Confirmed Minutes of the 183rd Meeting of the Advisory Council on the Environment held on 30 December 2011 at 2:30 pm

Present:

Prof Paul LAM, JP (Chairman)
Prof CHAU Kwai-cheong, JP (Deputy Chairman)
Ms Teresa AU
Dr Dorothy CHAN, BBS
Prof FUNG Tung
Ms Betty HO
Mr Michael JEBSEN, BBS
Mr Edwin LAU, MH
Ir Dr LO Wai-kwok, BBS, MH, JP
Dr MAN Chi-sum, JP
Miss Yolanda NG
Dr Alfred TAM
Mr TSANG Kam-lam, JP
Dr Carrie WILLIS, SBS, JP
Mr Simon WONG, JP
Ms Pansy YAU
Dr Ray YEP
Prof Ignatius YU
Mr Carlson K S CHAN, JP (Secretary)

Absent with Apologies:

Mr Oscar CHOW
Prof Joseph LEE
Prof LI Xiang-dong
Dr YAU Wing-kwong

In Attendance:

Ms Anissa WONG, JP	Permanent Secretary for the Environment
Mr C C LAY	Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Mr LAU Sing	Assistant Director/Technical Services, Planning Department

Ms Esther LI	Principal Information Officer, Environmental Protection Department (EPD)
Miss Evelyn LEUNG	Chief Executive Officer (CBD), EPD
Ms Joanne CHIN	Executive Officer (CBD), EPD
Ms Daicie TONG	Executive Manager (CBD), EPD

In Attendance for Agenda Item 3:

Mr CHENG Ting-ning, JP	Project Manager/Hong Kong-Zhuhai-Macao Bridge (HZMB), Highways Department (HyD)
Mr BOK Kwok-ming	Chief Engineer/Hong Kong Boundary Crossing Facilities (HKBCF), HyD
Mr Johnny CHAN	Senior Engineer/HZMB
Mr Ricky LAM	Engineer/HZMB
Mr Bill CHAN	Engineer/HZMB
Mr Joseph SHAM	Assistant Director (Country and Marine Parks), AFCD
Mr Dick CHOI	Senior Marine Conservation Officer/West, AFCD
Mr Josh LAM	Executive Director, AECOM Asia Company Limited (AECOM)
Dr Samuel HUNG	Project Director, HK Cetacean Research

In Attendance for Agenda Item 4:

Mr W C MOK, JP	Assistant Director (Air Policy), EPD
Mr Y S Yam	Senior Environmental Protection Officer (Mobile Source), EPD

In Attendance for Agenda Item 5:

Mr C W TSE, JP	Assistant Director (Environmental Assessment), EPD
Mr Elvis AU, JP	Assistant Director (Nature Conservation & Infrastructure Planning), EPD

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Agenda Item 1 : Confirmation of the draft minutes of the 182nd meeting held on 14 November 2011

The draft minutes were confirmed without amendments.

Agenda Item 2 : Matters arising from the minutes of the 182nd meeting held on 14 November 2011

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

Agenda Item 3 : Proposed Marine Park in the Brothers Islands
(ACE Paper 17/2011)

3. The Chairman briefed Members on the background of the proposed marine park in the Brothers Islands (BIMP) as being one of the conditions imposed by the Advisory Council on the Environment (ACE) when the Council endorsed the Environmental Impact Assessment (EIA) report related to "Hong Kong-Zhuhai-Macao Bridge" (HZMB) Hong Kong Boundary Crossing Facilities (HKBCF) on 12 October 2009 submitted by the Highways Department (HyD). He asked whether Members had to declare any interest in respect of the item.

4. A Member declared an indirect interest as her company was involved in the public engagement exercise of an infrastructure project of HyD. The meeting agreed that she could stay and continue to take part in the discussion as she had neither personal nor direct interest in the project under consideration.

5. Mr Cheng Ting-ning briefed Members on the preliminary plan of the BIMP for protection and enhancement of Chinese White Dolphins (CWD) habitats within the area. He explained that the proposal was part of the enhancement measures for the CWD habitat due to the HKBCF. The study findings had been held back from submission to the ACE in the light of the judicial review (JR) of HZMB EIA reports. Following the resolution of the HZMB JR case in September 2011, HyD submitted the proposal and detailed plan of the BIMP, including the proposed size and location as well as the management plan of the proposed marine park to the Council for comments and advice before the commencement of construction works.

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6. Messrs Josh Lam and Samuel Hung briefed Members on the scope and findings of the preliminary study for the BIMP and explained to Members the ecological value of the areas concerned, derivation of the preliminary boundary of the proposed marine park using the Dolphin Habitat Index and considering existing and committed uses of marine waters, as well as the proposed management framework for the BIMP.

7. In response to a Member's enquiries in relation to the policing of the BIMP, any past experience in enhancing the quality of the proposed marine park in attracting CWD, and the impact of the proposed third runway plan at Chek Lap Kok Airport in the area, Mr Cheng Ting-ning said that the management would be under the responsibility of the Agriculture, Fisheries and Conservation Department (AFCD), which had gained experience in managing the Sha Chau and Lung Kwu Chau Marine Park. He reaffirmed that the objective of designating a marine park was to provide a safe sanctuary for CWD. Measures such as slowing down the speed of vessels passing by, controlling fishing activities and laying down artificial reefs in the marine park would be adopted to enhance the species of CWD and allow fish fry to multiply. As regards the construction of the proposed third runway, Mr Cheng stated that while HyD was not involved in that study, he believed that the project proponent would need to proceed with their development in accordance with the legislation in Hong Kong including the EIA Ordinance, as well as to observe and follow the necessary statutory EIA processes.

