

**Confirmed Minutes of the 152nd Meeting of
the Advisory Council on the Environment
held on 16 May 2008 at 2:30 pm**

Present:

Prof LAM Kin-che, SBS, JP (Chairman)
Prof WONG Yuk-shan, BBS, JP (Deputy Chairman)
Dr Dorothy CHAN, BBS
Mr James GRAHAM
Ms Betty HO
Mr Edwin LAU
Ms Goretti LAU
Dr MAN Chi-sum, JP
Dr NG Cho-nam, BBS
Mr Markus SHAW
Mr TSANG Kam-lam
Mr Eddie WONG
Prof WONG Tze-wai
Dr YAU Wing-kwong
Mr Carlson K S CHAN (Secretary)

Absent with Apologies:

Prof Howard HUANG
Prof Paul LAM
Prof POON Chi-sun
Mr Simon WONG

In Attendance:

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| Ms Anissa WONG, JP | Permanent Secretary for the Environment |
| Mr C C LAY | Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD) |
| Mr P Y TAM | Assistant Director/Technical Services, Planning Department |
| Dr Tina MOK | Principal Medical and Health Officer, Department of Health |
| Ms Monica KO | Principal Information Officer, Environmental Protection Department (EPD) |
| Ms Josephine CHEUNG | Chief Executive Officer (CBD), EPD |
| Mr KWAN Chung-kit | Office Manager (CBD), EPD |
| Ms Loletta LAU | Executive Officer (CBD), EPD |

In Attendance for Agenda Item 3:

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| Mr Edmond HO | Acting Assistant Director (Water Policy), EPD |
| Dr Cathie KUEH | Senior Environmental Protection Officer (Water Policy and Science), EPD |

In Attendance for Agenda Item 4:

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| Miss Mary TSANG | Assistant Director (Cross-Boundary and International), EPD |
| Mr Alfred SIT | Assistant Director (Energy Efficiency), Electrical and Mechanical Services Department (EMSD) |
| Mr Eddie WU | Senior Engineer/Energy Efficiency, EMSD |

Action

Agenda Item 1 : Confirmation of the draft minutes of the 151st meeting held on 14 April 2008

The draft minutes were confirmed subject to a Member's proposed amendments to paragraph 71 which were tabled at the meeting and an amendment proposed by Mr C C Lay to the Member's proposed amendments.

Agenda Item 2 : Matters arising from the minutes of the 151st meeting held on 14 April 2008

Para. 66 – Report of the Nature Conservation Subcommittee

2. In relation to the recommendation of the Council on the Sha Lo Tung (SLT) project under paragraph 66(a)(ii), a Member considered that the project proponent should submit the environmental impact assessment study to the “Advisory Council for the Environment” (ACE) instead of the “Environmental Impact Assessment (EIA) Subcommittee” to reflect that the advice would be given at the level of the full Council. Ms Anissa Wong said that under the proposed administrative arrangements in handling the SLT project, the procedures of handling an EIA report under the statutory framework would be followed as far as practicable, including making the SLT EIA study available in the public domain and submitting the report to the EIA Subcommittee. In line with the EIA process, the Subcommittee's recommendations would be submitted to the full Council for consideration.

3. A Member considered that during the discussion of the SLT project, much emphasis was put on the environmental impacts of the project but not much time was devoted to discuss the conservation plan as no detailed conservation plan was available. He suggested and Members agreed that the Nature Conservation Subcommittee would examine the conservation plan of the SLT project when it was available and make recommendations to the full Council.

Para. 70 – Report on the 102nd Environmental Impact Assessment Subcommittee meeting

4. A Member reiterated his concern about the lack of a proper legal framework for approval of non-conforming uses in Country Parks. He urged the Government to follow up its undertaking to look into the issue and review the Country Parks Ordinance as promised in 1993. He considered that there had been a legal vacuum and it was necessary to have a proper legal basis for approving non-conforming uses in Country Parks to avoid arguments in the future.

