

**Confirmed Minutes of the 193<sup>rd</sup> Meeting of  
the Advisory Council on the Environment  
held on 17 June 2013 at 2:30 pm**

**Present:**

Prof Paul LAM, JP (Chairman)

Prof CHAU Kwai-cheong, JP (Deputy Chairman)

Dr Gary ADES

Dr Dorothy CHAN, BBS

Prof FUNG Tung

Dr Billy HAU

Dr HUNG Wing-tat, MH

Mr Anthony LOCK

Miss Yolanda NG

Dr Alfred TAM

Prof Nora TAM, BBS, JP

Dr Eric TSANG

Dr Carrie WILLIS, SBS, JP

Prof Jonathan WONG, MH

Mr Luther WONG

Ms Pansy YAU

Dr Eric YIP

Mr Andrew LAI (Secretary)

**Absent with Apologies:**

Mr Oscar CHOW

Prof LI Xiang-dong

Prof John NG

Prof Ray YEP

Prof Ignatius YU

**In Attendance:**

Ms Anissa WONG, JP

Permanent Secretary for the Environment/  
Director of Environmental Protection

Mr Y K CHAN

Assistant Director (Conservation), Agriculture,  
Fisheries and Conservation Department (AFCD)

Mr LING Chi-tack	Assistant Director of Planning/Technical Services, Planning Department (PlanD)
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

**In Attendance for Item 3:**

Mr K S WONG	Secretary for the Environment, Environment Bureau (ENB)
Mr Albert LAM	Deputy Director of Environmental Protection (2), EPD
Ms Connie WONG	Press Secretary to Secretary for the Environment, ENB
Ms Michelle AU	Political Assistant to Secretary for the Environment, ENB

**In Attendance for Item 5:**

Mr Edmond HO	Principal Environmental Protection Officer (Mobile Source), EPD
Mr Henry CHIN	Senior Environmental Protection Officer (Mobile Source)4, EPD

**In Attendance for Item 6:**

Mr Ken WONG	Principal Environmental Protection Officer (Metro Assessment), EPD
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**Item 1 : Confirmation of the draft minutes of the 192<sup>nd</sup> meeting held on 22 April 2013**

Regarding paragraph 7 of the draft minutes, a Member said that he asked the MTR Corporation Limited (MTRC) at the last meeting to follow up on his question regarding the effectiveness of their public engagement programmes and explained how the effectiveness could be assessed. This should be reflected in the minutes of meeting.

2. As there were no other amendments proposed by Members, the draft minutes were confirmed subject to the amendment proposed in paragraph 1 above.

**Item 2 : Matters arising from the minutes of the 192<sup>nd</sup> meeting held on 22 April 2013**

3. The MTRC's response to Members' questions/concerns raised at the meeting on 22 April 2013 had been issued to Members for reference.

**Item 3 : Briefing by the Secretary for the Environment on the "Blueprint for Sustainable Use of Resources 2013 – 2022"**

4. Mr K S Wong briefed Members on the major initiatives in the Blueprint for Sustainable Use of Resources 2013-2022 (the Blueprint) published in May 2013. The document set out Government's policy direction, targets and roadmap for sustainable use of resources in Hong Kong in the coming decade. Members were invited to give their comments on the Blueprint.

5. A Member welcomed the various components outlined in the Blueprint in tackling the waste issue in Hong Kong. He opined that it would be more appropriate for the Government to put forward the Blueprint to ACE for discussion before introducing the document to the community. The Chairman explained that the Council had been consulted on the different components of the Blueprint like food waste, municipal solid waste (MSW) charging, landfilling and incineration at various stages in the past years. The Blueprint had incorporated ACE's views and systematically set out the inter-related waste management strategy so discussed and presented a comprehensive system of waste reduction, charging, handling, treatment and disposal for Hong Kong.

6. A Member remarked that the waste reduction target set out in the Blueprint was too conservative as compared to other Asian cities like Taipei, Tokyo and Seoul. Another Member pointed out that Taipei achieved its waste reduction of around 39% in 4-5 years after launching MSW charging. As Hong Kong was planning to launch a similar charging scheme around 2017, a reduction target for waste of 40% by 2022 was comparable to the Taipei experience. He said that the reduction could be higher if MSW charging could be advanced to 2015, but reckoned that the timeframe would be too tight given

all levels of consultation and legislative procedures involved. A Member agreed that the Government should advance the implementation of MSW charging in Hong Kong as early as practicable.