8. Following the Chairman's enquiry on the management plan of AFCD on the BIMP, Mr Joseph Sham explained that the normal day-to-day management would be borne by AFCD similar to that currently adopted in the Sha Chau and Lung Kwu Chau Marine Park. The main restriction within the marine park was to limit the marine traffic speed to below 10 knots per hour. This would provide a safe haven for dolphins to feed, socialize and breed in the area. Based on that experience in Sha Chau and Lung Kwu Chau, the dolphin community would remain at consistent high level if similar control measures were adopted in the BIMP.

9. Two Members shared their concern on the possible impact of the third runway to the BIMP. He said that in view of this new mega development in the area, the derivation of the boundary of the proposed marine park should be subject to further review and expanded in future where necessary.

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10. A Member enquired on how the size of the BIMP was determined and whether it was necessary to create a buffer zone between the BIMP and the artificial structures namely the HKBCF and the proposed Lantau Logistics Park (LLP) in view of their geographic proximity. Mr Cheng Ting-ning responded that the delineation of the BIMP would be based on the current known situation in the vicinity and the objective criteria of the dolphin habitat rating system for identifying areas with high dolphin density. He advised that the current site of the HKBCF was chosen in consideration of the lower density of CWD in the area, whereas the preliminary location of the BIMP was outside the HKBCF boundary, and was among the more utilized dolphin habitats.

11. Dr Samuel Hung supplemented that, on designating the boundary of the BIMP, the consultant had focused on assessing the dolphin usage of the area rather than with regard to nearby infrastructural developments. CWD were the key species of ecological interest, and efforts should be made to delineate the most important area for their protection. It would therefore not be appropriate to fix a ratio in determining the size of the marine park. With regard to the potential impacts of the HKBCF and the LLP to the BIMP, Dr Hung recalled that during the discussions over the selection of the current site of the HKBCF, HyD had considered the option of moving the HKBCF to the western part of the airport, but was advised that the area was an important habitat to CWD. A detailed survey was conducted on the dolphin usage of the area and to recommend a proper location of the HKBCF having minimum impacts on CWD. Based on the result of the survey, it was finally suggested that the HKBCF should be located at the northeastern part of the airport. Construction and reclamation works of the HKBCF at the selected location would cause minimal impact to CWD as the area witnessed low dolphin usage, and was not used as a traveling corridor of CWD. Dr Hung further stated that as he was not involved in the study of the LLP project, it would not be appropriate for him to advise on whether the proposed project might have impact on the dolphin habitats in the nearby waters.

12. In response to the Member's further enquiries, Dr Samuel Hung explained that the establishment of the marine park was only one of the many important conservation tools adopted by AFCD to conserve CWD. As a reasonable and responsible conservationist, he had to take into account all considerations so as to strike a balance between conservation and development.

While dolphins could be protected by both off-site and on-site conservation measures, the latter was preferred in this case as it was more reasonable to locate the BIMP in the vicinity of an area where dolphins would be less affected and be best protected by the proposed marine park. It was also not practicable to aim to lure the dolphins to other waters as they were of different social clusters, with their own respective habitat preferences in either the northern or western part of Lantau.

13. In reply to the Chairman's enquiry on whether the size of the BIMP (being some 850 hectares as compared with that of the Sha Chau and Lung Kwu Chau Marine Park measuring around 1 200 hectares) as meaningful for the conservation of CWD, Dr Samuel Hung stated that it would be difficult to define a minimum size of a marine park as CWDs were very mobile and their activities could range over 100 square kilometers. It was therefore impossible to set up a marine park of a size that could encompass the needs of the entire dolphin community. The foremost consideration when deriving the preliminary boundary of the marine park was to use the dolphin habitat rating system and to identify the grids scoring 20 or above as areas of important dolphin habitats. Based on current information, the proposed boundary should represent the best option available. That said, AFCD would have to re-visit the proposed boundary when finalizing the planning of the BIMP.

14. In answering the enquiry from a Member, Dr Samuel Hung advised that the dolphins plying in the area of Sham Shui Kok and the Brothers Islands appeared to belong to the same groups of dolphins due to the proximity of the two locations, and they tended to move extensively between their core areas in Sha Chau, Lung Kwu Chau, the Brothers Islands, and the Tai O area.

15. A Member suggested that the underwater structure of the HKBCF could "harmonize" with the nearby natural coastline so as to make it less obtruding to CWD. Mr Cheng Ting-ning replied that HyD was proposing a sloping seawall design for the HKBCF reclamation.

16. The Member further enquired whether the dumping process and contaminated mud from the Contaminated Sediment Facility to the south of the Brothers Islands would cause any adverse impact to CWD. Mr Cheng Ting-ning replied that the future dumping pit would be managed by the Civil Engineering

and Development Department (CEDD) and all the environmental measures and requirements would be closely monitored. In addition, CEDD had extensive experience in managing contaminated mud pit in the territory. They would ensure that the mud pit would be properly handled.

