

**Confirmed Minutes of the 103rd Meeting of
the Advisory Council on the Environment
held on 11 February 2003 at 2:30 p.m.**

Present:

Prof. LAM Kin-che, JP (Chairman)
Prof. Peter HILLS
Prof. HO Kin-chung
Mr. Peter Y. C. LEE
Mr. LIN Chaan-ming
Prof. LUNG Ping-yee, David, SBS, JP
Dr. NG Cho-nam
Mrs. Mei NG
Mr. Otto L. T. POON
Mr. Michael J. D. RUSHWORTH
Ms. Iris TAM, JP
Prof. WONG Tze-wai
Prof. WONG Yuk-shan, JP
Miss Alex YAU
Ms. Jessie WONG (Secretary)

In Attendance:

Mr. Donald TONG	Deputy Secretary (E)1, Environment, Transport and Works Bureau (ETWB)
Mr. Thomas CHOW	Deputy Secretary (E)2, ETWB
Mr. Rob LAW, JP	Director of Environmental Protection
Mr. C C LAY	Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department
Mr. LEE Tak-keung	Assistant Director (Technical Services), Planning Department
Dr. Constance CHAN	Assistant Director, Department of Health
Mrs. Belinda HUI	Secretariat Press Officer (Environment, Transport and Works), ETWB
Ms. Polly LEUNG	Principal Information Officer, Environmental Protection Department (EPD)
Miss Petula POON	Chief Executive Officer (E), ETWB
Mr. Eddie CHENG	Executive Officer (E), ETWB

In Attendance for Agenda Item 3 :

Mr. C W TSE	Principal Assistant Secretary (Environment)3, ETWB
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In Attendance for Agenda Item 4 :

Mr. Raistlin LAU	Principal Assistant Secretary (Environment)1, ETWB
Dr. K M LEUNG	Chief Engineer, Energy Efficiency Office, Electrical and Mechanical Services Department
Mr. James CHAN	Technical Director, CDM International Incorporation
Mr. Raymond CHAN	Project Manager, CDM International Incorporation

In Attendance for Agenda Item 5 :

Mr. Benny WONG	Assistant Director (Waste & Water), EPD
Dr. Malcolm BROOM	Principal Environmental Protection Officer (Water Policy & Planning), EPD
Mr. Edmond HO	Principal Environmental Protection Officer (Waste Policy & Services), EPD
Mr. Raistlin LAU	Principal Assistant Secretary (Environment)1, ETWB
Dr. Samuel CHUI	Assistant Secretary for the Environment, Transport and Works (Environment), ETWB

Action

The Chairman wished everybody a Happy Lunar New Year and a prosperous Year of the Ram.

Election of the Chairman and Deputy Chairman of the Environmental Impact Assessment Subcommittee

2. The Chairman informed Members that the Environmental Impact Assessment Subcommittee had elected Mr. Otto Poon and Prof. HO Kin-chung as the Chairman and Deputy Chairman of the Subcommittee respectively.

Agenda Item 1 : Confirmation of Minutes of the 102nd Meeting held on 13 January 2003

3. The draft minutes were confirmed without amendment.

Agenda Item 2 : Matters Arising

Para. 18: Site visit to the Sewage Treatment Works at Stonecutters Island

4. The Chairman informed Members that the Drainage Services

Department had proposed four dates for the visit, namely 20, 21, 25 and 26 February 2003 and a letter on the details of the visit had been sent to Members. He reminded Members to return the reply slip to the Secretariat as soon as possible if they had not done so.

Para. 51: To invite the Hospital Authority to brief Members on green management

5. The Chairman informed Members that the Hospital Authority had agreed to brief Members on green management in April 2003. The Secretariat had also conveyed Members' request to the Hospital Authority that the briefing should cover the handling of clinical waste as well. Reply was still awaited.

Para. 54: Opening up of Council meetings to the public

6. The Chairman informed Members that their views raised at the last meeting had been conveyed to the Secretary for the Environment, Transport and Works. He proposed and Members agreed to discuss the issue at the following meeting. The Secretariat would update the information about the practices of other government advisory committees for Members' reference.