7. A Member shared his observation during the visit to Taipei on 6-7 June 2013. When the Taipei City Government introduced certain unpopular waste facilities such as incinerators, they would consider some forms of compensation or benefits such as setting up amenity facilities for local residents. The financial return generated from the facilities would also be shared with the community. The compensatory measures were offered throughout the operation of the facilities. He suggested the Government to consider providing similar compensation or financial incentives to solicit support of local residents in accepting the waste treatment facilities in their communities. The Government could also explore the idea of sorting wastes on a district basis, e.g. to group the existing 18 district councils into 3-4 geographical constituencies, and to provide subsidies for each constituency to have its own waste handling facilities in the area. As regards MSW charging, the Member advocated a cap-and-trade system which worked on the “polluter pays” concept. Parties who generated less pollution could sell their quota to the “more polluting parties” at a profit. This would mobilize all parties to reduce waste in view of the financial incentives. He suggested the Government to initially set a cap at a level which would be readily accepted by the public, and to tighten the level progressively after gaining support in the community. The Member also supported the setting up of Community Green Stations (CGSs) which would be run by non-governmental organizations (NGOs). He remarked that NGOs had an advantage over private contractors as the former generally worked on the drive to save the environment and not just for business considerations. The Government could consider rendering further assistance to ensure smooth collaboration between NGOs and the waste collection and recycling contractors.

8. Mr K S Wong thanked the Member for his comments. He pointed out that Taipei had set a similar waste reduction target of 40% at the outset and raised it progressively afterwards. The success of Taipei counted on the introduction of various waste infrastructure in parallel, coupled with extensive farming and aqua culture in Taiwan which could absorb the resources generated from food waste. The situation in Hong Kong could not compare directly with Taipei. He was confident that Hong Kong could achieve a coherent waste management policy with implementation of the different initiatives outlined in the Blueprint. Regarding the offer of compensation to parties affected by waste

treatment facilities, he noted that the Taipei City Government compensated the local community within 1 km of the incinerator. In Hong Kong, the waste treatment facilities in Tuen Mun were indeed more than 5 km away from the local community. The proposed incinerator at Shek Kwu Chau was 3.5 km away from Cheung Chau. The Government would keep an open mind on compensation or incentive proposals. On MSW charging, the Government had engaged the Support Group to the Council for Sustainable Development (SDC) to draw up details of the scheme. The Government would also draw on board suggestions from the district councils in taking forward various waste management measures at district level.

9. Mr Albert Lam supplemented that the Government would set up CGSs in five geographical constituencies at the initial stage, and would eventually extend the green stations to one for each district. Two sites of CGSs had been identified, one in Hong Kong Island and the other in eastern New Territories. They would incorporate green building designs which could set the model for others to follow. CGSs would serve two main purposes. Firstly, the green stations would be the logistical hub for recycling operations where NGOs could liaise with local communities like residential estates, schools and commercial and industrial establishments to collect their recyclables for processing. One major complaint from the recycling trade had been the high logistics costs that had undermined business viability for the recycling sector. CGSs could shoulder part of the logistics costs and practise the green concept. Secondly, CGSs had a role to play in public education and community engagements. They would reach out to local residents, schools, estate management and community groups so that the whole community could participate in collection of recyclables more effectively. There had been environmental complaints against some of the roadside recycling shops which reflected adversely on the recycling trade. CGSs could promote the recycling concept and educate the community that recycling could be done in a green and tidy manner.

10. In response to the enquiry on the types of NGOs that would be invited to operate CGSs, Mr Albert Lam replied that the Government had an open mind and the selection would be through open tender. Connections with local organizations and estate management as well as experience in operating other recycling centres would be a bonus. They would brief NGOs interested in running CGSs in the coming months. On this, a Member opined that it was important for the Government to gain support of those NGOs which had the drive and goal same as the Government to ensure the viability of CGSs.

11. The Chairman remarked that it was good for the Government to systematically outline all the waste policy initiatives in the Blueprint. This would give a clear picture to the community that the Government was determined to solve the waste problems in Hong Kong. He however was concerned that the timetable could be very tight to put on train all the components outlined in the Blueprint. The Government had to set aside its conventional thinking and consider giving financial support to the recycling industry. He observed from the visit to Taipei that the city government had instituted various facilitation measures with tangible benefits to gauge support from the community at large.

12. On MSW charging, a Member took the opportunity to update ACE on the progress of the SDC's Waste Charging Focus Group (Focus Group) in her capacity as the Convenor of the Focus Group. The Focus Group had organized seven meetings for more than 150 stakeholders. The cap-and-trade idea had been raised for discussion. Some pertinent issues had to be sorted out before putting forth the cap-and-trade concept, e.g. whether there should be a minimum level of waste that people could be exempted from MSW charging (as compared with Tokyo, Seoul and Taipei where all residents had to buy MSW bags), and whether the charging fees should be imposed per household or per building in terms of volume. The Focus Group would include the cap-and-trade scheme and other relevant questions in the Invitation for Response (IR) document to collect views from the community.