17. A Member enquired whether it was possible to extend the boundary of the BIMP to the coastline along the Sham Shui Kok area for better conservation of CWD, given that young dolphins showed a heavy patronage in the nearby waters. This comment was echoed by another Member. The Member further enquired whether the proposed LLP would be abandoned in face of the establishment of the BIMP so as to accord a high priority for conservation of CWD. Mr Cheng Ting-ning informed that with the completion of the dolphin survey and the study on the dolphin habitats, HyD would share the relevant information with the LLP team for their planning of the EIA study on the proposed LLP project required under the EIA Ordinance.

18. In response to the Chairman's and a Member's concern on the adequacy of measures for monitoring dolphin watching activities within marine parks, Mr Joseph Sham informed the meeting that dolphin watching was becoming a popular activity in marine parks, and there was currently a set of code of conduct promulgated by AFCD to regulate the activities. AFCD had also regularly disseminated to leisure boat operators the proper ways of watching dolphins without causing any disturbance to them. At present, AFCD had no plan to impose further control on such activities.

19. Following a Member's further questions on the need of licensing and setting of quotas to monitor dolphin watching activities as in other countries and for ensuring that the operators would abide by the code of conduct, Mr Joseph Sham explained that the existing regulation was considered adequate and there was no pressing need to impose additional measures to control these activities. It was crucial to strike a balance between promoting eco-tourism and controlling dolphin watching activities. He assured Members that AFCD would monitor and review the situation regularly.

20. A Member said that although the potential impact of the development of the third runway on the dolphin community remained uncertain, he would like to register his concerns over the disturbance caused by

contaminated sediment and landfill on CWD, and consequently the mortality rate of young calves, when planning for the BIMP. Mr Cheng Ting-ning replied that the third runway project was under the purview of the Airport Authority Hong Kong (AA). Under the EIA Ordinance, the project proponent should undergo a thorough and scientific EIA process when taking forward the project. The Chairman advised that the Member's concern should be recorded for reference by AA when it commenced its preparation on the runway project.

21. A Member was content that the preliminary boundary of the proposed BIMP had been scientifically established. However, he was concerned about the timeline for designating the BIMP, as AFCD expected that the boundary and management plan would only be finalized after another round of detailed study in 2013/2014. Mr Cheng Ting-ning explained that the timeframe as stated in the ACE paper was indicative only. HyD would kick start the preparation work for designating the BIMP immediately after consulting the ACE at today's meeting, The work included preparing the consultancy brief and conducting consultant selection procedures, etc.. He expected that the consultant could be commissioned in the second half of 2012 to conduct a detailed study on refining the boundary of the BIMP and to carry out other relevant preparation work. It would then take another 24-26 months to complete the designation process as required under the Marine Parks Ordinance, which included the conduct of public consultations at various levels, especially with the fishermen groups, before putting the plan for consideration/endorsement by the relevant authorities. The Member suggested that HyD might need to step up the consultant selection process and commenced the consultancy study as soon as practicable.

22. The Chairman summarized Members' views as follows –

(a) the Council was concerned about the impact of the third runway plan on the BIMP and suggested AFCD to keep in close view of the development of that project vis-à-vis the proposed marine park;

(b) the Council suggested that a "dolphin friendly" design should be planned for the underwater structure of the HKBCF;

(c) the Council recommended to incorporate the coastline along the Sham Shui Kok area into the boundary of the BIMP, and that the

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Secretariat would issue a letter to urge the LLP team to take into account the latest development of the BIMP project and the dolphin survey reports in their future detailed study for the proposed LLP project.

Agenda Item 4: A Proposal to Strengthen the Control of Emissions of Petrol and Liquefied Petroleum Gas Vehicles
(ACE Paper 18/2011)

23. Mr W C Mok briefed Members on the Government's proposal to strengthen the control of emissions of petrol and liquefied petroleum gas (LPG) vehicles, and to provide a one-off subsidy for owners of LPG taxis and light buses to replace the catalytic converters in their vehicles. The Government aimed to commence the one-off subsidy scheme to assist these vehicle owners to replace the catalytic converters in the second half of 2012 which would take about six months to complete. After completion of the replacement programme, the Government planned to start the deployment of remote sensing equipment towards early 2013 to screen out vehicles that emitted excessively.

24. In response to the Chairman's enquiry on the validity of the result obtained from the roadside remote sensing equipment and whether the result would be affected by wind speed or speed of the vehicle, Mr W C Mok explained that the equipment would automatically screen out the data if the vehicles' speed recorded were out of the reasonable range, e.g. the vehicle remained almost stationary in case of traffic jam, in order not to compromise the creditability of the readings of the equipment.

25. A Member supported the proposal on emission control. He said that it was the responsibilities of vehicle owners to ensure that their vehicles were roadworthy and properly maintained. They had the obligation to replace the catalytic converters if the converters were not functioning properly. He had reservation on the one-off subsidy for owners of LPG taxis and light buses in replacing the catalytic converters, though he agreed that this could serve as a carrot to entice the support of the vehicle owners to the new control regime. This view was echoed by the Chairman and another Member.