Agenda Item 3 : Bacteriological water quality objective for bathing beach waters in Hong Kong
(ACE Paper 16/2008)

5. The Chairman said that during the discussion of the EIA report on “Development of bathing beach at Lung Mei” in January 2008, the Council expressed concern about the general issue of water quality criteria for bathing beach under the Technical Memorandum on Environmental Impact Assessment Process. The Council requested that information on the background and rationale of the existing criteria be provided to facilitate the Council’s consideration for re-examination of the criteria. The current paper was submitted for the purpose.

6. Mr Edmond Ho briefed Members on the background and rationale of the bacteriological water quality objective (WQO) for bathing beach waters in Hong Kong. He highlighted that the beach water quality rating system comprised two components, namely the annual ranking system and weekly grading system. The annual ranking system was used to indicate the overall water quality of the beach in a year. The weekly grading system was used to

inform the public of the prevalent water quality. On the advice of the then Environmental Pollution Advisory Committee (the forerunner of the Advisory Council on the Environment), a geometric mean *E. coli* density of 180 counts per 100 mL, corresponding to a minor illness rate of 10 in 1,000 swimmers or below, was established as the WQO for bathing beach waters in 1992.

7. The Chairman noted that the human health risk rate recommended by the United States Environmental Protection Agency (USEPA) was 19 in 1,000 swimmers. He enquired about the risk rate used in other countries. Mr Edmond Ho said that a number of local epidemiological studies were carried out in different countries and Hong Kong was a forerunner in the field. The risk rate recommended by the World Health Organization (WHO) was 50 in 1,000 swimmers but the rate was based on a 95 percentile. The risk rate recommended by the USEPA was based on geometric mean, similar to that used in Hong Kong.

8. The Chairman noted that the discussion paper suggested that *E. coli* was the most sensitive microbial indicator for beach waters in Hong Kong. He asked whether this referred to the variability or indicative relationship with health risk. Mr Edmond Ho explained that the findings of the epidemiological studies in late 1980s revealed the log-scale linear relationship of *E. coli* between the risk rate and density of bacteria; whereas the other microbial indicators tested did not show such a strong relationship. Studies conducted since the early 2000s supported that *E. coli* was still the most sensitive and appropriate indicator when compared with other alternative indicators, including enterococci and faecal streptococci. Dr Cathie Kueh added that waters impacted by sewage or faecal matters generally carried a higher health risk, and *E. coli* was a good indicator of faecal pollution. In the studies, the density of *E. coli* in the beach water was found to be the highest and most widely distributed than other indicator bacteria, and it was closely related to the pollution source.

9. A Member said that he was involved in some epidemiological studies which EPD conducted in early 1990s. He observed that the studies conducted since the early 2000s were bacteriological studies and not epidemiological studies. He queried the conclusion that *E. coli* was the most sensitive and appropriate indicator because of its high density in water. He considered that the key consideration was the correlation between indicator

density and illnesses, and more epidemiological data were needed to prove that *E. coli* had a stronger correlation with illnesses than other indicators before arriving at the conclusion. To have more updated information on international developments on beach water quality criteria, he would like to have some recent reports and papers on the issue.

(Post-meeting note: The required information was sent to the Member after the meeting.)

10. Dr Cathie Kueh said that there was a trend in the early 1990s to set beach water standards using a large number of parameters. For example, the European Union (EU) had once recommended some 17 parameters on the assumption that the more parameters used, the higher the level of protection to human health. It was later found that it was more effective to use one or two indicators while sampling beaches on a more frequent basis. The EU recently recommended the use of either *E. coli* or enterococci as the indicator of beach water quality. In respect of swimming-associated illnesses, a range of illnesses considered under the WHO guidelines had been included in the studies conducted by EPD in early 1990s, such as gastrointestinal (GI) illnesses, and upper respiratory tract, eye, ear, nose and skin infections. Up to now, GI illnesses were most widely used for beach health risk assessment and comparison. The risk rate of 19 in 1,000 recommended by the USEPA and the risk rate of 50 in 1,000 recommended by the WHO was based on GI illnesses; while the local illness rate of 15 in 1,000 was based on GI and skin illnesses. A Member cautioned against the direct comparison of standards based on different types of illnesses.

