemed that finless porpoises were not included. Mr Dick Choi explained that the biological and ecological habits of finless porpoises were different from those of Chinese White Dolphins. Research information showed that there was a population of at least 2,000 Chinese White Dolphins in the PRD Estuary. However, insufficient data was available to accurately determine the habitat range of finless porpoises in this region, due to the difficulty to track their occurrence and their frequent movement to waters outside Hong Kong. In view of the lack of adequate information, it was difficult to formulate a comprehensive conservation programme for finless porpoises at this stage.

30. The Chairman summarized Members' views as follows –

- (a) the Council welcomed and fully supported the Framework Agreement which defined clearly the development positioning of Hong Kong/Guangdong co-operation and aimed at improving the regional environmental quality and transforming the PRD region into a Green Quality Living Area;
- (b) the Council considered that a review mechanism should be set up to evaluate the effectiveness of co-operation initiatives on environmental protection and ecology conservation under the

Framework Agreement through a set of targets or benchmarks with work plans and time lines;

- (c) the Council considered that the scope of the Framework Agreement should also include low carbon economy, energy plan and supply of clean drinking water and food. The scope of green transport should not only cover the wider use of EVs but also mass transportation system and other environment-friendly modes of transportation such as cycling;
- (d) the Council considered that more concerted efforts should be made to achieve better results in terms of circular economy through closer co-operation in cross-border recycling of reusable materials;
- (e) the Council considered it important to consider the cumulative environmental impacts of cross-boundary infrastructure projects in a holistic manner through better exchange of information in the context of the Framework Agreement, such as assessment of environmental impacts of cross-boundary projects, ecological enhancement projects, opening up of the Frontier Closed Areas and related development;
- (f) the Council suggested closer co-operation with non-government sectors, such as research institutes, environmental industries and NGOs, and make better use of existing resources and platforms to encourage their involvement in delivering the Framework Agreement and tap inputs and innovative ideas for taking forward the initiatives; and
- (g) the Council hoped that public education and promotion of green living style could be further strengthened in the PRD area in view of the increasing affluence in the region.

**Agenda Item 4 : A proposal to control emissions of non-road mobile sources**  
*(ACE Paper 11/2010)*

31. Mr Tony Lee briefed Members on the proposal to control emissions of non-road mobile sources. Non-road mobile sources included mobile machines, transportable industrial equipment and non-road vehicles powered by an internal combustion engine used primarily off the roads. Under the proposed control scheme, the non-road mobile machinery (NRMM) imported into Hong Kong or manufactured locally for placing on Hong Kong market should comply with a set of statutory emission standards which were broadly in line with the emission standards of the European Union, the United States and Japan.

32. A Member asked whether compressors, water-pumps and cranes used in construction sites and roadsides were considered as NRMMs under the control scheme. Another Member was concerned that there might be grey areas in the implementation of the control scheme as some mobile machines, such as compressors, were used in a stationary manner. Mr W C Mok explained that compressors, water-pumps and cranes were considered as NRMMs. Any machine which was mobile, non-vehicle and powered by an internal combustion engine would be considered as NRMM. However, NRMMs with engine power output less than 19kW or greater than 560kW were proposed to be excluded as the former ones were mainly used for household applications and the latter ones were likely to be specialized construction equipment.

33. The Chairman enquired about the availability of a database of in-use NRMMs. Mr W C Mok explained that such an inventory was not available as there was no licensing system for NRMMs. A Member enquired about the estimated number of imported NRMMs each year. Mr W C Mok said that the number of NRMMs imported into Hong Kong for local application was estimated to be around a thousand per year.

34. A Member asked about the possibility of establishing a licensing system for NRMMs to keep track of the inventory. Mr W C Mok explained that there were practical difficulties in establishing and maintaining a licensing system for NRMMs in view of the high mobility of the machines being transferred from one site to another or from one operator to another. There was also no licensing system for NRMMs in most other cities.

35. The Chairman asked whether the control scheme would discourage the retirement of NRMMs and their replacement with new ones. Mr W C Mok explained that NRMMs were usually heavily used in harsh working environments

such as construction sites and would be worn out after normal service life. Replacement would be inevitable and the operators' decisions would not be affected by the introduction of the control scheme.

36. A Member considered that the control scheme should also cover in-use NRMMs given the large number of in-use NRMMs and their long service life. She suggested working out plans to encourage retrofitting of in-use NRMMs and phasing-out of those not complying with the emission standards. A Member agreed with the need to control emissions of in-use NRMMs.

37. Mr W C Mok explained that at this stage, the control scheme would target the newly imported or locally manufactured NRMMs, but not in-use NRMMs. This was in line with the worldwide practice. If in-use NRMMs were to be covered, it would be necessary to establish a comprehensive scheme to mandate the retrofitting or replacement of in-use NRMMs. However, the lack of a comprehensive database of NRMMs and the great diversity of the machinery types made it technically impracticable to draw up an in-use control scheme at this stage. Nonetheless, in-use NRMMs were not unregulated. Under the Air Pollution Control Ordinance, NRMMs should not cause environmental nuisance and emit excessive dark smoke. The Administration would closely monitor overseas development of in-use control and examine the feasibility of introducing relevant emission control measures where opportune.