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26. A Member shared the view that the one-off subsidy might just defer the problem for another 18 months as vehicle owners would eventually be required by law to replace the aged or worn out catalytic converters at their own cost. She suggested the Government to consider extending incentive to owners for replacing the converters on their own accord and thereby passing the annual vehicle inspection. The incentive could include paying the license renewal fee at a discounted rate.

27. A Member expressed his full support to the new initiative in emission control. He raised three questions relating to the control mechanism, namely (i) whether it was possible to trick the roadside remote sensing equipment; (ii) whether the remote sensing equipment could be deployed for use a few months earlier to alert all vehicle owners of the need to meet the statutory emission standard before the control scheme came into operation; and (iii) whether efforts would be stepped up to raise public awareness on controlling emissions from other types of vehicles.

28. In response, Mr W C Mok agreed that it was the obligation of vehicle owners to maintain the roadworthiness of their vehicles. The subsidy would be provided as a one-off incentive arrangement. Given that owners of taxis and light buses had yet to develop their awareness/habit on replacing worn out catalytic converters regularly, the subsidy was intended to entice them to appreciate the benefit and get accustomed to replacing the converters on their own accord. In case the vehicle owners failed to replace the worn out converters as required, the remote sensing equipment would screen out those vehicles which emitted excessively. Mr Mok welcomed the suggestion of using the roadside remote sensing equipment before the enforcement period to alert vehicle owners to the problem of excessive emissions but would have to examine ways to avoid confusing vehicle owners about the commencement of the enforcement.

29. On controlling the emissions from buses, coaches and goods vehicles, Mr Mok explained that the "Smoky Vehicle Control Programme" launched in 1989 was already in place to control poorly maintained diesel vehicles for excessive smoke emissions. However, there was an increasing trend on using exhaust after treatment devices such as diesel catalyst for controlling emissions from diesel vehicles of newer generations. The European Union and the United States were studying on checking the emission of the catalyst-equipped diesel

vehicles of the new generations. The Government was also making similar efforts in identifying new testing technologies for these more advanced diesel engines, and would seek advice from the ACE once a workable and practical proposal could be formulated on the issue.

30. In reply to a Member's enquiry on the possibility of tricking the roadside remote sensing equipment, Mr Y S Yam explained that there were around 100 roadside remote sensing measurement points throughout the territory and most of them were located in the urban area, usually with slight uphill slope. In view of the wide coverage by remote sensing equipment and nature of traffic at these sites, the chance of success for vehicle owners to evade the checks would be low.

31. A Member enquired on the percentage of taxis using LPG in terms of the total taxi population and the latest Government initiative in encouraging more extensive use of LPG among taxis. He further questioned the reasoning for requiring the vehicle owners to pay for the emission test even if their vehicles had subsequently passed the test. He considered it unfair for the owners to shoulder this unwarranted burden as it was the fault of the sensing equipment rather than any negligence on the part of the owners.

32. In reply, Mr W C Mok explained that all taxis in Hong Kong were now using LPG except only two which still ran on diesel. All taxis on replacement were required to switch to LPG or petrol vehicles. With regard to the emission test fee, Mr Mok said that if the vehicle owner had any doubt on the validity of the reading of the remote sensing equipment, he/she should file a complaint with EPD and not to take the vehicle to the designated vehicle emission testing centre (DVETC). The same arrangements also applied to complaints related to smoky vehicles. As there would be two sets of remote sensing equipment at each measurement point, an Emission Testing Notice (ETN) would be issued against the vehicle only if reading of both sets of equipment indicated excessive emission. This arrangement would also preclude passing vehicles being "misjudged" as emitting excessively. Upon receipt of a complaint, EPD would go through the data collected and stored in the sensing equipment to check against any possible abnormality. If no abnormality could be identified, there was no reason to doubt the proper functioning of the equipment at the material time. In addition, the equipment would be so formulated to conduct regular

self-checking to test for valid operation. All measurement data would be stored up for possible follow up actions (including investigation of complaints) if required.

33. A Member asked whether the emission test fee could be waived if the vehicle had ultimately passed the emission test and the case be closed rather than going through the process of investigation. Mr W C Mok responded that the emission test fee was the cost for the testing service rather than a penalty to the vehicle owners. The emission test was conducted based on the "user pays" principle. If a vehicle owner considered he/she being wrongly screened out for excessive emission, there was a complaint channel to address the concern. The vehicle owner might not be required to pay for the test fee in case the sensing equipment was found to be not functioning properly at the material time after investigation.

34. Two Members shared the views on introducing incentives to vehicle owners for replacing catalytic converters rather than providing them with subsidy. She pointed out that all vehicles must pass the annual vehicle examination to comply with the Road Traffic Ordinance before the licence renewal. She questioned the need to provide subsidy for replacing the catalytic converters as it should be the owners' responsibility to fix the emission problem of their vehicles after the examination.

35. Mr W C Mok noted the support with regard to the owners' responsibility in ensuring that their vehicles were properly maintained. The one-off subsidy was meant to encourage the LPG taxis and light buses owners to replace the worn out catalytic converters and help raise their awareness of the need to regularly maintain their vehicles. The roadside remote sensing equipment would provide a safeguard against vehicle owners failing to properly maintain their petrol and LPG vehicles causing excessive emission.

