

立法會
Legislative Council

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Panel on Environmental Affairs

**Minutes of special meeting
held on Friday, 26 November 2010, at 4:30 pm
in the Chamber of the Legislative Council Building**

- Members present** : Hon CHAN Hak-kan (Chairman)
Hon Audrey EU Yuet-mee, SC, JP (Deputy Chairman)
Hon WONG Yung-kan, SBS, JP
Hon Miriam LAU Kin-ye, GBS, JP
Hon Andrew CHENG Kar-foo
Hon LEE Wing-tat
Hon Jeffrey LAM Kin-fung, SBS, JP
Hon CHEUNG Hok-ming, GBS, JP
Hon KAM Nai-wai, MH
Hon Cyd HO Sau-lan
Hon CHAN Kin-por, JP
Hon IP Wai-ming, MH
Hon Tanya CHAN
- Member attending** : Hon Emily LAU Wai-hing, JP
- Members absent** : Hon James TO Kun-sun
Prof Hon Patrick LAU Sau-shing, SBS, JP
Hon Albert CHAN Wai-yip
- Public officers attending** : **For item I**
Mr Edward YAU
Secretary for the Environment

Miss Vivian LAU
Deputy Secretary for the Environment

Mr David WONG
Acting Assistant Director (Cross-Boundary &
International)
Environmental Protection Department

Dr Shermann FONG
Senior Environmental Protection Officer
(Cross-Boundary & International) 5
Environmental Protection Department

**Attendance by
invitation : For item I**

CLP Holdings Limited

Dr Jeanne NG
Director - Group Environmental Affairs

The University of Hong Kong

Professor C F LEE

Energy Advisory Committee

Mr Edmond LEUNG
Chairman

WWF Hong Kong

Dr William YU
Head of Climate Programme

Oxfam Hong Kong

Mr Stanley SO
Manager - Economic Justice Campaign

Individual

Ms PONG Scarlett Oi-lan, JP

Climate Change Business Forum

Mr Philippe LACAMP
Director of Sustainability, Swire

Association of Engineering Professionals in Society Limited

Ir YIM Kin-ping
Senior Vice-Chairman

Hong Kong Baptist University

Professor Larry CHOW
Director, Hong Kong Energy Studies Centre
Professor, Department of Geography

Green Sense

Ms Hys SUN
Senior Project Officer

Hong Kong Association of Energy Engineers

Mr Ronald S CHIN
President

HKU Delegate to United Nations Climate Change Conference 2009 Copenhagen

Mr WEI Han-yang

Student Union, The Chinese University of Hong Kong

Ms CHAN Sin-ying
External Vice-President

Federation of Hong Kong Industries

Mr Daniel CHENG
Deputy Chairman

Friends of the Earth (HK)

Mr CHU Hon-keung
Environmental Affairs Manager

Clean Air Network Limited

Mr CHAN Wai-kiu
Community Outreach Officer

Democratic Alliance for the Betterment and Progress
of Hong Kong

Mr CHEUNG Sze-chun
DAB Deputy Spokesperson for Environmental Affairs

HK 200, Hong Kong Federation of Youth Groups

Mr Dixon KWONG
Student

Hong Kong Environmental Industry Association

Mr Joe NG
Vice President

Hong Kong Federation of Students

Ms YIP Cho-yan
Secretary - General

The Energy Institute Hong Kong (Branch) Limited

Mr FONG Cham-leung
Chairman

Canadian Chamber of Commerce in Hong Kong

Ms Ciara SHANNON
Climate Advisor,
Sustainable Committee of the Canadian Chamber

Hong Kong General Association of Re-cycling

Business

Mr LO Yiu-chuen
Chairman

The Hong Kong Polytechnic University Students'
Union

Mr LAM Ka-wai
External Affairs Secretary

Lingnan University Students' Union

Mr Leo TANG
Vice-President (External)

St. Paul's Co-educational College

Ms FU Ching-man
F.7 student

The Chinese Manufacturers' Association of Hong Kong

Mr KWOK Chun-wah, MH, JP
General Committee Member and Chairman of
Sustainable Development Committee

Civic Party

Mr Kelvin SIT
Member

The Hong Kong Institution of Engineers

Ir Dr CHAN Fuk-cheung
Senior Vice President

Savantas Policy Institute

Mr Tim LO
Community Centre-In-Charge

Kadoorie Farm and Botanic Garden Corporation

Mr Andy BROWN
Executive Director

School of Energy and Environment City University of
Hong Kong

Dr Michael K H LEUNG
Associate Professor

Greenpeace

Mr Prentice KOO
Campaigner

Business Environment Council

Dr Andrew THOMSON
Chief Executive Officer

Hong Kong Association of Energy Service Companies

Mr Simon CHEUNG
Treasurer / Director

The Professional Validation Council of Hong Kong
Industries

Mr WONG Lok-tak
President

Individual

Dr Robert HANSON

Environmental Life Science Society, Science Society,
The University of Hong Kong Students' Union

Mr TSANG Pak-nok
External Vice-Chairman

Clerk in attendance : Miss Becky YU
Chief Council Secretary (1)1

Staff in attendance : Mrs Mary TANG
Senior Council Secretary (1)2

Miss Mandy POON
Legislative Assistant (1)4

I. Public Consultation on Hong Kong's Climate Change Strategy and Action Agenda

The Chairman welcomed the Administration and deputations to the meeting to exchange views on the Consultation Document on Hong Kong's Climate Change Strategy and Action Agenda (the Consultation Document).