Agenda Item 3 : Emissions Trading
(ACE Paper 4/2003)

7. The Chairman welcomed Mr. C W Tse to the meeting. Mr. Tse briefed Members on the paper.

8. In response to a Member's enquiry, Mr. Tse said that the Bureau aimed at setting up the pilot scheme in three years' time. During the period, the Bureau would look into the feasibility of the scheme, develop the details and identify interested power companies to participate in the scheme.

9. In reply to a Member's enquiry, Mr. Tse said that the target pollutants would include sulphur dioxide, nitrogen oxides as well as respirable suspended particulates which were the major regional air pollutants. The objective of the pilot scheme was to explore the feasibility of implementing emissions trading as one of the tools to achieve the air pollutant reduction targets that the Hong Kong Special Administrative Region (HKSAR) Government had agreed with the Guangdong Provincial Government.

10. Noting that the power companies in Hong Kong were regulated by another Bureau, a Member asked whether the pilot scheme

would be administered by ETWB only. In response, Mr. Tse said that ETWB would work closely with other bureaux/departments concerned in implementing the pilot scheme.

11. A Member expressed concern about the transparency of the pilot scheme and asked whether a special group would be formed to monitor the scheme and if so, whether persons outside the Government would be invited to join the group. In response, Mr. Tse said that overall credibility and reliability of the data were important to the success of the scheme. Power companies participating in the scheme would have access to all relevant data and details would need to be discussed with the Guangdong Provincial Government. As regards the forming of a monitoring group, Mr. Tse said that a special panel had been set up under the Hong Kong/Guangdong Joint Working Group on Sustainable Development and Environmental Protection to monitor and develop the scheme. As it was an inter-governmental group, it would be inappropriate to invite persons outside the Government to join it.

12. A Member asked whether there were provisions in existing legislation enabling the Government to implement the pilot scheme. In response, Mr. Tse said that since power plants in Hong Kong operated under a licence system which was governed by the Air Pollution Control Ordinance, the Government had the power to impose emission limits on them. The Administration would consider the legal aspect of the scheme carefully and propose changes to the relevant legislation if necessary.

13. A Member pointed out that in countries where there was emissions trading, the emission standards imposed were usually unfavourable to new comers. Emissions trading as a tool to improve air quality would therefore result in unfair competition and monopolization by a few companies in the industry. Government should be very cautious when designing and implementing the pilot scheme. Another Member concurred with him. He suggested that each new power company should be given certain emission quotas so that they would not be treated unfairly. In response, Mr. Tse said that the Bureau would take into account Members' views in developing the scheme.

14. In response to a Member's enquiry, Mr. Tse said that the number of power companies operating in Hong Kong was subject to control. Whether new power companies, if any, would be required to buy emission quota under the pilot scheme would be considered in details at a later stage. Another Member pointed out that the monopolization problem could be overcome as long as the Government would hold a sufficient reserve of quotas and allocate them in a fair manner. As the pilot scheme was confined to the power sector, the Government could easily redistribute the quotas if situation warranted

15. A Member asked how the emission reduction targets of the region could be translated into emission level of individual power plants. In reply, Mr. Tse explained that 1997 would be taken as the base year for calculating the total allowable emission level in 2010. The emission level for the power sector would be worked out taking into account factors such as the motor vehicles emissions control programmes and the projected economic growth. However, the allocation of emission level for individual power companies had to be considered in greater details. The Administration would assess different options before coming up with a proposal.

16. A Member cautioned that the scheme might be viewed by the public as a subsidy to power plants in the Mainland because those power plants were relatively old and achieving a reduction in the emission level would be much easier and cheaper. He also pointed out that the emission limit set for each power company had to be technically feasible. Mr. Tse concurred that the cost to reduce the emission level of power plants in the Mainland would be lower than that in Hong Kong. Emissions trading was actually a means to lower the cost of reducing the emission level of the region as a whole. He also agreed with the Member that technical feasibility was an important factor in setting emission level for power companies.