13. A Member shared his previous experience in the Hong Kong Exchanges and Clearing Limited where he had studied the cap-and-trade mechanism on carbon emission. He pointed out that the mechanism was usually sophisticated and hence had to be administered by a central counterparty with participation of market intermediaries like brokers and traders. Such mechanism could be subject to manipulation as market intermediaries could use the in-between mechanism to profit from inefficiencies of the market. The Member said that the mechanism rarely worked at the community level as the general public would generally not possess the technical ability to fully understand such complicated and sophisticated trading mechanism and the risks involved therein.

14. A Member pointed out that waste reduction must come with recycling and charging. During the meetings with stakeholders, there was a clear

message that the recycling business could not sustain on its own financially. She echoed the Chairman's comment that the Government should consider providing support or subsidies to the recycling industry in view of its unique nature for social good, although that would deviate from the Government's free market philosophy. Experience of the recycling trust fund in Taipei could be taken for reference. The issue of waste recycling would also be put in the IR document. She enlisted the ACE's support to the Focus Group when they launched public consultation later.

15. A Member pointed that he had an interest in observing recyclables and environment-related business opportunities. He could generally find investment opportunities in Singapore, the US and China but not in Hong Kong. He remarked that research and development projects and forward-looking technologies involved substantial risks, and the associated costs were high unless there was government support. Further, the population in Hong Kong was too small to sustain the business in financial terms. It was also extremely difficult to export the technologies to other jurisdictions like the US and China as their markets were protected. He agreed subsidies and leadership from the Government would be beneficial to the development of the environment-related businesses in Hong Kong.

16. A Member pointed out that the incinerator in Taipei did not have to operate to its full capacity as there were not enough waste to be incinerated in face of the success of the recycling industry. She noted that recycling of newspaper and paper products as well as aluminium beverage tins were viable in Hong Kong, but not that for plastic and wood products. She suggested the Government to explore measures to set up a local recycling chain and make the industry a sustainable business on its own. Reference could be drawn from the Taipei recycling trust fund. The Government should also review the effectiveness of the three-coloured recycle bin system and the role of recycling business in recovering resources generated for the community.

17. A Member welcomed the Blueprint which set out clear targets and timeline on resolving waste problems in Hong Kong. In view of the constraints that Hong Kong was facing, he considered that a 40% reduction of per capita waste generation target was not an easy one to achieve. With the three landfills having a limited remaining lifespan of 2-6 years, it was important for the Government to have a macro view of the whole waste management strategy and secure support of the community in order for the plan to succeed. On waste

recycling, he considered that the current financial model adopted by the Government should be reviewed. Firstly, the recycling industry in Hong Kong was not paid for treating the waste and the trade could not sustain operation on their own, whereas in other countries like Germany, the registered contractors were paid by the government for the recycling work. Secondly, Hong Kong's recycling industry largely focused on collection and packaging of waste for export for treatment. He considered that the industry should get more involved in the initial processing/treatment of waste. Thirdly, the Government had assumed the coordinating role for recycling and commissioned consultants/contractors to perform the work. This outsourcing system had discouraged market competition. In Singapore, the contractors bid for the recycling work. This had created healthy market competition, cut down the operation costs and encouraged innovations. He suggested the Government to devolve its role to the recyclers who would in turn encourage the setting up of inter-related industries in Hong Kong on their own.

18. A Member remarked that waste issues went beyond the purview of the Environment Bureau as they were not confined to waste management facilities but also measures to address the needs of local communities affected by the facilities. A more coordinated and comprehensive cooperation among different bureaux on the various waste issues was required. The Government should also map out a plan on how best to mobilize domestic households/ residential estates to carry out recycling in their respective dwellings.

19. Mr K S Wong thanked Members for their valuable comments. On waste recycling, he said that the Government would implement a number of Producer Responsibility Schemes (PRSS) and the Waste Electrical and Electronic Equipment (WEEE) scheme to support recycling. The Government had recently allocated a site in the EcoPark to a food waste operator to recycle food waste into fish feed, and the product could be consumed locally and for export.