Meeting with CLP Holdings Limited (LC Paper No. CB(1) 608/10-11(03))

2. Dr Jeanne NG, Director - Group Environmental Affairs, said that CLP Holdings Limited (CLP) supported the Administration's effort to reduce carbon dioxide emissions by setting a target to reduce carbon intensity by 50-60% by 2020. While the proposed reduction target would be challenging, it was achievable. The proposed fuel mix was a feasible way to achieve the reduction target, but a reasonable lead time had to be allowed for the development and execution of a carefully structured transition and implementation plan. Also, the fuel mix target had to be complemented with a balanced mix of local generation and imported nuclear power to sustain the high supply reliability of Hong Kong. It was important for the Administration to put in place a stable and transparent regulatory framework to enable private investors to plan and make long-term energy infrastructure investments. On the other hand, CLP would continue to help encourage behavioural change of its customers and the wider community to contribute to a better environment through energy conservation.

Meeting with The University of Hong Kong (LC Paper No. CB(1) 593/10-11(01))

3. Professor C F LEE said that he had been involved in nuclear technology in North America for 18 years and would like to share his experience in this area. While much attention was given to developing environment-friendly renewable energy (RE), such as solar and wind energy, the conventional ways of

power generation using fossil fuels and nuclear energy could not be dispensed with at this stage. Given that coal-fired power generation would give rise to air pollution and global warming, consideration could be given to increasing the reliance on nuclear power generation which had a proven record of performance over the past 30 years. In countries like France and Canada, a major part of electricity was generated by nuclear power. Apart from the Chernobyl incident, most of the nuclear power plants were operating well and there had not been other major nuclear incidents. To allay public concerns about nuclear safety and disposal of nuclear waste, efforts should be made to educate the public on nuclear power generation. A reliable notification mechanism should also be set up jointly by Hong Kong and the Mainland.

Meeting with Energy Advisory Committee (EAC)
(LC Paper No. CB(1) 576/10-11(01))

4. Mr Edmond LEUNG, Chairman, said that the proposed increase of nuclear power in the fuel mix for electricity generation in the Consultation Document had given rise to much public discussion on nuclear safety. In this connection, EAC held a special meeting on nuclear energy and invited views from nuclear experts on the latest development of nuclear safety. EAC members also visited the Daya Bay Nuclear Power Plant to observe its operation. Nowadays, nuclear power contributed to 14% of the total electricity consumption in the world. It was relatively more reliable than natural gas and comparatively cheaper. Given the worldwide concern over nuclear safety, a number of international conventions had been signed to which China was a signatory. This had allowed for more enhanced protective measures to be put in place to ensure nuclear safety of the nuclear power plants to be built in Guangdong.

Meeting with WWF Hong Kong
(LC Paper No. CB(1) 538/10-11(01))

5. Dr William YU, Head of Climate Programme, said that while supporting the proposed reduction of carbon intensity by 60% by 2020, WWF believed that this could be achieved without the import of more nuclear energy. Reference should be made to overseas experience in encouraging energy efficiency and conservation. The Administration should endeavour to reduce energy needs by setting aggressive Demand Side Management (DSM) targets, and provide economic incentives to encourage business and residential sectors to reduce energy consumption. It should also review the Scheme of Control Agreement to require power companies to implement active energy reduction measures. WWF and its consultants had worked out a roadmap to achieve the carbon reduction target through DSM. Given the significance of the Consultation Document, consideration should be given to extending the consultation period by two months. There was also a need to release the full version of the

consultancy report on climate change which formed the basis of the Consultation Document.

Meeting with Oxfam Hong Kong (OHK)

(LC Paper No. CB(1) 608/10-11(01))

6. Mr Stanley SO, Manager - Economic Justice Campaign, said that OHK supported the formulation of a holistic climate change policy as soon as possible, as climate change had threatened the livelihood of vulnerable groups. Climate change would not only affect the environment, but also pose social impacts and challenges to vulnerable groups. In Hong Kong, vulnerable groups (including elderly street sleepers, people living in bedspace apartments, and outdoor workers) had already been exposed to extreme weather conditions. Both mitigation and adaptation actions were needed to combat climate change. However, the Consultation Document had failed to include adaptation as an integral and essential component of the climate change policy. OHK considered it necessary for the Administration to draw reference to the experience in London, New York, Toronto and Singapore in the formulation of an adaptation strategy to prepare all stakeholders to adapt to climate impacts. Immediate measures, such as strengthening the protection of outdoor workers, setting up a warning and response system especially for hot weather and heat waves, reviewing the current public housing design in the face of emerging climate impacts, and providing public housing for those currently living in cubicles and the homeless, should be taken. OHK suggested the setting up of a high-level climate change working group to be led by the Chief Executive or the Chief Secretary to formulate and co-ordinate the implementation of a climate change strategy and related policies.