36. A Member enquired if TD would accord corresponding improvement to the annual vehicle examination by using chassis dynamometers in parallel with the Government's new initiatives to impose more effective checking on nitrogen oxides (NOx) emission; and whether the sensing equipment could only be applied to single lane traffic. He also asked which of the terms, i.e. PM10 or PM2.5, should be used in the chart of respirable suspended particulates

(RSP) so presented.

37. Mr W C Mok responded that TD was planning to upgrade its annual vehicle examination by incorporating the chassis dynamometer emission test for petrol and LPG vehicles. He further explained that, due to the limitation of current technology, the sensing equipment could only be deployed for use on single-lane roads. Nevertheless, over 100 checking points had been identified for deploying the equipment throughout the territory. He advised that the RSP data set out in the chart referred to PM10. He pointed out that the particulates (RSP) emissions of vehicles were mainly PM2.5. Based on the data collected by the Government, there was a significant reduction of the carbon part of RSP at the roadside that came principally from vehicles by over 50% in the past decade. This indicated that the efforts made in reducing vehicular particulate emissions had paid off. The Government would strive to further reduce the roadside RSP concentration and roadside PM2.5 concentration by phasing out aged diesel commercial vehicles and introducing tighter emission regimes for newly registered vehicles. In fact, reducing vehicle emissions was a very effective way in reducing PM2.5 concentration at roadside, though PM2.5 concentration could also come from secondary formation, e.g., sulphur dioxide could be transformed into sulphate which was PM2.5, that needed to be tackled in the regional context.

38. A Member expressed her full support to the proposal in reducing roadside air pollution, but was concerned that the proposal might not be easily accepted by the general public. She suggested devising a new set of code of conduct in promoting green driving among taxis and buses owners, which would also be easier for the public to understand and follow.

39. A Member said that the ACE should agree to use public money to subsidize the polluters only on the ground of speeding up the replacement process of worn out catalytic converters for air quality improvement. He also suggested imposing a time limit for the subsidy. For example, Government could consider demanding vehicle owners to clean up their engines within a specified timeframe upon approval once the application was approved.

40. A Member recalled that different sectors of the transport trade had received incentives or subsidy for speeding up implementation of various environment-related measures over the past years. Those incentives were not

confined to taxi and light bus operators. Different sectors in the trade would judge their own positions vis-à-vis the Government's policy towards such large operators as the franchised buses and mass transit companies. Based on the information in the ACE paper, a Member noted that the Government planned to subsidize franchised bus companies for the retrofitting of selective catalytic reduction (SCR) devices. Taxi and light bus operators would consider that they were in similar situation and indeed were more in need of help in view of their smaller scale of operation. As public transport in Hong Kong was not subsidized, whatever cost incurred would likely be passed onto the passengers in terms of fares. In consideration that the amount of subsidy was not very substantial and that it could help expedite the process of improving air quality, the Member considered the proposal a fair deal. She also pointed out that the subsidy in the proposal was provided to LPG taxis and light buses but not private cars. Efforts would be required to entice private vehicles owners to properly maintain their vehicles and keep the air clean.

41. In response to these comments, Mr W C Mok agreed that offering subsidy to owners of LPG taxis and light buses could help speed up the process of replacing the catalytic converters and entice their support for the proposed tighter emission control regime.

42. A Member asked whether the Government could improve the content of the chart by showing the data of PM2.5 for comparison with the data of PM10 and the overall trend in future presentations. Mr W C Mok agreed to provide such data including the substantial reduction in the carbon content of particulates.

43. The Member asked for a likely scenario that a car and a motorcycle were passing through the sensing equipment side by side. He enquired how the data of the two individual vehicles could be captured by the sensing equipment. Mr Y S Yam responded that during measurement, photos would be taken of the passing vehicles. EPD would check all the photographs to ensure that no two vehicles passed through the sensing equipment at the same time before issuing the relevant ETNs.

44. In response to the enquiries from a Member on raising the standards of emission control by including the measurement of NOx in the advanced

emission test, Mr W C Mok explained that the advance emission test using chassis dynamometers would be applied to private cars, LPG taxis as well as light buses. While the advanced emission test was only part of the proposal, the deployment of the sensing equipment was also necessary to screen out vehicles which emitted excessively during its use.

45. A Member enquired on the implementation date for TD to upgrade the annual vehicle examination by including the advance emission test, as this would ultimately become the most important measure for controlling excessive emission from all vehicles. Mr W C Mok responded that TD was planning to include the new emission test into the annual vehicle examination as soon as possible. However, the timing would depend on how soon the preparation would be completed. Since private cars were currently tested in private car testing centers, time had to be allowed for these testing centers to upgrade their equipments to provide the testing service using chassis dynamometers. Extra time would be required should new centres need to be set up to replace those that did not have enough space for accommodating the chassis dynamometers. In addition, as TD was responsible for conducting the emission tests for taxis and light buses, it had to identify additional space for accommodating the chassis dynamometers. Furthermore, any upgrading of the examination would involve amending the prevailing regulations, including bringing in the new standard of the examination and amending the examination fee.