11. A Member enquired about the use of enterococci as the indicator recommended by the WHO. Dr Cathie Kueh explained that WHO recommended enterococci as the indicator for microbiological quality of marine water and *E. coli* for fresh water quality. The enterococci was recommended on the basis of epidemiological studies conducted in the temperate water of the UK and WHO had highlighted the need for jurisdictions to develop their own WQO based on local data and socially acceptable human health risk.

12. In reply to the Chairman's enquiry, Dr Tina Mok said that as the local bacteriological WQO guidelines were developed almost two decades ago and in light of the latest international development and advice from WHO, a

review of the local WQO was considered necessary from the public health perspective. In general, the WHO recommendations should be followed. It was therefore necessary to examine critically the validity of using *E. coli* as the indicator and evaluate the applicability and effectiveness of using enterococci as the indicator according to recommendations from the WHO. She supplemented that WHO's recommendation of using enterococci as the indicator was based on some defined criteria including the health basis, availability of adequate epidemiological information on the correlation with illnesses, sufficient stability in the environment and availability of a standard method for analysis at low costs by using readily available equipment.

13. In response to the Chairman's enquiry, Mr Edmond Ho said that the EPD considered that a review of marine WQOs was necessary in the light of latest international development. The WQO for bathing beach would be part of the overall review exercise. They were about to embark on the review which would not only include the bacteriological aspect, but also physical, chemical and hopefully biological aspects as well. They were working on the selection of consultant and an advisory committee for the review would be set up in due course.

14. A Member welcomed a review of the marine WQOs, including the water quality criteria and bacterial indicators for bathing beach, and he considered the review would be a large-scale exercise requiring considerable time and resources. For bacterial indicators, he understood that they were generally not pathogenic but were indicative of faecal contamination of water. Different indicators had their own characteristics and *E. coli* was an indicator of more recent faecal pollution of the water. *E. coli* was very common in Hong Kong beach waters in view of the close proximity of beaches to the pollution sources.

15. In reply to a Member's enquiry about a broad spectrum analysis of Hong Kong waters, Mr Edmond Ho said that EPD operated a vigorous and comprehensive marine monitoring programme, measuring a large number of parameters, including physical, chemical, biological parameters. The information was available on the EPD website.

16. A Member asked whether it would be possible to provide first-hand information on beach water quality by using faster testing methods for

the benefit of beach-goers as in the case of the daily air pollution index. Dr Cathie Kueh said that environmental protection authorities and microbiologists worldwide were in the process of developing rapid testing methods; however, they were not yet ready for routine use. The test for *E. coli*, which required about one to two days to complete, was among the fastest tests for monitoring bacteria in water. A Member considered that one of the major differences in measuring air quality and water quality was the sampling approach. While air samples could be collected readily and tested on site, water samples had to be collected from the beaches and brought to the laboratory for testing which would be more time consuming.

17. A Member asked the possibility of improving the quality of bathing beach water by adding some sea creatures, fishes or fungi. Dr Cathie Kueh replied that while a diversified marine life would indicate good water quality, larger organisms generally would not improve the microbiological quality of the beach. The most effective means to improve microbiological water quality was to remove the source of pollution, such as by installing treatment works or disinfection facilities to kill harmful bacteria.

18. In response to a Member's enquiry, Mr Edmond Ho said that with the commissioning of the Stonecutters Island Sewage Treatment Works in 2001, the water quality (including *E. coli*, dissolved oxygen and nutrients) of the eastern side of the Victoria Harbour had improved significantly. However, the water quality of the western side was affected by the discharge from the sewage treatment works, and thus the disinfection facility for the Harbour Area Treatment Scheme was being advanced with a view to improving the situation.