20. Mr Albert Lam supplemented that the Government was not averse to offering compensation/facilitation to local communities affected by unpopular waste management facilities. As in the case of the sludge treatment facility in Tuen Mun, the Environment Bureau had involved the Transport and Housing Bureau and the Development Bureau, etc. in liaison with Tuen Mun District Council. The District Council had come up with a list of requests, some of which the Government was able to address such as setting up of air quality



monitoring stations. Some of the issues involved did go beyond the Environment Bureau's purview, such as those on greening and revitalizing certain areas in the district, and the relevant bureaux were working together for a practicable solution. Mr Lam added that the Government also did not preclude the development of waste treatment facilities by the private sector. However, the Government could have a firmer control on the implementation timetable if the construction was under its control, particularly for pioneer projects. He referred to the development of the Organic Waste Treatment Facility (OWTF) by private enterprises in Singapore which had ceased operation a few years after commencement of business. As regard to the incinerator and OWTF in Hong Kong, the Government had considered the potential risks of failure/delay of the facilities and therefore took the lead in their construction/operation. The Government would keep an open mind and where circumstances permitting, to invite private sector participation for further development of the facilities.

21. A Member said that he experienced difficulties in food waste reduction as a sizable amount of the food waste was leftover from soup which could not be consumed. He suggested launching a territory-wide campaign to gauge public views on dealing with soup leftover, with the benefit of arousing public awareness in food waste reduction. He supported the establishment of CGSs as they were generally welcomed by the public. He further suggested reforming the school curriculum to educate the younger generation the importance of waste recycling.

22. A Member said that many people acknowledged the importance of waste reduction and treatment but did not welcome the facilities to be "in their backyard". She suggested the Government to conduct more public engagements at district level to educate the local communities the importance of and benefits to be brought about by these measures.

23. Regarding the engagement of NGOs, a Member shared his experience as a non-executive director on the board of the Community Chest. There had been cases that NGOs attempting to apply for funding for environment-related initiatives went to the Environment and Conservation Fund (ECF), but were rejected as they were registered as a social welfare organization registered under HAB. These NGOs eventually gave up and turned to the Community Chest for funding as they were unclear about which Government funds would be appropriate for applying for their funding requests. He considered that a lot of environmentally conscious NGOs were willing to undertake environment-

related initiatives but were confused on the sources of potential funding. He said that there was room for improvement in the inter-departmental coordination so that relevant stakeholders could be duly informed of how best to engage themselves in environmental activities.

24. Mr K S Wong informed that the Government was reviewing the priority areas under the ECF as a result of the new injection of funding and would announce the new arrangements. While he acknowledged the unpopularity of waste treatment facilities to the local communities, he was mindful that the Government must take a balanced approach in meeting the needs of Hong Kong as a whole. He agreed that public engagements were important and the Government would work with the District Councils to disseminate the message at different levels. The planning and setting up of CGSs would be undertaken expeditiously. Regarding the handling of food waste, he pointed out that Hong Kong faced a greater challenge than Korea and Taiwan in that we did not have extensive farming and aqua culture to absorb part of the food waste.

25. Mr Albert Lam supplemented that the Government had put in a lot of efforts and resources over the past years in addressing the concerns of Tseung Kwan O (TKO) residents on the proposed extension of the SENT Landfill. These measures included reducing the tipping area, putting up a Posi shell to cover the site as soon as possible after daily operation, cleaning the refuse collection vehicles and trucks in and out of the landfill, cleansing the roads leading to the landfill, introducing mobile deodorizers and tapping landfill gas, etc. to minimize the odour nuisance to local residents. The Government had recently announced an additional measure to divert MSW and sludge away from the SENT Landfill to mitigate the odour concern. The waste collection trade would also be required to retrofit their refuse collection vehicles with tailgates and sunk tanks to reduce residents' concerns over odour and dust issues.

26. A Member shared the concerns of TKO residents and welcomed the move by the Government to divert MSW away from the SENT Landfill. He reckoned that the Government had to regain the confidence of local residents and work with them in achieving the goals in waste reduction and management. The Government should give strong commitment that they would temporarily close the landfill if the measured nuisance level of the facilities, e.g. air quality, exceeded the acceptable limit. With regards public engagements, the Government had been providing a lot of money to NGOs over the past years but

the results were not noticeable. He referred to the experience in Taipei where the city government only disbursed small amount of money to residential estates which conducted education programmes with the assistance of volunteers, but the result had been impressive. While he supported the setting up of CGSs, he considered it more important to engage the whole community and go for practicable suggestions for the waste reduction programme. A Member remarked that NGOs were often engaged only after the Government had fully developed the proposal/plan. As such, the NGOs did not take ownership. The Government should engage NGOs at an early stage and tap their views when drawing up the proposal/plan.