46. The Chairman summarized Members' views as follows –

(a) the Council was supportive of the proposal to strengthen the control of emissions of petrol and liquefied petroleum gas vehicles;

(b) complementing this proposal, the Council suggested that the Government should step up efforts in promoting and educating vehicle owners about the benefits of regular replacement of worn out catalytic converters; and

(c) with regard to the implementation of the one-off subsidy, the Council suggested the Government to set a specific timeframe for eligible vehicle owners to complete the replacement of their vehicles' catalytic converters to achieve early improvement in air

quality.

Agenda Item 5 : Report on the 118th Environmental Impact Assessment Subcommittee Meeting
(ACE Paper 19/2011)

47. The Chairman informed Members that the paper reported on the recommendations of the Environmental Impact Assessment (EIA) Subcommittee on the EIA report on "Development of Integrated Waste Management Facilities (IWMF) Phase 1" submitted by the Nature Conservation and Infrastructure Planning Division of the Environmental Protection Department (EPD). The secretariat had received a total of 19 submissions in the weeks leading to the Council meeting. They were mainly of two concerns: first on the choice of site for accommodating the facilities on an artificial island near Shek Kwu Chau (SKC), the issue of which had been addressed at the Subcommittee meeting; and secondly about the choice of incineration technology, e.g. whether the plasma arc gasification technology, which was claimed to be more efficient with lower construction cost by some of the submissions, should be adopted. To ensure all Members were fully briefed on the latest developments in waste treatment technologies, he invited the project proponent to give a short briefing on the technology issue before the meeting proceeded to discuss the report of the Subcommittee.

48. Mr Elvis Au explained that the Council had been kept abreast of the selection of technology of the IWMF project as early as 2006. The first technology review was conducted from 2002 to 2005 during which an expression of interest was called for, and 59 submissions from local and overseas companies on all types of waste treatment technology for developing the IWMF, including gasification technology, were received. An advisory group comprising representatives from different green groups, professionals, academics and business sectors was set up to advise on the selection of appropriate technology and site selection criteria. The Council first discussed the technology issue in May 2006 upon the completion of the technology review. The Council had also visited a number of incineration plants in Germany and the Netherlands in 2006 and produced a report which was available on the ACE website. A technology review was conducted again from 2008 to 2009 for update on the latest development in waste treatment technologies and a paper on "IWMF Technology

Review and Associated Facilities" (re. ACE paper 22/2009 which the secretariat had tabled for Members' reference) was presented to the Council in December 2009. Due consideration had been given to the plasma arc gasification technology which was covered in detail in the paper. The technology issue had been fully discussed at that meeting in 2009. The major findings of the review at that time was that the plasma arc gasification technology was mainly used for treating hazardous waste or low level radioactive waste, and its application in treating municipal solid waste (MSW) had been uncommon and on a small scale. It was concluded that the plasma arc gasification technology was not suitable for the proposed IWMF development. The Council had no objection to the proposed use of the moving grate incineration technology for the IWMF in 2009. Nevertheless, in view of comments from the public as well as a number of submissions from the suppliers, EPD and their consultant had conducted another technology review recently. The previous findings and the conclusion that the plasma arc gasification technology was not suitable for the IWMF were maintained. Experiences from a number of countries worldwide showed that the moving grate incineration technology was still the well-proven technology widely used nowadays for large scale treatment of MSW. A number of new waste to energy plants that had been commissioned since 2009 adopted moving grate incineration technology. EPD's consultants had given a reply to the objectors on their review of the plasma arc gasification technology, and had tabled the reply at the Subcommittee meeting on 5 December 2011 for Members' reference.

49. A Member sought clarification on the allegation that the consultant, AECOM, had been/would be awarded the Design-Build-and-Operate (DBO) contract to construct the proposed IWMF near SKC. Mr Elvis Au explained that AECOM, through an open tender exercise, had been awarded the contract for the preparatory work for the IWMF pre-qualification exercise. This consultant would be excluded from the DBO contract in future. The consultant would tender independent advice to EPD on the design and technology for the IWMF project.

50. Noting that the consultant was commissioned by EPD and had actually started the preparatory planning work for the incineration plant at SKC, the Member doubted its position in tendering objective opinion on the latest technology. A Member echoed this concern and enquired if it was appropriate for EPD to engage the same consultant to prepare the pre-qualification documents

and the EIA report before the Council had considered the report and the Director of Environmental Protection (DEP) granted the environmental permit. Besides, AECOM's views were in conflict with those expressed by its subsidiaries, ENSR, which advocated the use of the plasma arc gasification technology for MSW treatment.

51. Mr Elvis Au reiterated that consideration of the choice of technology in fact was dated back to 2005 when an independent advisory group and another consultant came up with the recommendation of the incineration technology after examining different technologies. The current consultant was commissioned to conduct a review in 2008 to 2009 and came to the same conclusion. The findings were presented to and discussed at the Council in 2009. Recently, an open tender exercise had been conducted to engage a consultant for the pre-qualification preparatory work. He further explained that same as most major development projects, it was common for different processes to proceed in parallel in consideration of the very tight time schedule. Such preparatory work was necessary to facilitate the detailed planning and design. It should be noted that the actual construction work could not commence until the EIA report had been approved and the necessary funding secured.