38. A Member suggested applying the control scheme not only to importers but also operators of NRMMs in order to discourage them from using machines not meeting the emission standards. Another Member said that he learnt that the service life of some NRMMs, with proper maintenance and constant retrofitting, could be as long as 50 years. He agreed to take measures by targeting at major operators and motivating them to comply with the emission standards from the perspective of corporate and social responsibilities.

39. The Chairman noted that the proposed control scheme mainly focused on the emission standards of newly imported or locally manufactured NRMMs. He enquired about the control on future maintenance of these machineries for compliance of emission standards. A Member suggested imposing some control measures on the maintenance of in-use NRMMs to ensure their compliance with emission standards. Mr W C Mok explained that if the NRMMs were not maintained properly, they would probably cause environmental

nuisance and emit excessive smoke, which was controlled under the Air Pollution Control Ordinance.

40. A Member considered that the environmental benefits brought about by the control scheme applying only to newly imported or locally manufactured NRMMs could only be materialized after a long period of time. The Administration should show determination to take further steps to control emissions of in-use NRMMs and encourage retrofitting or replacement of old NRMMs, such as through incentive schemes, licensing systems or specific time frame to comply with emission standards. Another Member suggested mandating in-use NRMMs to comply with emission standards within a specific time frame, say in 10 years' time, so as to send a clear message to the operators that the aged NRMMs not complying the emission standards should be replaced.

41. A Member suggested rolling out a pilot control scheme on selected types of in-use NRMMs with technically feasible control measures to show the Government's determination and send a clear message that all NRMMs, including in-use ones, would be put under control in the long run. A Member agreed that it might be useful to categorize the in-use NRMMs so that focus could be placed on the most commonly used types. This would show the Government's determination to take a further step forward.

42. Mr W C Mok explained that it was not a common practice in overseas countries to control the emissions of in-use NRMMs. The reason could be the lack of their identification records. Similar to other cities, there was no licensing system on NRMMs in Hong Kong and there were practical and technical difficulties in imposing control on in-use NRMMs. The Administration had been making strenuous efforts to combat road-side emissions with noticeable results. The proposed control on non-road emission sources was meant to achieve further improvement in the air quality. Following worldwide practice, Hong Kong would first target the newly imported and locally manufactured NRMMs. The Administration would in parallel closely keep in view the technical development of in-use control. In the mean time, EPD would join hands with operators to promote and speed up the application of general and practicable emission control measures to in-use NRMMs, such as proper maintenance of the NRMM fleet.

43. Ms Anissa Wong shared Members' concern over emissions of in-use NRMMs. She said that there was currently no control measure in the area of non-road mobile sources. The proposed control scheme targeted newly imported and locally manufactured NRMMs, and the scope of control was based on the engine power output instead of the machine types. At this stage, in-use NRMMs would not be subject to control as it would require the establishment of a detailed inventory of the NRMMs, which would call for considerable time and resources. On balance, it would be desirable to first target newly imported and locally manufactured NRMMs, which would be enforceable, and to make parallel efforts to consider in-use control in the longer term. Even though the estimated number of newly imported or locally manufactured NRMMs was not large, the control scheme could raise the awareness of the public and related trades on the issue.

44. A Member suggested that besides road-side and non-road mobile sources of emissions, measures should also be taken to control emissions from marine traffic. Mr W C Mok said that a trial of local ferries using ultra low sulphur diesel was being conducted to ascertain the technical feasibility of switching local ferries to ultra low sulphur diesel. The trial would help map out the way forward on promoting the use of cleaner fuel for marine vessels. The Council would be briefed on the findings of the trial in due course.

45. The Chairman summarized Members' views as follows –

- (a) the Council supported the proposed control scheme to impose a set of statutory emission standards on NRMMs imported into Hong Kong or manufactured locally for placing on local market as a first step to control emissions from NRMMs. It would help alleviate the problems of environmental pollution, nuisance, smog as well as improving the environmental image of Hong Kong due to the dark smoke emitted by NRMMs;
- (b) the Council considered that while noting the technical difficulties in controlling emissions of in-use NRMMs at this stage, it was necessary for the Administration to show determination and take actions to consider measures to control emissions of in-use NRMMs; and
- (c) the Council suggested that the Administration should consider

introducing emission control measures for in-use NRMMs, such as encouraging proper maintenance of in-use NRMMs, implementing a pilot control scheme on selected groups of NRMMs, applying the control scheme to operators of NRMMs, providing incentives for replacement or retrofitting of NRMMs and setting specific time frame for compliance with emission standards.

**Agenda Item 5 : Any other business**

Tentative items for discussion at the next meeting

46. The agenda was being compiled. Members would be informed in due course.

**Agenda Item 6 : Date of next meeting**

47. The next meeting was scheduled for 12 July 2010.

(Post-meeting note: The meeting scheduled for 12 July 2010 was cancelled.)

**ACE Secretariat  
July 2010**