27. Mr K S Wong responded that the Government had placed great emphasis in engaging stakeholders when taking forward environmental initiatives. On the proposed extension of the three landfills, the Government had responded positively to the needs of the local communities. For the proposed extension of the SENT Landfill in particular, the Government had committed to receiving construction and demolition (C&D) waste only. This commitment, together with other measures, could tackle the odour nuisance which was the major concern of local residents.

28. On public engagements, in particular the engagement of ACE, when drawing up the Blueprint, Ms Anissa Wong assured Members that ACE had always been the Administration's principal advisory body on environmental policies. The Blueprint had outlined the inter-related policy initiatives in a comprehensive manner, each of the components being drawn up after extensive public engagements. The Administration had sought ACE's views on the specific components in the Blueprint at different stages including landfill extensions and the integrated waste-to-energy facility. ACE supported landfill extensions on the basis that Hong Kong needed landfills as an integral part of the overall waste management strategy. As regards the establishment of the proposed incineration plant, the Government had also gone through an intensive process of selecting the right incineration technology and consulted ACE which supported the moving grate technology. The Government had continuously engaged ACE and other stakeholders in its various waste management initiatives. She reckoned that waste and treatment facilities were generally not popular with local communities, regardless of all the efforts which the Government had put in to attain high standards of operation of the facilities as well as reduce possible environmental impacts at all fronts. Landfills were an integral part of the waste disposal programme in Hong Kong. The Government

had now committed to turning the SENT Landfill into a depository for C&D waste only in response to local residents' concern over the odour problem. The Government acknowledged the importance of continuous involvement of interested parties and therefore came up with the proposal of CGSs for enlisting long-term community support for its environmental initiatives. As regards support for recycling activities, Ms Wong said that the Government had funded several projects such as the EcoPark and the two resource recycling centres operated by NGOs. All the PRSs were designed to provide recurrent financial support to various environmental initiatives. She recognized that Hong Kong might not be progressing as speedily as other Asian cities in waste reduction in view of our circumstances, but was confident that the progress would be more noticeable with experience gained.

29. A Member suggested that the Government could consider briefing ACE on similar exercises in future for the benefit of new Members as well as giving sitreps to the Council on the progress of various initiatives which were discussed in the past years.

30. The Chairman thanked Mr K S Wong and his colleagues for briefing ACE on the Blueprint.

### **Internal discussion on extension of landfills**

31. The Chairman concluded that Members in general were supportive of the Blueprint. He asked for Members' views on the proposed extension of the three landfills which attracted substantial public concerns.

32. The Chairman and two Members acknowledged that some wastes ultimately had to be disposed in landfills irrespective of how well we achieved in various waste reduction initiatives. In view of the expected remaining lifespan of only 2-6 years for the three landfills, they supported the proposed landfill extension as an integral part of the Blueprint, with additional measures to be undertaken by the Government to address concerns of the local communities. In addition to the recent initiative of depositing only C&D waste in the SENT Landfill, a Member suggested the Government to monitor the waste to be deposited to ensure that the waste did not contain heavy metals or other toxic substances which could also be the concern of local residents. Another Member also proposed setting up monitoring stations in the locality to ensure that the levels of dust and PM 2.5 etc. were within acceptable limits.

33. Ms Anissa Wong assured Members that when the landfill extension proposal was endorsed by the Legislative Council, the Government would take forward the corresponding legislative amendment to effect the restriction on materials that could be deposited in the SENT Landfill. It would also work on other follow-up actions such as installation of air quality monitoring stations along Wan Po Road to monitor PM 2.5, together with more stringent cleansing of the trucks and refuse collection vehicles in and out of the landfill site.

34. A Member suggested setting up air quality monitoring stations near the residential estates rather than near the landfills. He also suggested the monitoring of PM 10 in addition to PM 2.5.

35. The Chairman concluded that ACE in general supported the proposed extension of the landfills as an integral part of the Blueprint, on the understanding that only C&D waste would be deposited in the SENT Landfill, together with other necessary measures to be taken by the Government to tackle the odour and dust problems.

#### **Item 4 : Report on Study Visit to Taipei**

36. The Chairman thanked a Member for reporting his views on the study visit to Taipei on 6-7 June 2013. There was no further discussion of the report as most of the issues had been covered in the discussion on the Blueprint under Item 3 above.

#### **Item 5 : Retrofitting franchised buses with selective catalytic reduction devices**

*(ACE paper 8/2013)*

37. Mr Edmond Ho and Mr Henry Chin briefed Members on the Government's plan of retrofitting selective catalytic reduction (SCR) devices on Euro II and III franchised buses.