52. A Member opined that there had been rounds of long debates in the past years on MSW treatment without much headways made. The three landfills were nearing their handling capacity. The Council should focus on the EIA report and discuss how best MSW treatment could be taken forward for the good of the community.

53. In response to a Member's question that the consultant might have failed to tender its independent findings in respect of the technology review, Mr Elvis Au explained that EPD did not solely rely on the consultant's information. EPD had its own professional staff who did an independent research into the latest technologies and discussed with professional bodies and counterparts outside Hong Kong. The consultant was expected to provide information on MSW treatment technologies from different perspectives. The overall energy recovery rate was relatively low for the plasma arc gasification technology as it required a lot of energy input for the gasification process.

Action

54. A Member enquired why gasification was only applied for small plants. Mr Elvis Au explained that the gasification process was very complicated and difficult to control. The scale of the plant had to be kept small for safety and management consideration.

55. A Member asked if the gasification plant could be applied on a larger scale safely by scaling up its modules instead of the plant as a whole. In response, Mr Elvis Au quoted the gas leakage and explosion incident in a scaled-up gasification plant in Germany back in around 1998, and Germany had been phasing out the gasification technology since then. The incident suggested that scaling up of the gasification plant was risky. In response to the Member's further enquiry, Mr Au replied that the proposed gasification plant in Shanghai which was planned to handle 100 tonnes of waste per day was a demonstration project. The plant was still at the planning stage.

56. In response to a Member's enquiry on costs, Mr Elvis Au said that the operating cost of the plasma arc gasification technology was higher than that of other technologies. A plasma arc gasification plant in Japan was planning to cease operation in 2013 due to various operational and financial problems. In response to the Chairman's enquiry, Mr Au confirmed that according to the consultant's and their own study, the moving grate incineration technology was still the preferred technology for the IWMF.

57. The Chairman informed Members that discussion of the EIA report on the IWMF project would begin. At the request of a member and agreed by the meeting, Mr Elvis Au stayed for the rest of the meeting to facilitate discussion of the project.

58. A Member declared that her company was involved in a consultancy service for the public engagement exercise related to the development of IWMF. The meeting agreed that she should abstain from the meeting to avoid any potential conflict of interest as she did at the EIA Subcommittee meeting. She left the meeting at this juncture.

Action

59. The Chairman informed Members that the public inspection period of the EIA report was from 18 November to 17 December 2011. As an administrative arrangement, public comments received by the EPD before the EIA Subcommittee meeting were circulated to Subcommittee members for reference before the Subcommittee meeting. Public comments received after the Subcommittee meeting were circulated to all Council members for reference before the meeting. Separately, submissions addressed to the Council or the Subcommittee regarding the EIA report were circulated to members before the respective meetings for reference.

60. The Chairman of the EIA Subcommittee, reported on the recommendations of the Subcommittee on the EIA report, which included three assessment scenarios based on two potential sites, namely –

(a) developing an IWMF at the Middle Tsang Tsui Ash Lagoon (TTAL) in Tuen Mun alone;
(b) developing an IWMF at an artificial island near Shek Kwu Chau (SKC) alone; and
(c) developing an IWMF at each of the two potential sites (co-existence scenario).

61. Members of the Subcommittee noted that the current report contained some minor updating over the previous one submitted to the Council in April 2011, which had already gone through thorough deliberations at that time. On this basis, Members mainly focused on the new information made in the current EIA report and sought clarifications from the project proponent.

62. A Member pointed out that the proposed third runway just announced by AA had not been taken into account in formulating the EIA report for the IWMF. He enquired if the EIA report for the IWMF should include a cumulative impact assessment taking into account the emissions from the third runway. Mr C W Tse replied that a cumulative impact assessment was required for all projects which had to include all known and committed projects at that time under the EIA process. An EIA study would be required for the third runway and its approval would be subject to the cumulative impact assessment which would have to take into account the impact of the IWMF. The Member also enquired about the purported contradictions in the EIA reports for the IWMF and

the HZMB conducted by the same consultant, in that the NOx emissions were expected to drop by around 40% over the period from 2015 to 2030 in the IWMF report, but expected to double over the same period in the HZMB report. Mr C W Tse explained that the EIA for the HZMB was conducted in 2008 to 2009 taking into account the latest traffic forecast published by TD at that time. The EIA report for the IWMF adopted the updated traffic forecast published by TD in 2011, which showed a reduced forecast in heavy duty vehicles at North Lantau, likely due to the planning of a number of cross-boundary facilities in recent years. The reduction in traffic forecast showed that the HZMB EIA reports had adopted a more conservative set of traffic forecast than necessary in the air quality assessment which would not affect the conclusion of the HZMB EIA reports.

63. Regarding health impact brought about by the IWMF, a Member pointed out that the report revealed only the cancer risk posed by cancer-causing dioxins, but not other health risks attributed by ozone. Mr C W Tse explained that ozone was not a pollutant emitted by the IWMF project. Moreover, scientific studies showed that within a reasonable distance from the emitter (the project), NOx emitted would reduce the ozone level. It was therefore considered that ozone was not an issue for this EIA report. Health impact assessment had been carried out to ascertain the health impact due to the IWMF, including non-cancer causing emissions. The findings had been included in the EIA report. These had been vetted by the Department of Health and were found acceptable.