19. A Member enquired about the usefulness of the annual beach ranking system as the weekly grading system was more meaningful for beach-goers. Mr Edmond Ho explained that while the weekly grading served as a useful reference for beach-goers to decide where to go for swimming, the annual ranking was useful for determining long-term trends and for taking actions to address water pollution problems. For example, reference would be made to the annual ranking before recommending the closure or re-opening of bathing beaches in Tsuen Wan where the source of pollution was identified, i.e. the discharge of undisinfected effluent from the Stonecutters Island Sewage Treatment Works. Even if the weekly grading of some of these beaches occasionally reached Grade 2 (Fair), the beaches would still not be considered

suitable for swimming before the root source of the problem was removed.

20. A Member said that the WQO for bathing beach waters was based on the annual ranking system. Quoting the example of Lung Mei Beach project, while the beach water quality met the WQO of *E. coli* density of 180 counts per 100 mL, the water quality was projected to be Grade 4 (Very Poor) for 14% of the time a year and the beach had to be closed. He asked whether the weekly grading rather than the annual ranking would be a more effective criterion for the protection of public health. The Chairman also asked whether the weekly grading would provide more information about the health risk. Mr Edmond Ho explained that the two systems served very different purposes. The annual ranking was meant to be a summary of the long-term overall water quality of a certain beach. The data were important for recommending the closure or re-opening of the beach on a long-term basis. The weekly grading, which provided information of the prevalent water quality, served as a reference to beach-goers.

21. The Chairman said that there was no intention to revisit the Lung Mei Beach project but the case flagged up a generic question of whether the existing WQO for bathing beach was appropriate for assessing beach water quality in providing protection to public health. Members were concerned about the development of a new beach in an area where the water quality was not most desirable and the beach would have to be closed for a relatively long period of time. Dr Cathie Kueh said that the current WQO for bathing beach was based on a maximum level of *E. coli* density of 180 counts per 100 mL (corresponding to minor illness rate of 10 in 1,000). The cut-off point for beach closure was *E. coli* density of 610 counts per 100 mL (corresponding to an illness rate of 15 in 1,000). These were based on the geometric mean under the annual ranking system to determine the overall water quality of the beach. Under the weekly grading system, there would be natural fluctuations of water quality. One of the major factors affecting the weekly grading results was weather condition. Some beaches which fully met the WQO could be graded 3 (Poor) or 4 (Very Poor) after heavy rainfall. That was why the EPD's weekly beach press releases warned the public against swimming after periods of heavy rain.

22. A Member said that the statistical problem of using just geometric mean as the standard of measurement was that it could not reflect the range of

fluctuations. Take two hypothetical cases as examples: in case 1, if *E. coli* densities of half of the days of the year were just 10 counts per 100 mL and half of the days were 1,000 counts per 100 mL, the geometric mean would be 100 counts per 100 mL; whereas in case 2, the *E. coli* densities were very stable at 100 counts per 100 mL in all the days. The two cases had the same geometric mean but in case 1, the beach would be closed down in half of the time in the year. Thus, it was useful to have information also on the distribution pattern, such as frequency of exceedance of WQO. Dr Cathie Kueh explained that the bacteriological density in water was inherently variable. It could fluctuate considerably within a short period of time. Thus, the “geometric mean” was used to obtain a more representative picture of the condition of the water. A Member said that it was a standard practice to express bacterial density in terms of geometric mean. Moreover, the wide range of fluctuations did not mean that short exposures of high bacteriological density would pose high health risk to swimmers.

23. A Member considered that the acceptance of risk level was subjective and it would depend very much on the public’s views on the acceptable level in determining the cut-off point of bacterial density. A Member shared his views. She considered that the benchmarking of the risk level acceptable by the public was more of a political decision. Quoting the example of Lung Mei Beach project, despite the relatively high downtime of 14% (after the implementation of sewerage projects), the development of the new artificial beach project could still be taken forward as it met the WQO and the downtime was considered acceptable. It would be useful to revisit the current WQO for bathing beach having regard to the public acceptance of health risk.