17. A Member suggested that the benefits of emissions trading should be measured in terms of the Purchasing Power Parity dollar instead of the Gross Domestic Product dollar in view of the different purchasing power of the Hong Kong dollar and the Renminbi. Mr. Tse said that the Member's point would be considered.

18. In response to a Member's enquiry, Mr. Tse said that the licence of each power company would last for five years. The existing licences of the two power companies would expire before 2010. Government could add new terms to the licences during the renewal process. Discussion on terms of renewal could start at anytime before the licences

expired so as to give the licence holders adequate time to gear up to meet any new requirements.

19. In reply to a Member's query, Mr. Tse said that according to the modeling exercise conducted, if the emission reduction targets could be achieved by 2010, the Air Quality Objectives could also be met.

20. A Member pointed out that the different monitoring standards adopted by the Mainland and Hong Kong might cause difficulty in implementing the pilot scheme effectively. In response, Mr. Tse said that as recommended in the Study of the Air Quality in the Pearl River Delta Region, a joint monitoring network would be set up to facilitate the monitoring of a common set of data with due regard given to quality assurance, consistency and compatibility.

21. In response to a Member's enquiry, Mr. Tse said that the administrative and accounting cost of the scheme would be subject to further discussion with the Guangdong Provincial Government but he believed that each side would be responsible for its own administrative and accounting costs.

22. A Member commented that it would be more effective to promote clean technologies or alternative energy than to trade emission quantities. In reply, Mr. Tse said emissions trading was only one of the tools to improve air quality in the region. Government would welcome clean technologies and alternative energy if they could reduce pollutant emissions.

23. The Chairman thanked Mr. Tse for the presentation. He said that the Council supported in principle the feasibility study on emissions trading and hoped that the Administration would take into account Members' views in formulating the way forward.

Agenda Item 4 : Study on the Potential Application of Renewable Energy in Hong Kong

(ACE Paper 5/2003)

24. The Chairman welcomed the presentation team to the meeting. Mr. Raistlin Lau introduced the paper and stressed that the Government would only formulate the way forward on the development of renewable energy (RE) in Hong Kong after consulting the public on the consultant's findings and recommendations. Mr. James Chan then presented the findings and recommendations of the study to Members.

25. A Member pointed out that the existing land use and town

planning requirements would pose obstacles to the application of RE in Hong Kong. In response, Mr. James Chan said that Government would need to conduct further studies to assess the constraints arising from land zoning, etc. Mr. Raistlin Lau pointed out that the existing land use and town planning requirements were intended to serve good purposes. The Government would take into account such requirements when promoting the wider application of RE in Hong Kong.

26. A Member opposed to the proposal of imposing a RE levy and supported the user-pays principle in developing RE. In reply, Mr. Raistlin Lau said that the levy proposal was only one of the possible enabling measures put forward by the consultant and that the Administration would take into account the views expressed by the public before formulating the way forward.

27. In response to the Chairman's enquiry, Mr. James Chan said that the Scheme of Control Agreement (SCA) under which the two power companies operated would be reviewed in 2003 and issues relating to RE could be explored in that context. Mr. Raistlin Lau clarified that the review to be conducted in 2003 was an interim review only. According to the SCA, any changes to the Scheme must be agreed by the Government and the power companies concerned. Hence, the scope for making fundamental changes in the interim review would be limited. However, the Economic Development and Labour Bureau would later conduct a full review of the post-2008 electricity market. The full market review would provide a good opportunity to pursue important environmental issues related to power generation.

28. In reply to the Chairman's enquiry, Mr. Raistlin Lau said that the Government planned to consult the public on the wider application of RE between mid February and mid April by uploading the Executive Summary of the Study Report onto the Internet and sending it to key stakeholders for comment. A Member asked whether the interim review of the SCA would take into account the views collected during the public consultation. In reply, Mr. Raistlin Lau said that the views collected from the public would be taken into account in formulating the way forward for developing RE in Hong Kong and matters relating to the development of RE could be explored during the interim review.