64. In response to a Member's enquiry, Mr Elvis Au replied that the idea of scattering multiple smaller-scale IWMF over the territory had been considered by an advisory group formed in 2002 comprising representatives from academics, professionals, business sectors and green groups. The idea was considered not practicable for Hong Kong in view of the limited land availability and densely populated areas in the territory. The then advisory group opted for a more concentrated development of IWMF. In respect of organic waste, however, Mr Au said that the Government was exploring the possibility of having some organic waste treatment facilities on Hong Kong Island and other regions, in addition to the organic waste treatment facilities that would be built in Siu Ho Wan and Sha Ling.

65. In response to the concern about the distance of transfer of waste resulting from the incineration process, Mr Elvis Au said that there was one trip

per day for delivering ash from the IWMF to the landfill for disposal. All transport routes from the refuse transfer stations (RTS) to the IWMF, and from the IWMF to the landfill had been taken into account in calculating carbon dioxide emissions. It was concluded that there was a net reduction in carbon dioxide emissions if the IWMF was located at the artificial island near SKC.

66. Following the flow of argument that the SKC site was preferred to TTAL due to a lower cumulative impact on air quality, a Member was concerned that preference might then be given to low-pollution sites for future waste treatment facilities in order to ensure a lower cumulative impact, thereby intruding into the greener parts of the city, e.g. Sai Kung and Island South. Mr Elvis Au said that the site selection process during the site search study involved a thorough consideration of various factors and sites, starting with the 23 types of exclusion areas recommended by the advisory group and an initial list of 21 sites. The artificial island near the SKC site was chosen as the preferred site for the first modern IWMF on balance of the various pros and cons, after careful consideration of all relevant factors and having regard to the waste management policy and strategic considerations. With respect to the impact on the marine ecology and fisheries, Mr Au said that the stretch of waters near SKC was not an existing or proposed ecological protected area and was located between two navigation channels. The impact on the environment was minimized through the careful design and planning of the facilities and reclamation. The cellular cofferdam reclamation method could help reduce the footprint of reclamation by 40% and the amount of dredging from about 2.3 million cubic metres to about 27 000 cubic metres. These measures would help reduce significantly the impact on the marine ecology nearby. Further, the proposed 700-hectare marine park to be designated to the east of Soko Island would enhance ecological and fisheries resources.

67. A Member enquired about the rationale for choosing the SKC site over TTAL in that the latter was close to a landfill for ready disposal of ash generated from incineration, but marine transfers were required for delivering ashes from SKC to one of the landfills. Besides, it took two more years to construct the IWMF at the SKC site than in TTAL. Mr Elvis Au explained that three MSW refuse transfer vessels were to commute daily from Island East RTS, Island West RTS and West Kowloon RTS to Tuen Mun similar to the present arrangement if TTAL was to be chosen for the first IWMF. However, the

distance of transportation of MSW from the three existing RTSs to the artificial island near SKC would be shortened by one-fourth in comparison with the TTAL site.

68. A Member maintained his disagreement to the EIA report as in the Subcommittee meeting. His position was shared by another Member. A Member expressed his reservation on the location of the IWMF at the SKC site.

(Post meeting note: The Member expressed his reservation concerning the choice of location for any potential type of incinerator or any other means to dispose of Municipal Solid Waste on Shek Kwu Chau Island for the following reasons:

(a) Southwest of Shek Kwu Chau a high density of finless porpoise is being observed. The finless porpoise is listed as "vulnerable" on the International Union for Conservation of Nature Red List of Threatened Species (IUCN Red list) and as "endangered" in the China Species Red List. In view of the above, a precautionary principle should apply leading to the protection of this finless porpoise core habitat.

(b) Shek Kwu Chau is also home to the white-bellied sea eagle, a National Class II protected species. According to the EIA report, there is the possibility of nest abandonment due to the IWMF.

(c) Placing an incinerating facility on an island of the nature of Shek Kwu Chau, may create a potential precedent for similar such land use applications in future which, given the vulnerability of our natural and marine environment, should be avoided.)

69. The Chairman said that Members had been fully briefed on the plasma arc gasification technology and noted that there was no advancement in that technology since the last review in 2009. The majority of Members agreed with the recommendations of the EIA Subcommittee on the EIA report. He concluded that the Council endorsed the EIA report with the conditions and recommendations set out in paragraph 16 of the paper.

Action

70. In view of the immense concern from the public on this project, a Member suggested EPD to address the queries and criticisms from the public by making available information, particularly on the urgency for the IWMF in waste treatment, choice of technology and site selection for the project, etc., on its website. The meeting concurred.

Agenda Item 6: Any other business

Retreat

71. The Chairman proposed to hold a retreat in the afternoon of 20 February 2012 for exchanging views on the EIA issues arising from the HZMB JR case as well as on waste reduction and waste management strategies. He strongly encouraged Members' participation in the retreat.

Tentative items for discussion at the next meeting

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

Agenda Item 7 : Date of next meeting

73. The next meeting was scheduled for 16 January 2012. There would also be a special Council meeting lined up for 7 February 2012 for consideration of, inter alia, the EIA Subcommittee's recommendations on the four EIA reports on "Shatin to Central Link" project. Agenda and paper for the special meeting in February would also be issued in due course.

ACE secretariat
January 2012