Meeting with Ms PONG Scarlett Oi-lan

7. Ms PONG Scarlett Oi-lan suggested that the Administration should -
- (a) encourage energy conservation through a tier tariff scheme such that those who consumed less electricity would enjoy a lower tariff rate and vice versa;
 - (b) classify vehicles according to their emission performance such that cleaner vehicles would be subject to lower First Registration Tax and vice versa;
 - (c) take the lead to adopt a green procurement policy, and require Government departments/public bodies to follow the procurement guidelines;

- (d) require the two power companies to adopt low/zero carbon technologies in power generation, and cooperate with the Mainland in the use of cleaner fuels; and
- (e) make efforts to reduce food waste.

Meeting with Climate Change Business Forum (CCBF)
(LC Paper No. CB(1) 538/10-11(02))

8. Mr Philippe LACAMP, Director of Sustainability, said that CCBF supported and endorsed the Administration's proposal in the Consultation Document to prioritize Hong Kong's fuel mix, transport, waste and building energy use. Given that buildings were the largest energy consumer in Hong Kong, CCBF considered that all buildings should be subject to regular energy performance audits, the results of which should be made available for public reference. CCBF also supported the creation of low emission zones and early replacement of polluting franchised buses and vehicles. While agreeing to the need for waste incineration and treatment of organic waste, CCBF considered that more should be done to separate waste and take forward waste charging. As for the fuel mix for power generation, CCBF supported the increased reliance on nuclear energy, but the Administration should ensure the safety and reliability of the supply and transmission of nuclear power. Efforts should be made to solicit support from the public on the one hand and to allay their concerns about nuclear energy and safety on the other. There was also a need to enhance public awareness to reduce consumption of high-carbon goods and services. As the creator of laws and standards, protector/defender of public health, keeper of public goods (including physical goods such as public land and buildings, and less tangible goods such as clean air), and market maker, the Administration was responsible to lead Hong Kong to a low carbon economy.

Meeting with Association of Engineering Professionals in Society Limited (AEPS)
(LC Paper No. CB(1) 576/10-11(02))

9. Ir YIM Kin-ping, Senior Vice-Chairman, said that the Administration should set more aggressive emission reduction targets. It should introduce and develop low carbon technologies in Hong Kong, as well as improve building energy efficiency by requiring existing and new buildings to comply with the Building Energy Codes. Apart from the Kai Tak Development, district cooling systems should be extended to cover other new development areas, such as West Kowloon Development and other new towns. Efforts should be made to promote green transport through the development of efficient mass transport systems, use of cleaner vehicles and fuels, as well as rationalization of bus routes. As for the fuel mix for power generation, AEPS supported the reduced

share of coal fire and increased share of natural gas and nuclear energy. It also supported the development of waste-to-energy technologies. To address public concerns about nuclear safety, there should be close monitoring of the operation of nuclear plants. Meanwhile, educational efforts should be made to promote low carbon living.

Meeting with Hong Kong Baptist University
(LC Paper No. CB(1) 593/10-11(02))

10. Professor Larry CHOW, Director/Hong Kong Energy Studies Centre and Professor/Department of Geography, held the view that the Administration's proposal of revamping the fuel mix (with 40% natural gas, 50% imported nuclear energy, less than 10% coal and 3-4% RE) by 2020 was a step in the right direction since power generation was a major source of green house gas (GHG) emissions. The commissioning of the Daya Bay Nuclear Power Plant (DBNPP) in 1994 had not only been a reliable source of electricity to Hong Kong, but also helped significantly reduce the emissions from power generation. The operation of DBNPP had been safe with very few minor incidents over the years.

Meeting with Green Sense (GS)

11. Ms Hys SUN, Senior Project Officer, said that instead of setting a target to reduce carbon intensity, the Administration should aim to reduce carbon emissions by 25-40% and 80% by 2020 and 2050 respectively when compared with 1990. To this end, an independent department should be set up to review the effectiveness of emission reduction measures. In view of the upward trend in electricity consumption, the Administration should bring the Buildings Energy Efficiency Ordinance (Cap. 610) into operation as soon as possible. Efforts should be made to enhance public awareness on the need to conserve energy, promote green building technology, green industries, eco-tourism and organic farming. She stressed that GS would not support the increased reliance on nuclear energy, given the concerns over the safety of nuclear power and disposal of nuclear waste. Consideration should be given to increasing RE in the fuel mix for power generation.

Meeting with Hong Kong Association of Energy Engineers (HKAEE)
(LC Paper No. CB(1) 695/10-11(01))

12. Mr Ronald S CHIN, President, said that while supporting in principle the proposed climate change strategy and action agenda, HKAEE considered that more ambitious GHG emission reduction targets could be set for a matured economy like Hong Kong. Instead of reducing carbon intensity as proposed, absolute terms equivalent to the percentage of carbon reduction by 2020 and 2030 when compared with 2005 or 1990 should be adopted. HKAEE held the

view that it would be more practical to reduce the use of coal and increase the use of natural gas and non-fossil fuels to meet the demand for electricity in Hong Kong. It also considered that Hong Kong should strengthen cooperation with the Pearl River Delta (PRD) Region, and transform itself as one of the greenest cities in China. Consideration should be given to setting up a monitoring mechanism on the progress and effectiveness of future adaptation actions.

Meeting with HKU Delegate to United Nations Climate Change Conference 2009 Copenhagen

13. Mr WEI Han-yang said that efforts should be stepped up to foster green habits, such as double-sided printing and green procurement, among the public. More should also be done to protect the vulnerable groups from the adverse effects of climate change. He cautioned that the importation of more nuclear energy would increase the environmental risks to the Mainland.