38. A Member welcomed the Government's initiative to control the emission of nitrogen oxides (NOx) which was one of the main pollutants causing exceedance of air quality level in Hong Kong. Given the substantial financial outlay of the retrofit proposal, he asked whether the Government would consider expediting the phasing out of Euro II & III franchised buses which could help

reduce emissions more effectively instead of retrofitting them with SCR which would incur additional fuel consumption. He also asked about the cost effectiveness of implementing the retrofit proposal when comparing the service period of retrofitted buses, i.e. 4-5 years at most, to introducing new buses with an expected operation life of 17-18 years. He further opined that there would be pressure on bus fare increase due to the rise in operating costs for franchised bus companies.

39. In reply, Mr Edmond Ho said that the Government planned to retrofit buses which would have two or more years of serviceable life after retrofit. This was consistent with the findings and recommendations of the Audit Commission. He informed that the installation and product costs of a SCR device was estimated to be about \$250,000 per piece with a 5-year serviceable life. In comparison, the cost of a new Euro V bus was about \$3 million. The reduction of NO<sub>x</sub> level by 63-81% after retrofitting would provide great environmental benefits. Mr Ho pointed out that with the retrofitting programme and other air quality improvement measures, the nitrogen dioxide (NO<sub>2</sub>) level would broadly meet the new Air Quality Objectives (AQOs) at the ambient level by 2020.

40. On the number of eligible Euro II and III buses for the retrofit exercise, A Member said that the scenario of 300 pre-Euro IV buses being phased out annually would only occur on the basis of straight line depreciation. In reality, the models and serviceable years of the bus fleet were unevenly distributed when New World First Bus Services Limited (NWFB) took over China Motor Bus Company Limited (CMB) in 1998 and brought in a new bus fleet of different vehicle models. She pointed out that the information in Annex B of the paper might give rise to general enquiries that the remaining Euro II and III buses out of the 1 400 fleet to be retrofitted would soon be retired under the regular replacement programme. Further, the cost-benefit of retrofitted buses would be perceived as low as the remaining service life would only be around two years. In consideration that the pre-qualification (PQ) exercise would take more than one year to complete, the Member asked whether the Government would consider accelerating the retrofitting programme with initial funding application to replace buses with two years of remaining serviceable life first. This would maximize the economic benefit of the retrofitting programme before 2015.

41. The Member further commented that the retrofit proposal was an

ambitious one as franchised bus companies would be required to retrofit 155 buses per month, and they might have difficulties in adjusting their mechanics and equipping their depots for the retrofitting programme. She opined that the impact on bus fare would be minimal even if franchised bus companies were to replace buses with service life less than two years at their own cost.

42. On the Chairman's enquiry, Mr Edmond Ho advised that the expected operational life of a SCR filter was 5-6 years depending on usage and maintenance condition of the vehicle. He informed Members that some 3 200 buses would be replaced in the next five years according to the bus replacement programme, and that together with the existing post-Euro III buses, about 76% of the entire franchised bus fleet would be able to meet the emission standard of Euro IV or above by 2018. On the suggestion to accelerate the retrofitting programme, Mr Ho explained that the present programme was an aggressive one in view of the number of franchised buses to be retrofitted each year. The Government had been liaising with franchised bus companies to identify qualified potential suppliers to take part in the retrofitting programme. The PQ exercise was essential as it could ensure that the SCR devices selected would operate properly and bus service would not be compromised due to retrofit.

43. The Secretary supplemented that all Euro I buses would retire by 2015 according to the bus replacement programme set out in Annex A of the paper. The 3 800 Euro II and III franchised buses were hence the primary target of the retrofit exercise. After discounting some 2 500 buses which would have a remaining serviceable life of less than two years after retrofit as well as those bus models that were technically not suitable for retrofit or with a relatively small number, the Government had identified some 1 400 buses for retrofit. He informed that the Government would provide a subsidy of \$250,000 for retrofitting a bus and this was about 8% of the procurement cost for a new bus. Franchised bus companies had asked for a much higher subsidy level if they were to complete the bus replacement process in 2-3 years ahead of the established programme.

44. A Member asked about the number of buses having five or more years of remaining serviceable life after retrofit as she had cost-benefit concerns on the current proposal of retrofitting buses with a 2-year serviceable life or more. She was also concerned about the pressure on bus fare increase given the increase in operational costs and fuel consumption after retrofit. She further asked if there would be legislative measures or regulations to ensure that

franchised bus companies would replace SCRs and the filters if the units failed to function. She also enquired if the rationalization of bus routes would impact on the number of buses servicing on the roads.