29. A Member commented that the consultancy report had not placed sufficient emphasis on the social and health benefits that could be gained by using RE. She quoted a study conducted by the Friends of the Earth that by replacing 5% of conventional energy with RE in Hong Kong, there would be a 14% reduction in the emission of sulphur dioxide, 13% in nitrogen oxides and 13% in respirable suspended particulates. Also, the

Government should consider importing RE from the Pearl River Delta region. Another Member concurred with the above Member's point that the social and health benefits should be included in the cost-benefit analysis of RE. Mr. Raistlin Lau clarified said that the study report did suggest that importing RE from the Pearl River Delta region could be considered as a supplementary strategy. However, he was aware that the import of energy would involve a lot of technical issues which might have implications on the operation of the electricity grid. The feasibility would need to be considered by the concerned authority carefully.

30. A Member remarked that with the projected advancement in RE technologies, the RE target of 3% by 2022 recommended by the consultant was on the low side. Another Member, however, cautioned that it might be too early to set any RE target, as Hong Kong had very limited experience in tapping RE and the pace of technology advancement might cause the targets so far ahead to become meaningless. He even doubted whether the 1% target for 2012 would be realistic, given that the major contribution to the target would come from energy-from-waste but the feasibility of recovering energy from waste would depend on the long term waste management strategy yet to be drawn up by the Government. In response, Mr. James Chan explained that the Stage 1 study aimed at formulating a strategy to promote RE. Setting targets would give a clear signal to the market and to the community about the Government's commitment to promoting RE in Hong Kong. The targets themselves could be reviewed as and when necessary. Mr. Chan then presented further information on the use of RE in developed countries such as the US and the EU member states. The meeting noted that large-scale hydroelectric and biomass often accounted for the major share of RE in these countries. Mr Chan said that the proposed targets had taken into account the fact that Hong Kong did not have any good potential for large-scale application of hydroelectric and biomass. However, as far as the contribution to RE from wind and solar energy was concerned, the proposed targets for Hong Kong would be broadly comparable with those in other developed economies. In response to another Member's enquiry, Mr. Raistlin Lau said that incineration was not the only way of extracting energy from waste and recovering energy from waste was recognized as a RE source by many other economies, such as the EU.

31. A Member enquired about the lifespan of photovoltaic panels and their impacts on the environment upon disposal. In reply, Dr. K M Leung said that according to the suppliers, a photovoltaic panel would last for 25 to 30 years. Mr. James Chan supplemented that overseas manufacturers would normally recycle photovoltaic panels. Those that could not be recycled would be disposed of in accordance with established disposal requirements. In reply to the Chairman's enquiry on whether

decomposition of photovoltaic panels would have adverse impacts on the environment, Dr. Leung said that the photovoltaic panels were mainly silicon and could be disposed of in the same way as other electrical products like silicon watches. Mr. Donald Tong added that the photovoltaic panels could be treated at the Chemical Waste Treatment Centre if they fell within the definition of chemical waste.

32. Upon a Member's enquiry, Dr. Leung clarified that the figures in Annex II to the Paper referred to the maximum capacity of power generated. The new Electrical & Mechanical Services Department Headquarters would install both building-integrated photovoltaic panels and fuel cells but the power to be generated from the latter had not yet been reflected in the figures of the Annex.

33. A Member pointed out that based on the consultant's report, energy generated from photovoltaic panels would be 10 times more expensive than that generated from conventional fossil fuel. The community might not be willing to pay for such expensive energy. Another Member agreed that energy generated from photovoltaic panels was very expensive and hoped that further studies on cost implications would be conducted. The Chairman asked whether the cost would be lowered through economy of scale if the energy so generated could replace, say, 10% of the conventional type of energy. Mr. James Chan pointed out that the costs presented were the life-cycle costs of generating energy from photovoltaic panels. The actual tariffs imposed on customers would be subject to other commercial considerations. Dr. Leung added that a detailed cost-benefit analysis of RE would be carried out before any large-scale projects were introduced.