24. A Member considered that the case of Lung Mei Beach project reflected that acceptance of a certain level of downtime was more of an economic rather than a health risk issue, i.e. whether public money was well spent to develop a beach where the water quality was not most desirable and the downtime was relatively high. From a health perspective, the public was protected as the beach would be closed for bathing purpose whenever the water quality was below the criterion.

25. Ms Anissa Wong said that the need to review the WQO of bathing beach would depend on the result of the overall review of the marine WQOs

which would include scientific studies and public consultation. Until the outcome of the review was finalized, the prevailing criteria would continue to be followed. As regards the Lung Mei Beach project, the Civil Engineering and Development Department was taking follow-up actions and conducting a further study based on the recommendation of the Council. While the beach would have to be closed for a certain time of the year, the project could provide an additional new beach for public enjoyment and interests of the community had to be balanced from different perspectives.

26. A Member said that the Lung Mei Beach project was used as an example to illustrate the concern of Members about the appropriateness of the current WQO for bathing beach for protection of public health. The key consideration was where to draw the line of the acceptable level of risk. Moreover, the approach in data collection was also important. For example, whether the period of data calculation should be over a year or over a shorter period would make a difference in the results.

27. The Chairman concluded that WQO was an important environmental issue. The Council noted that ongoing studies were being conducted by EPD to keep pace with international developments. The Council was pleased to learn that an overall review of marine WQOs would be embarked later in the year which would include the review of the WQO of bathing beach. The Council looked forward to providing inputs in the course of the review.

Agenda Item 4 : Draft guidelines to account for and report on greenhouse gas emissions and removals for buildings of commercial, residential or institutional purposes in Hong Kong
(ACE Paper 17/2008)

28. Mr Alfred Sit briefed Members on the progress in drafting the proposed guidelines to facilitate conducting carbon audit on buildings in Hong Kong. He highlighted that the draft Guidelines aimed to provide a systematic and scientific approach to account for and report on the greenhouse gas (GHG) emissions arising from operation of buildings. The Guidelines could facilitate the building users/management to improve their awareness of GHG emissions, conduct carbon audit on their buildings, identify possible areas for improvement and conduct voluntary programmes to reduce or offset their emissions.

29. In reply to the Chairman's enquiry, Mr Alfred Sit said that carbon audit for buildings was a relatively new concept and the draft Guidelines were designed for voluntary and self reporting at this stage. Miss Mary Tsang added that in view of the relatively new concepts of carbon audit as well as climate change for the general public, it would be more desirable to kick off the programme on a voluntary basis at this initial stage. Moreover, the availability of professional support had been identified by building management companies as an area of concern. Professional training and capacity building would be required to provide adequate support before considering mandatory implementation of carbon audit.

30. The Chairman enquired about the availability of incentive programme to promote and encourage building users/management to implement the Guidelines. Mr Alfred Sit said that building users/management would be encouraged to make use of the available resources on environmental protection and energy conservation such as the Environment and Conservation Fund (ECF) for carrying out carbon audits. They would also work closely with academic institutions in conducting research on the subject of climate change by making use of the ECF for building up expertise in this field. Miss Mary Tsang said that they had approached some major private developers for advice and support in the course of drafting the Guidelines and the feedbacks were positive. Mr Alfred Sit said that some private developers participated in a trial based on the draft Guidelines. Views gathered in the consultation stage reflected that the community was supportive of this initiative and was willing to take on new ideas to help reduce GHG emissions through their own resources.

31. A Member considered that some kinds of incentives, tangible or intangible (such as labeling or certificate awards), would be useful to promote a scheme which was not mandatory. In view of the large number of new buildings to be built in different tertiary institutions in the coming years and the availability of technical support in the field, he suggested encouraging them to participate in GHG reduction efforts by means of labeling or certificate awards. Miss Mary Tsang said that the Task Force had approached the estate management offices of local tertiary institutions. Positive initial response was received. Consideration would be given to the introduction of intangible incentives to encourage building owners/management to conduct carbon audits and reduce their carbon footprint.