45. Mr Edmond Ho replied that operating costs of franchised bus companies were only one of the six factors to be considered under the Fare Adjustment Arrangement for franchised buses. The anticipated impact on fare increase arising from the retrofit proposal should be minimal. He advised that the general life span of the SCR filter was about 5-6 years. The Government had agreed that while it would bear the capital cost of installing SCRs, franchised bus companies would take up the subsequent costs of replacing the SCR filters and the related operational/maintenance costs. Transport Department (TD) would also regularly check the repair records of franchised buses to ensure their proper operation and maintenance. As for bus route rationalization plan, Mr Ho informed that increased demand for bus service in new town would likely balance out the decreased demand with introduction of new MTR routes. The franchised bus fleet would be kept stable at around 5 700 buses.

46. Mr Henry Chin supplemented that the SCR filter was a consumable with an estimated cost of about \$40,000 per unit. Based on the forecast that Euro II and III buses would retire completely by 2019 and 2026 respectively, he advised that the number of buses which could provide five or more serviceable years after retrofit would be small. Having regard to the environmental benefits of achieving a 60% NO<sub>x</sub> emission reduction with the retrofit programme, Mr Chin said that the 2-year criteria of serviceable life for the 1 400 buses should be considered reasonable from the cost-benefit perspective.

47. In response to a Member's enquiry on the emission performance of retrofitted buses in terms of other air pollutants, Mr Edmond Ho indicated that there was little impact on the level of respirable suspended particulates (RSP), carbon monoxide (CO) and hydrocarbon (HC). No significant level of ammonia slip was experienced during the trial programme.

48. In response to a Member's question on the efficacy of the retrofitted buses over time, Mr Edmond Ho said that overseas experience confirmed that the 60% NO<sub>x</sub> reduction result could be achieved over time as the chemical stoichiometry involved was simple and urea was a strong and effective re-agent to reduce NO<sub>2</sub> into nitrogen and oxygen. The efficacy could be maintained



when the SCR was in proper operation. He also informed that the fuel consumption pattern of Euro II & III buses was generally on a par with that of Euro V buses. As for the enquiry on whether there were different performance levels for NOx emission reduction of Euro II and III buses, Mr Henry Chin informed that NOx emission reduction of the six retrofitted buses under the trial programme ranged from 63% to 81%, and the emission performance of Euro II buses after retrofit was comparable to that of Euro IV buses. He said that retrofitting both Euro II and III buses was equally important, as Euro III buses would have a longer serviceable life while Euro II buses would give a higher emission reduction benefit after retrofit.

49. A Member suggested the Government to allow franchised bus companies the flexibility to use the subsidy to improve emission performance of the bus fleet in their own way rather than just restricting them to the SCR retrofit exercise. The Secretary reckoned that replacing all pre-Euro IV buses would be the best option, and the Government had explored the alternative of offering a subsidy as to incentivize franchised bus companies to accelerate the bus replacement process but could not reach an agreement with them.

50. Ms Anissa Wong advised that the Government had gone through a due process including conducting the trial programme, analysing findings of the trial and estimating the cost package for retrofitting the 1 400 eligible buses before franchised bus companies finally agreed to take up the operating costs of the retrofit exercise. It was unlikely that they would propose alternative measures other than retrofit at this late stage. The Secretary supplemented that the Government advocated the retrofit option as it could have a higher certainty over the implementation schedules. The present proposal was for the bus companies to start the retrofit exercise in April 2015 for completion by the end of 2016.

51. The Chairman concluded that Members were in support of the retrofit proposal.

**Agenda Item 6 : Report on the 123<sup>rd</sup> Environmental Impact Assessment (EIA) Subcommittee meeting**  
*(ACE Paper 9/2013)*

52. The Chairman informed Members that the paper reported on the recommendations of the Environmental Impact Assessment (EIA)

Subcommittee on the EIA report on “Central Kowloon Route (CKR)” submitted by the Highways Department (HyD), and two EIA reports on “Tseung Kwan O – Lam Tin Tunnel and Associated Works (TKO – LTT)” and “Cross Bay Link, Tseung Kwan O (CBL)” submitted by the Civil Engineering and Development Department (CEDD). The reports were discussed at the EIA Subcommittee meeting on 27 May 2013.

53. The Chairperson of the EIA Subcommittee reported to the Council that paragraphs 11 to 12 of the ACE paper summarized the recommendations of the Subcommittee on the three EIA reports. She advised that the summary of discussion and proposed recommendations had been confirmed by the Subcommittee Members before circulating to the full Council. As a Member just raised one further comment regarding the proposed recommendation on the CKR project before this ACE meeting, she would like to bring up the Member’s comment in relation to paragraph 12 of the ACE paper for the Council’s discussion. The Chairperson of the EIA Subcommittee summarized that the Member’s concern was on the vibration impact to the old buildings along the tunnel alignment of the CKR project. While the EIA Subcommittee noted that vibration was not an assessment criterion in the Technical Memorandum for EIA Process (TM) and the EIA Study Brief, a recommendation had been proposed for the CKR project to reflect Members’ concern.