Meeting with Student Union, The Chinese University of Hong Kong (SU of CUHK)

14. Ms CHAN Sin-ying, External Vice-President, said that SU of CUHK objected to the proposed increase in imported nuclear generated electricity from the Mainland on account of the hazard associated with disposal of nuclear waste. The increased reliance on imported nuclear generated electricity would not be sustainable in the long run as it was not a renewable form of energy. It would be more desirable to conserve energy than to import more nuclear energy. Reference should be drawn from overseas experience on energy efficiency and conservation. Consideration should also be given to introducing a tier tariff system such that those who used more electricity would pay more under the user-pays principle. More cooperation should be sought from the Mainland in the development of RE with access to the existing grid network.

Meeting with Federation of Hong Kong Industries (FHKI)
(LC Paper No. CB(1) 586/10-11(01))

15. Mr Daniel CHENG, Deputy Chairman, said that FHKI supported the proposed climate change strategy and action agenda. Given that buildings accounted for 90% of electricity consumption in Hong Kong, there was a need to enhance building energy efficiency in order to achieve the emission reduction target. Efforts should also be made to promote green transport, such as early replacement of polluting vehicles and use of cleaner fuels. FHKI also supported the development of incineration facility to convert waste to energy, but more should be done in respect of segregation and recycling of waste. The introduction of landfill charges would indeed help effectively reduce waste.

While agreeing that nuclear energy was a safe and reliable electricity supply, there was a need to allay public concerns on nuclear safety.

Meeting with Friends of the Earth (HK) (FOE)

(LC Paper No. CB(1) 576/10-11(03))

16. Mr CHU Hon-keung, Environmental Affairs Manager, said that while supporting measures to combat climate change, FOE was opposed to the increase in imported nuclear generated electricity. Given that inadequate electricity supply was a long standing problem in PRD Region, the import of more nuclear energy from the Mainland would mean that more fossil fuels would have to be used for power generation to cope with the demand in PRD Region. This would not only increase regional emissions but also transfer the environmental pollution to the Mainland. It was believed that emission reduction could be achieved through energy conservation. In view of the significance of the Consultation Document, FOE urged the Administration to extend the consultation period by two months, and release the full consultancy report on climate change to facilitate more in-depth discussion on the Consultation Document.

Meeting with Clean Air Network Limited (CAN)

(LC Paper No. CB(1) 593/10-11(03))

17. Mr CHAN Wai-kiu, Community Outreach Officer, said that CAN supported the implementation of a green transport policy to reduce emissions and improve air quality, given that the transport sector accounted for 18% of GHG emissions in Hong Kong. CAN considered that FRT exemption for electric vehicles alone could not attract owners to switch to electric vehicles. More financial incentives should be provided to encourage the switch, as in the case of the Mainland and the United States. Charging facilities and streamlined licensing processes should be made available for electric vehicles. Consideration should be given to promoting alternative environment-friendly modes of transport, such as bicycles through the provision of cycling paths and bicycle renting facilities. Efforts should also be made to facilitate early replacement of polluting vehicles, in particular old franchised buses and goods vehicles. As the deteriorating air quality had been affecting the mortality rate in Hong Kong, the Administration should act quickly and effectively to improve air quality for the protection of public health.

Meeting with Democratic Alliance for the Betterment and Progress of Hong Kong (DAB)

18. Mr CHEUNG Sze-chun, DAB Deputy Spokesperson for Environmental Affairs, said that the proposed targets to reduce carbon intensity by 50-60% and

GHG emissions by 19-33% by 2020 were quite aggressive. As part of the green transport policy, efforts should be made to encourage the early switch to cleaner vehicles, such as electric and hybrid vehicles, through the provision of financial incentives. More charging facilities should be installed for use by electric vehicles. While supporting the introduction of electric buses, care should be taken to prevent bus companies from transferring the cost to passengers. On the increased reliance on imported nuclear power, more efforts were needed to allay public concerns on nuclear safety.

Meeting with HK 200, Hong Kong Federation of Youth Groups

19. Mr Dixon KWONG, Student, pointed out that there was very limited coverage on environmental education in the Consultation Document. He said that more resources should be allocated to researches and studies on climate change in universities, with a view to developing more expertise in this field. Efforts should also be made to promote environmental awareness in universities.

Meeting with Hong Kong Environmental Industry Association (HKEIA) (LC Paper No. CB(1) 695/10-11(02))

20. Mr Joe NG, Vice President, said that HKEIA supported the early coming into operation of the Buildings Energy Efficiency Ordinance to improve the energy efficiency of both new and existing buildings. Consideration should be given to providing incentives to encourage developers to construct buildings with high energy efficiency. Green transport, including the development of a comprehensive mass transport network and the switch to more environment friendly vehicles (such as electric and hybrid vehicles), should be promoted. There was also a need to adopt a multi-prong approach to resolve the waste problem. HKEIA supported the proposed increase in imported nuclear power as this would help reduce GHG emissions and reliance on fossil fuels. To ensure nuclear safety, nuclear plants should not be built in the vicinity of residential communities and a stringent monitoring mechanism should be put in place.