32. A Member considered that the provision of a labeling or certification programme was important to promote the carbon audit scheme in the private sector. It would be an important means to differentiate the buildings in terms of their merits in energy performance. He suggested that reference be made to the certification systems of the Business Environment Council (BEC) and Clean Air Charter. BEC launched a number of award schemes in recognition of eco-friendly performance of buildings during the construction as well as in use stages. The Clean Air Charter Certification Scheme gave recognition to organizations signed up for improvement in energy conservation and emissions reduction. Miss Mary Tsang thanked the Member for his suggestions and informed the meeting that the Task Force had been liaising with the BEC regarding a grading system of commercial buildings in terms of GHG emissions. The BEC was conducting relevant research and had made reference to an Australian grading system which mainly focused on Scope 2 (Energy Indirect Emissions) of the Guidelines. The grading system was anticipated to be put in place in late 2008. She considered that BEC's grading system would be complementary to the carbon audit scheme. A building owner/management which had conducted the carbon audit based on the Guidelines could submit the results to the BEC for a grading. As different buildings had different operating cycles, the data collected would be normalized before benchmarking and grading could be made.

33. A Member considered that the carbon audit scheme was a good move and it would provide a systematic and unified means for buildings to assess and improve GHG emissions performance. He learnt from some building management companies that they considered that recognition was an important element for considering whether to participate in the carbon audit scheme. Thus, a kind of recognition or award programme should be put in place.

34. A Member enquired about the way forward after the collection of data and compilation of reports on carbon audits. Miss Mary Tsang said that the results of the carbon audit would be meaningful in terms of GHG emissions reduction only if the reporting entity would take a step further by identifying areas of improvement and implementing suitable programmes to reduce GHG emissions associated with building operations. Such programmes could range from small-scale enhancement works (e.g. upgrading of lighting systems) to large-scale renovation (e.g. replacement of electrical installations), which would

enhance GHG emission performance of the buildings.

35. A Member supported the carbon audit scheme. He said that similar carbon or energy audit schemes were implemented in some overseas countries on a mandatory basis. He considered that the Guidelines should include useful information on means to reduce GHG emissions and the information should be updated to keep track of the latest technological development. For example, the R-123 refrigerant was a type of refrigerant with very low GHG emissions based on latest findings but it was not included in the Guidelines. Mr Alfred Sit said that the database in the Guidelines would be updated with time and enriched with more information on possible means to reduce GHG emissions. Regarding a Member's comment on R-123 refrigerant, Mr Sit explained that while the R-123 refrigerant had the merit of low GHG emissions, it had adverse impacts on ozone depletion. The Government was looking into the issue in the context of legislative control. A Member urged that a sustainable approach should be adopted for selection of refrigerants taking account of their global warming potentials and impacts on ozone depletion.

36. A Member agreed that the Guidelines should include information on means to reduce GHG emissions in the buildings, such as installation of on-site renewable energy generation facilities and carbon-offsetting scheme. Miss Mary Tsang said that vigorous public education programmes would be rolled out to sensitize the public to possible means to reduce GHG emissions, including the launching of a webpage on GHG reduction for combating climate change. Practical tips would be put on the website.

37. Referring to Table 4 of the Guidelines on "Direct GHG removals from newly planted trees", a Member considered that the planting of new trees should be strongly encouraged to reduce GHG, such as by seeking support of the Town Planning Board and private developers as well as giving detailed advice on the types of trees to be planted.

38. The Chairman enquired about the definition of boundaries for the purpose of conducting carbon audit. Miss Mary Tsang explained that the physical boundaries of the accounting and reporting process should normally match the site boundaries of the building concerned. However, for buildings adjoining one another and/or sharing some centrally provided services, the

reporting entity might choose to report GHG emissions and removals for a group of buildings collectively. For buildings used for institutional purposes such as universities, there were different types of buildings such as those for academic, office, dormitory, laboratory and workshop purposes; and the Guidelines might not be applicable to some of them. It was advisable to the reporting entity to determine the physical boundaries of its accounting and reporting process by identifying those specific operational activities which would result in process-based GHG emissions or removals. For the purpose of the carbon audit, only additional trees planted within the boundary would be accounted for.