54. A Member explained that vibration generated from the CKR’s tunnelling works would involve blasting and drilling. He was not convinced that vibration was not an assessment criterion in the TM as “vibration affecting building safety” was not within the scope of the EIA Ordinance (EIAO). He suggested imposing an endorsement condition in the Environmental Permit (EP) for HyD to comply with the relevant section of the TM, i.e. to attend to a worst case scenario, i.e. collapse of old buildings as well as the vulnerable receivers of the “destruction”, i.e. the residents in the old buildings, by implementing corresponding monitoring and mitigation measures. He believed that “man-made environment” included old buildings and these old buildings were “vulnerable to change”. He pointed out that while the TM did not specify the method and criteria for assessing vibration affecting building safety, the Director of Environmental Protection (DEP) should have the authority to specify the method of assessment of vibration under such circumstances.

55. Mr Ken Wong stressed that the purpose of the EIAO was to protect the environment. As discussed in the EIA Subcommittee meeting, building safety

in relation to works such as excavation, groundwater drawdown and blasting during construction would be duly addressed by the Buildings Department (BD) and CEDD. EPD did not see a need of imposing an approval condition or EP condition for controlling issues that were outside the EIAO. Indeed, other relevant ordinances and regulations under the jurisdictions of other authorities, in this case building safety under the Building Ordinance, would address the concerns more directly. HyD had presented at the EIA Subcommittee meeting the necessary assessment they had undertaken and also the measures that they would put in place to comply with the requirements of BD and CEDD, in particular obtaining the necessary blasting permits from the Mines Division of CEDD. Members' attention was drawn to paragraphs 5-9 of Annex D of the ACE paper.

56. Mr Ken Wong continued to explain that s.3 of the TM stipulated the “criteria in limiting the scope of the EIA study”, and “destruction” in s. 3.2(a) as pointed out by a Member was applied in the context of those that involved environmental issues/impacts such as destruction of ecological habitat or woodland, etc.. He said that vibration affecting building safety was not included in the TM as it was not an environmental issue but a building safety issue being controlled under the Buildings Ordinance.

57. The Secretary advised that HyD representatives had reassured EIA Subcommittee Members that building safety and safety to local residents were their primary concern. They had conducted the necessary impact assessment and would implement a survey and monitoring programme. They were committed to ensuring engineering safety of the CKR project and would closely monitor the potential impact on the old buildings along the tunnel alignment. These control mechanisms would come under the relevant engineering and building safety ordinances instead of the EIAO. Mr Y K Chan read out the definition of “environment” as interpreted in the EIAO, Schedule 1. While the term “man-made” environment” was mentioned in the TM, Ms Anissa Wong opined that the word should be interpreted in the context of the EIAO. She noted that the purpose of the EIAO was “to provide for assessing the impact on the environment of projects and proposals, for protecting of the environment” which had been stated explicitly in the preamble of the Ordinance.

58. The Chairman advised that while the Member's views were noted, there should be no deferment of the three EIA reports being discussed at the meeting. He further directed that the minutes of the meeting should record Members'

comments and invited EPD to seek legal advice for reference on similar cases in future.

59. There were discussions on the issues to be put up for seeking legal advice. The Chairperson of the EIA Subcommittee raised concern that it might not be appropriate to seek legal advice on project-specific issues as ACE was making recommendations to DEP on the present three EIA reports. The meeting agreed to this. A Member opined that there could be risk in seeking legal advice on the definition of “man-made environment”, resulting in the interpretation in isolation that the EIAO would cover almost all man-made structures. Another Member echoed that the Council must be very careful in drawing up the questions as the agreed interpretation or handling might set precedent for future cases.

60. The Chairman proposed, and the meeting agreed to the way forward as set out below –

- (a) ACE accepted the recommendations of the EIA Subcommittee as outlined in paragraphs 11-12 of the ACE paper, including the endorsement conditions and recommendations on the three EIA projects; and
- (b) EPD would seek legal advice on issues raised by ACE at the meeting and to take follow up as appropriate.

#### **Agenda Item 7: Any other business**

61. There was no other business for discussion at the meeting.

#### **Item 8 : Date of next meeting**

62. The Chairman informed Members that the next meeting was scheduled on 15 July 2013 (Monday). Members would be informed of the agenda in due course.

**ACE Secretariat**  
**June 2013**