Meeting with Hong Kong Federation of Students (HKFS)

21. Ms YIP Cho-yan, Secretary-General, said that HKFS objected to the proposed increase in imported nuclear generated electricity. She pointed out that there were questions on the safety, cleanliness and reliability of nuclear supply. As the hazards associated with the disposal of nuclear wastes had yet to be resolved, further development of nuclear energy should not be allowed. Besides, nuclear energy was not a RE and its use was not conducive to sustainable development. The development of nuclear power plants in the Mainland to supply nuclear energy to Hong Kong would mean the transfer of

the environmental problem to the Mainland.

Meeting with the Energy Institute Hong Kong (Branch) Limited (EIHK)
(LC Paper No. CB(1) 538/10-11(03))

22. Mr FONG Cham-leung, Chairman, said that EIHK applauded the Administration for taking the initiative in formulating the proposed strategy to tackle climate change. The issue of the Consultation Document was timely to tie in with the Mainland's 12th Five-year Plan which would be officially released shortly. The proposed target to reduce Hong Kong's carbon intensity by 50-60% by 2020 based on 2005 as the base year was in line with the Mainland's target of reducing 40-45% carbon intensity by 2020. However, some targets were highly uncertain and difficult to realize. For example, the increase of share of imported nuclear power to 50% of the fuel mix for power generation depended not only on the readiness of new nuclear power plants in Mainland, but also the negotiation by the two power companies with these nuclear power plants on the power supply grid connection to Hong Kong. The same applied to the supply of natural gas from Mainland to Hong Kong for power generation. Given the uncertainty, EIHK suggested that the Administration should work out a fallback plan in case either the supply of nuclear power or natural gas ran into trouble. Apart from the supply side management, more should be done on the demand side management which was far more reliable albeit not likely as effective as the supply side counterpart. Partnership programme/incentive schemes should be introduced to convince/engage the relevant stakeholders to voluntarily and substantially reduce their carbon intensities. Efforts should be stepped up to further encourage energy efficiency as a more effective means to reduce carbon intensity on the demand side. Consideration should be given to organizing community functions through various district councils to promote the low carbon concept. Lastly, more should be done to foster the development of RE.

Meeting with Canadian Chamber of Commerce in Hong Kong (CCCHK)
(LC Paper No. CB(1) 538/10-11(04))

23. Ms Ciara SHANNON, Climate Advisor/Sustainable Committee of the Canadian Chamber, said that CCCHK welcomed the release of the Consultation Document. Given the urgent need to mitigate and adapt to climate change, Hong Kong should move quickly towards a low carbon society. While revamping the fuel mix for power generation from less coal to more natural gas and nuclear was a right direction, the proposed fuel mix would make Hong Kong very dependent on nuclear and natural gas from the Mainland. Apart from conducting a risk analysis on this dependency and associated vulnerabilities, the Administration should also place greater emphasis on energy efficiency measures and set a stringent energy efficient target. Consideration should be given to providing financial incentives to encourage development of

RE suitable for Hong Kong. More information on the cost implications of various energy options should be made available. It was also worth noting that setting a target on carbon intensity reduction was misleading as Hong Kong was not a carbon intensive city. Instead, a reduction target should be for GHG emissions which were the crux of climate crisis. CCCHK suggested that the Administration should set a low carbon vision for the whole economy and work out a blue print for action, establish a Climate Change Authority to coordinate climate change mitigation and adaptation planning, as well as make use of the broadband infrastructure for a smarter grid. In view of the changing landscape of challenges, all targets should be reviewed every five years, including the vision of a low carbon Hong Kong beyond 2020.

Meeting with Hong Kong General Association of Re-cycling Business

24. Mr LO Yiu-chuen, Chairman, said that there was a need for proper management of waste as this would have impact on land and water resources. More efforts should be made to improve separation and recycling of waste, as well as licensing of waste collection. Thorough studies should also be carried out to ascertain the optimal fuel mix of nuclear energy, natural gas and RE.

Meeting with The Hong Kong Polytechnic University Students' Union (HKPUSU)

25. Mr LAM Ka-wai, External Affairs Secretary, said that HKPUSU strongly objected to the increase in the share of nuclear energy in the fuel mix from the current 23% to 50% by 2020, not only because of the hazard associated with the disposal of nuclear wastes but also the huge costs incurred in the generation of nuclear energy. Instead of increasing the supply of electricity, efforts should be made to conserve energy. While supporting the development of waste-to-energy facilities, HKPUSU considered that more emphasis should be put on reduction and recycling of waste.

Meeting with Lingnan University Students' Union (LUSU)

26. Mr Leo TANG, Vice-President (External), said that LUSU was opposed to the increased reliance on nuclear energy for power generation because of concern about nuclear safety and the irreparable damage in the event of nuclear leakage. The disposal of nuclear waste was another cause for concern. Therefore, nuclear energy should not be regarded as a clean source of energy. As a responsible Government, the Administration should not advocate the increased reliance on nuclear energy.

Meeting with St. Paul's Co-educational College

27. Ms FU Ching-man, F.7 student, said that the transport sector was a

major contributor of GHG emissions. Despite the Administration's earlier efforts with the local power companies in promoting the use of electric vehicles, only a limited number of electric vehicles had been put on trial. Consideration should be given to providing financial incentives and streamlining the licensing process to encourage the switch to electric vehicles. More charging facilities should also be installed at car parks to facilitate users of electric vehicles. Meanwhile, the use of hybrid vehicles should be promoted on account of their environmental performance. Bus companies should also be incentivized to use hybrid models.