34. A Member pointed out that the development of near-shore marine wind farms appeared to have the least constraints in Hong Kong and it might be the way forward for large-scale application of RE in Hong Kong. He also took the view that since the use of RE would help reduce emissions from power generation and in turn lower the medical costs, it might justify the Government to subsidize RE, particularly if the cost differential was not great as in the case of wind power. Another Member concurred with the first Member's comments and believed that as a coastal city, Hong Kong had the greatest potential to develop near-shore wind power as a viable RE source.

35. A Member pointed out that the use of fossil fuel to generate electricity received huge hidden subsidies. The cost of RE would be much lower if it was "subsidized" in the same manner.

36. The Chairman thanked the presentation team for briefing

Members on the study. He said that the Council supported the wider application of RE and hoped that the Bureau would take Members' views into account in proceeding with the exercise.

Agenda Item 5 : Beach Water Quality of Hong Kong in 2002

(ACE Paper 6/2003)

37. The Chairman said that the deterioration of beach water quality in Tsuen Wan coast after the implementation of stage 1 of HATS was not unexpected because, as some Council Members had pointed out previously, centralizing the treatment of sewage at the Stonecutters Island might lead to degradation of water quality in the area. He asked whether there would be any remedial actions and whether the remaining stages of HATS would be affected. In response, Mr. Benny Wong said that the Government was implementing a number of sewerage projects, including the construction of a sewage treatment works in Sham Tseng to handle the local sources of pollutants discharged. These projects would be completed and commissioned in the next two to four years. However, to improve the water quality of beaches in Tsuen Wan on a long-term basis, the remaining stages of HATS must be completed as soon as possible. The Government had also considered the option of providing a temporary disinfection facility to HATS Stage I. However, the cost involved would be very high – in the order of \$90M per year.

38. A Member expressed concern about the slow progress in implementing the local sewerage projects in Tsuen Wan. Mr. Benny Wong clarified that the sewerage projects in Ting Kau, Tsing Lung Tau and Sham Tseng were progressing on schedule and would be completed in late 2005. However, the sewerage system could only serve its intended purpose when individual village houses could be connected up. Based on experience, the connection works for individual households often took time. Therefore, the system would only become fully functional around end of 2006 at the earliest.

39. A Member informed the meeting that the beach water quality was currently assessed based on criteria drawn up by a study conducted by the University of Hong Kong back in 1987. According to a similar study conducted by him and his colleagues in 1992, *E-coli* level was no longer a reliable indicator of beach water quality. Their study evaluated the usefulness of various indicators of swimming-related illness including virological indicators. Turbidity was found to be most strongly associated with the incidence of swimming-related illnesses. He queried why the measurement of the beach water quality continued to rely on a system based on the 1987 study. In response, Mr. Benny Wong said that he had no information on hand about the study conducted in 1992. However, the

bacteria level was widely used in many parts of the world for measuring the beach water quality and the *E-coli* level had the best correlation with swimming-associated illness rates. Though the World Health Organization once considered using other indicator bacteria to assess beach water quality, it was eventually agreed that different countries should use indicators that best reflected local conditions. He recalled that the Water Quality Objectives were reviewed a few years ago by EPD in conjunction with green groups and academics. The conclusion was that the methodology was still suitable in measuring water quality.

40. A Member expressed concern about the risk of continuing with the remaining stages of HATS without introducing new measures to improve the water quality of beaches. She also enquired about the worst scenario for beaches in Tsuen Wan. In response, Mr. Benny Wong said that the water quality of beaches in Tsuen Wan was expected to improve when sewerage improvement works in Ting Kau, Sham Tseng and Tsing Lung Tau were completed but it would be difficult to quantify the improvement. Further deterioration of the water quality was not expected. Another Member pointed out that one of the reasons for poor beach water quality in Tsuen Wan might be the polluted sediment in Rambler Channel and he suggested cleaning up the Rambler Channel.