39. In response to the Chairman's enquiry on GHG off-setting provisions, Mr Eddie Wu said that the Guidelines allowed both on-site and off-site off-setting activities on GHG emissions, such as renewal energy facilities or planting, to be articulated in the reports to give a full picture of efforts on GHG emissions reduction.

40. A Member suggested including some quantitative information in the Guidelines to let the general public have a better idea of the amount of GHG emissions produced by common human activities, such as air-conditioning, heating installations, swimming pools and use of water. This would help the general public understand the magnitude of the problem and perceive the issue in the appropriate perspective. Mr Alfred Sit said that one of the purposes of the Guidelines was to provide information on the impact of a certain activity on GHG emissions, such as the equivalent amount of carbon dioxide produced for consumption of 1 kw/hour of electricity. The relevant conversion factors were set out in the Guidelines.

41. A Member considered that the interpretation of data was important for the purpose of comparison which would affect the consideration of emission reduction measures and perception of building users/management. An example was the different GHG emission factors for the two power companies which were affected by factors such as fuel mix. A Member shared the views of the Member. Miss Mary Tsang said that in the Guidelines, it was suggested that a default figure of 0.7kg/kWh could be used as an approximation to account for GHG emissions associated with the electricity used at buildings in Hong Kong.

42. A Member supported the carbon audit scheme. He considered

that the scheme would not only assist the building users/management to account for and report on the GHG emissions, but also provide a good opportunity to educate the public on the means to reduce GHG emissions. He envisaged that with the mandatory implementation of the Building Energy Codes, emissions under Scope 2 (Energy indirect emissions) would be reduced in the long run. Activities under Scope 3 (Other indirect emissions) were more relevant to the daily life of the general public, such as means to save energy through water conservation and waste reduction.

43. A Member noted that paper waste was included under Scope 3 (Other indirect emissions) in the Guidelines. He asked why food waste was not included as there should be abundant sources of food waste from residential and commercial buildings. Miss Mary Tsang explained that the list of GHG emission activities under Scope 3 was not exhaustive. Paper waste was included as there was usually more readily available information to account for paper consumption and paper waste generated and hence it would be more practicable to work out the calculation. On the other hand, it was not easy for building management to obtain food waste data. A balance was struck between the credibility of results and practicability of accounting methods. Nonetheless, the reporting entity was welcome to include data on GHG emission related to food waste where practicable.

44. A Member considered that the optional reporting of GHG emissions for activities under Scope 3 (Other Indirect Emissions) would pose difficulties for comparing the performance of different buildings and awarding of recognition to participants. Miss Mary Tsang explained that reference was made to international practices in the classification of scope and optional reporting. For any future recognition schemes, the results (including those items under optional reporting) had to be normalised for comparison purpose.

45. The Chairman summarized Members' views as follows –

- (a) the Council was supportive of the carbon audit scheme which would provide a systematic and scientific approach to account for and report on the GHG emissions arising from the operation of buildings and facilitate Hong Kong to fulfill its responsibility as a global citizen in tackling the problem of climate change;

- (b) while usage of carbon audit guidelines would be kicked off as a voluntary scheme, the effectiveness of the scheme would be enhanced by mandatory implementation in the longer term;
- (c) an incentive programme, tangible or intangible, should be put in place to promote the scheme and encourage participation;
- (d) the scheme should not only aim at facilitating data collection on GHG emissions performance of the buildings but also promoting action-oriented measures to achieve the objectives of GHG emissions reduction as well as behavioural change by providing useful information and practical tips on means to reduce or offset the emissions; and
- (e) the scheme should be an opportunity for public education in promoting awareness of GHG emissions and climate change by engaging the public.

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 re-scheduled to 18 June 2008.

**ACE Secretariat
May 2008**