Meeting with the Chinese Manufacturers' Association of Hong Kong (CMAHK)
(LC Paper No. CB(1) 538/10-11(05))

28. Mr KWOK Chun-wah, General Committee Member and Chairman of Sustainable Development Committee, said that as an international city, Hong Kong should take proactive measures to combat climate change. CMAHK supported the proposal to reduce carbon intensity by 50-60% by 2020 using 2005 as the base year. It also agreed to the proposed fuel mix for power generation as set out in the Consultation Document as the proposal was cost-effective, reliable and able to meet environmental objectives. However, the Administration should explain the justifications for the increased reliance on nuclear energy to allay public concerns about nuclear safety. CMAHK supported the concepts of low carbon living, energy conservation as well as use of cleaner vehicles and fuels. Efforts should be made to enhance cooperation with the PRD Region in the development of "Quality Living Area" and Cleaner Production Partnership Programme.

Meeting with Civic Party (CP)
(LC Paper No. CB(1) 608/10-11(02))

29. Mr Kelvin SIT, Member, said that CP regretted that Administration should use the increased reliance on imported nuclear energy as the primary means to achieve the emission reduction target. Unless there was a clear, transparent and traceable set of carbon footprint account for the entire PRD Region, there was no certainty that the increased use of nuclear power by Hong Kong would result in the reduction of GHG emissions. Besides, the methodology of calculating emission reduction was questionable. Hence, the Administration would need to prove its case on a regional basis if it were to continue to pursue the nuclear power option as a means for GHG reduction. It should correct the methodological error and produce a full set of regional GHG reduction plan. It should also release the full consultancy report on climate change strategy as soon as possible, and extend the public consultation period accordingly.

Meeting with the Hong Kong Institution of Engineers (HKIE)
(LC Paper No. CB(1) 586/10-11(02))

30. Ir Dr CHAN Fuk-cheung, Senior Vice President, said that HKIE supported the formulation of policies to reduce GHG emissions and to combat climate change. The setting of the target to reduce carbon intensity by 50% to 60% by 2020 as compared with 2005 level was a step in the right direction as this was vital for the planning and implementation of a low carbon economy. The proposed revamping of fuel mix to increase the share of nuclear energy for power generation from 23% to 50% by 2020 was feasible as nuclear power was relatively safe and produced virtually no emissions. In view of its competitive cost and low environment footprint, nuclear energy could be deployed on a large scale to meet with electricity consumption in Hong Kong. However, if additional nuclear power was to be supplied to Hong Kong, upgrading of the existing transmission line would be required which would take time. Meanwhile, HKIE supported the adoption of energy conservation measures, waste-to-energy technologies, green transport and regional cooperation to combat climate change.

Meeting with Savantas Policy Institute (SPI)

31. Mr Tim LO, Community Centre-In-Charge, said that SPI had a different view on climate change. He said that carbon dioxide was not a poisonous substance and it occurred naturally in the atmosphere. He drew members' attention to recent media reports which stated that climate change was a normal part of the ecosystem. Scientific studies had also revealed that carbon dioxide levels were not the cause for global warming, and that the rising sea levels were not a result of glacier melting but water warming leading to thermal expansion.

Meeting with Kadoorie Farm and Botanic Garden Corporation
(LC Paper No. CB(1) 538/10-11(06))

32. Mr Andy BROWN, Executive Director, said that the Administration should not put the economy above the threat of climate change. The priority was to optimize the natural function of the planet rather than maximizing the production from the planet. The global oil production peak, known as the Peak Oil, was imminent as a result of the decrease in supply to meet the continued increase in demand for oil, leading to surging oil price. As climate change was affecting the current food supply, more organic farming was required to protect and utilize the agricultural land in Hong Kong. Efforts should be made to enhance public awareness on the need for a low carbon lifestyle.

Meeting with School of Energy and Environment, City University of Hong Kong (CityU)

(LC Paper No. CB(1) 576/10-11(04))

33. Dr Michael K H LEUNG, Associate Professor, said that CityU supported the ambitious target to reduce carbon intensity by 50-60% by 2020 based on the 2005 level. On the proposed increase in the share of nuclear power in the fuel mix for electricity generation from the present 23% to 50% by 2020, he wished to point out that uranium, the nuclear fuel, was finite and not sustainable. The cost of uranium would rise as the supply decreased. Therefore, nuclear energy should only be considered as an intermediate solution to reduce GHG emission, and the long-term sustainable solution would rest with the development of RE. With the advancement in RE innovations and technologies, RE had become more commercially available and the cost of which was also reducing. Wind turbines, biofuels and solar thermal power plants were particularly promising. The Administration should take these into account in mapping out future plan on transition from nuclear energy to RE in Hong Kong. He added that demand side management could effectively save energy and cut GHG emissions. District cooling system was recommended to enhance energy efficiency of air-conditioning. Meanwhile, efforts should be made to promote public awareness on energy saving in Hong Kong.