41. In response to a Member's question, Mr. Benny Wong said that whether disinfection should be included in the treatment process of the further stages of HATS was being carefully considered. A definite view on the issue had yet to be formed. Another Member pointed out that it would be costly to include disinfection in the treatment process. It might be possible to reduce the amount of bacteria without incurring a high cost by modifying the operating conditions of the treatment works. Mr. Benny Wong said that they would explore the suggestion with Drainage Services Department. A Member remarked that using disinfectants would cause other environmental problems and therefore he did not support that.

42. A Member asked whether the decentralizing the treatment of sewage would be more preferable than centralization. Another Member also commented that Stage 1 of HATS had shifted the pollution problem from the Victoria Harbour to other areas of Hong Kong. He hoped that the remaining stages of HATS would rectify the problem. In response, Mr. Benny Wong said that both centralized and distributed options were being investigated. The current arrangement had brought significant improvement to water quality of beaches in the Eastern area, e.g. Shek O and Big Wave Bay, but had adverse effect on Tsuen Wan Beaches.

43. Mr. Raistlin Lau provided some statistics showing the attendance rates for the Tsuen Wan beaches and commented that the actual

impacts of the deterioration of the beach water quality on the public could be assessed from such figures. In reply to a Member's question, Mr. Benny Wong said that lifeguard services would not be provided in the four beaches upon closure. Other activities such as boating would not be affected by the closure of the beaches.

44. The Chairman thanked the presentation team and hoped that they would consider Members' views on beach water quality and the further stages of HATS.

Agenda Item 6 : Any Other Business

Foreshore, Seabed and Roads (Amendment) Bill 2003 **(ACE Paper 7/2003)**

45. The Chairman informed Members that he had received a request from a Member regarding the reduction of the public objection period under the Foreshore, Seabed and Roads (Amendment) Bill 2003. He drew Members' attention to ACE Paper 7/2003 which was prepared by the Works Branch of ETWB to explain the proposal and was tabled for Members' information.

46. A Member alerted other Members that the Foreshore, Seabed and Roads (Amendment) Bill 2003 had recently been gazetted and would soon be introduced to the Legislative Council. Despite Members' objection when being consulted in May 2002, the Bill proposed to shorten the two-month public objection period to 30 calendar days. Although she noted from ACE Paper 7/2003 that there would be collaborative administrative measures to enhance public consultation and notifications of projects before and during the gazettal, she was still concerned that 30 calendar days might not be long enough for the public to raise objections. She asked if there would be a bills committee to consider the Bill and whether the Council could inform the bills committee of its views. In response, Mr. Thomas Chow said that it would be up to the House Committee of the Legislative Council to decide if a bills committee would be set up. Nonetheless, the Secretariat could convey the Council's views on the Bill to the bills committee or if in case there was no bills committee, to the Legislative Council. After discussion, the Council agreed that the Secretariat should write to the Legislative Council before resumption of second reading of the Bill conveying the Council's objection to the shortening of the public objection period.

Secretariat

Tentative items for discussion at the next meeting

47. The Chairman informed the meeting that two items were

tentatively scheduled for the next meeting, namely proposed amendments to the Ozone Layer Protection Ordinance and proposals to tighten the emission standards of diesel light buses and LPG taxis to match those of EURO III.

Briefing for the Council

48. A Member pointed out that the Council was briefed on the RE study after the Legislative Council Panel on Environmental Affairs (LegCo EA Panel) had already been briefed. She feared that the advisory role of the Council would gradually diminish. In response, Mr. Thomas Chow said that the Bureau would brief the Council and the LegCo EA Panel at roughly the same time as far as practicable. The order would, however, depend upon the meeting schedules of the two bodies. Since there would be a public consultation on the renewable energy study, the issue was not time critical and no immediate decision would be required. For other pressing issues, the Bureau would consult the Council at the earliest opportunity.

Agenda Item 7 : Date of Next Meeting

49. The next meeting was scheduled for 10 March 2003.

**ACE Secretariat
February 2003**