Meeting with Greenpeace

(LC Paper No. CB(1) 538/10-11(07))

34. Mr Prentice KOO, Campaigner, said that the Consultation Document only focused on the proposal to increase the share of nuclear in the fuel mix for power generation from 23% to 50% by 2020 without any information to allay public concerns about nuclear safety. In implementing measures to combat climate change, the Administration should ensure sustainability of development and hence the increased reliance on nuclear energy for power generation was not the way forward. More efforts should be made to conserve energy, including the introduction of policies to promote energy efficiency.

Meeting with Business Environment Council (BEC)

35. Dr Andrew THOMSON, Chief Executive Officer, said that BEC supported in principle the majority of mitigation and adaptation measures as set out in the Consultation Document. These included the reduced reliance on fossil fuels and expansion of nuclear energy for power generation. Despite the difficulties in developing RE, BEC agreed that this should be included in the fuel mix. Greater emphasis should be put on energy conservation and the use of green transport, such as electric vehicles. All these measures should form part of the low-carbon economy concept adopted by Hong Kong as a leading

global city. While supporting the target to reduce 50-60% carbon intensity by 2020, BEC considered that interim targets should be set to track and monitor the progress of emission reduction. Contingency measures should be worked out in case these targets could not be achieved. The public should be made aware of the need for adaptation to climate changes. Appropriate incentives should also be provided to encourage the business community to adopt necessary mitigation and adaptation measures. BEC would stand ready to support the Legislative Council and the Administration in this regard.

Meeting with Hong Kong Association of Energy Service Companies (HKAESC)

36. Mr Simon CHEUNG, Treasurer/Director, said that HKAESC had all along been supportive of the use of cleaner energy, including RE, nuclear energy and waste-to-energy, for power generation to meet environmental objectives. It would also support the development of a low-carbon circular economy through source separation of waste and recycling of recyclable materials, such as plastic bottles and waste electrical and electronic equipment. HKAESC was ready to lend its support to the Cleaner Production Partnership Programme, the legislation on Motor Vehicle Idling (Fixed Penalty) and the introduction of electric and hybrid vehicles.

Meeting with the Professional Validation Council of Hong Kong Industries (PVCHKI)

37. Mr WONG Lok-tak, President, said that PVCHKI welcomed and supported the proposals as set out in the Consultation Document as these would be conducive to the development of a low-carbon economy. As part of the emission reduction plan, the local industries had been advised to conduct carbon audits and to implement energy conservation measures. While the industrial sector supported the use of cleaner fuels, including nuclear energy, for power generation to reduce emissions, assurance on the safety and reliability of supply was required. There was a need for the Administration to provide more information on the use of nuclear energy to allay public concerns about nuclear safety. PVCHKI also supported the use of green transport, introduction of electric and hybrid vehicles, adoption of waste-to-energy technologies, implementation of effective waste management and energy conservation policies.

Meeting with Dr Robert HANSON

38. Dr Robert HANSON said that there was a need to identify the real problem. While most people would think that carbon dioxide was a problem, carbon dioxide was in fact good for the environment as it was the essential element for plants to grow and release oxygen. Carbon dioxide also had

beneficial effect on aquatic and terrestrial lives. The need for carbon dioxide had been confirmed by many scientists. According to some scientific studies, carbon dioxide was not a pollutant and carbon-free energy was inherently harmful. Therefore, the public should reject the idea that carbon dioxide was a problem and focus on other important issues, such as the need for clean water and effective waste management, instead. A real debate among scientists should be carried out in respect of climate change policy.

Meeting with Environmental Life Science Society, Science Society, The University of Hong Kong Students' Union

39. Mr TSANG Pak-nok, External Vice-Chairman, said that while supporting the target to reduce carbon intensity, the Society was concerned about the proposed increase in reliance on nuclear energy for power generation. The Consultation Document had not provided details on the proposal, including the sites for nuclear power plants, the associated construction costs and the means of disposal of nuclear waste. In the absence of such information, the public would unlikely support the proposed increase in reliance on nuclear energy. Besides, the available information on the Daya Bay Nuclear Power Plant had revealed that its operation had led to a rise in the temperature of surrounding waters and had adversely affected the ecology and biodiversity of the area. Therefore, close monitoring was required to ensure that timely remedial measures could be taken as appropriate. Meanwhile, efforts should be stepped up to enhance education and publicity on the need to protect the ecology and biodiversity of the natural environment.

40. Members also noted the following submissions from deputations not attending the meeting -

- LC Paper No. CB(1) 538/10-11(08) — Submission from Construction Industry Council
- LC Paper No. CB(1) 538/10-11(09) — Submission from Carbon Care Asia
- LC Paper No. CB(1) 538/10-11(10) — Submission from Ms Josie CLOSE
- LC Paper No. CB(1) 538/10-11(11) — Submission from Professor POON Chi-sun, The Hong Kong Polytechnic University
- LC Paper No. CB(1) 538/10-11(12) — Submission from EVB Technology (HK) Limited
- LC Paper No. CB(1) 538/10-11(13) — Submission from The Climate Group
- LC Paper No. CB(1) 538/10-11(14) — Submission from Dr YANG Mo, member of the Southern District Council

Meeting with Administration

(LC Paper No. CB(1) 2833/09-10(01) — Administration's paper on Public Consultation on Hong Kong's Climate Change Strategy and Action Agenda

LC Paper No. CB(1) 538/10-11(15) — Paper on Hong Kong's Climate Change Strategy and Action Agenda prepared by the Legislative Council Secretariat (background brief))

41. At the invitation of the Chairman, the Secretary for the Environment (SEN) responded to the deputations' views. He said that as an international city, Hong Kong had to set its own target to reduce carbon intensity and to adopt measures to achieve the target, taking into account the impacts on vulnerable areas. The proposed carbon intensity reduction target was a tall order, and the community's support, including behavioral changes, was important for transforming Hong Kong into a low-carbon society. The action agenda on reduction of GHG emissions would include five aspects, namely maximizing energy efficiency, greening road transport, promoting the use of clean fuel for motor vehicles, turning waste to energy, and revamping fuel mix for electricity generation. Given that close to 90% of Hong Kong electricity consumption was related to buildings, building energy management and improving their energy efficiency would certainly be one of the main directions for achieving emission reduction. The Consultation Document had proposed measures in these areas, such as tightening the Building Energy Codes, development of district cooling systems, implementation of building environmental management systems, and introduction of energy efficiency standard for electrical appliances. On greening road transport, the Administration had already provided incentives to encourage early replacement of polluting vehicles and wider use of more environment-friendly vehicles such as electric or hybrid vehicles. In addition, it had been encouraging the introduction of a greater variety of electrical vehicles to Hong Kong. On waste to energy, the Administration hoped to receive support at district level on developing modern waste incineration facilities, which was equally important alongside with other waste management measures for reducing emissions from landfills and achieving a low-carbon community. On fuel mix, there was a need to reduce the current share of 54% of coal in electricity generation. Also, for carbon-reduction and pollution control reasons, the coal-fired units of the two power companies would be phasing out in the coming 10 to 20 years, and there was a need to consider how to replace these units. Increasing import of nuclear power was one of the options. When considering the future fuel mix for Hong Kong, the Administration would take into account various factors, including safety, security, environmental impacts and affordability. It would also take action to raise public awareness on climate change, and encourage

research and investigation on the impact of climate change.

42. Ms Emily LAU thanked the deputations for their views. In view of the far-reaching implications of climate change, she urged the Administration to release the consultancy study on climate change and to extend the consultation period. Consideration should also be given for the Chairman to move a motion on climate change at an upcoming Council meeting. Noting the divergent views on the proposed increase in reliance on nuclear energy for power generation, she sought elaboration from the deputations, particularly on the hazard associated with disposal of nuclear waste. Given the long half-lives of radioactive substances, Professor Larry CHOW/HKBU said that there was no safe and permanent means of disposal of nuclear waste. Dr William YU/WWF said that the Daya Bay Nuclear Power Plant was a second generation nuclear power, the nuclear waste from which would be disposed of through burial of the waste underground or under sea which could not be able to remove the nuclear hazard. While a third generation nuclear power plant was being built in Finland, this was quite problematic and way over budget. The United States had since banned the construction of third generation nuclear power plants. Ir Dr CHAN Fuk-cheung/HKIE pointed out that third generation nuclear power plants were already in use and fourth generation technology was being developed to re-use the energy generated by nuclear waste. Hopefully, this could be put to use in 10 years' time. Mr Daniel CHENG/FHKI said that he supported the proposed increase of nuclear energy in the fuel mix for power generation if there were no better alternatives to combat climate change. It was hoped that RE could be further developed in 50 year's time. Mr Joe NG/HKEIA said that Hong Kong needed to import energy as there was no energy resource locally. The anticipated rise in fuel cost in future might have impact on the economy and livelihood of citizens. Even though nuclear power plants were not developed within Hong Kong, nuclear technology for power generation had been widely used overseas, e.g. 75% of the electricity used in France was generated from nuclear power. In view of the lack of better alternatives of fuels, there was a need to explore the feasibility of increasing the share of nuclear energy in the fuel mix to help reduce GHG emissions. The burial of nuclear waste deep underground would prevent radiation. Ir YIM Kin-ping/AEPS said that same as nuclear power, there were also safety risks associated with the use of coal and hydro power for electricity generation. While he did not say that nuclear energy was safe, nuclear waste could be disposed of by sealing and burying it underground at great depths. Mr Prentice KOO/Greenpeace said that there had not been much breakthrough in the development of nuclear energy, and the fourth generation technology had yet to be developed. Finland and Sweden were planning to bury the nuclear waste underground at great depths and the risk of nuclear leakage using the burial method was still under assessment. Instead of nuclear energy which would have devastating effect on the environment, energy conservation should be the way forward.

43. In response, SEN said that the findings of the consultancy study on climate change would be made available to the public by December 2010. The public would be welcomed to express their views during the consultation period which would end on 10 December 2010. Given that the consultancy study would only be made available by December 2010, Ms Audrey EU asked if the Administration would consider extending the consultation period on the Consultation Document by three months to allow more time for discussion on nuclear safety. SEN said that he would decide on the need for extension of the consultation period taking into account the views collected.

44. Mr KAM Nai-wai said that Members belonging to the Democratic Party would strongly urge the Administration to extend the consultation period. Noting that Greenpeace had proposed a fuel mix of 55% natural gas, 30% nuclear, 10% RE, and 5% coal in 2020, he asked if the proposal was a feasible one. He also questioned why the same share of RE of 15% in the fuel mix for the Mainland by 2020 could not be similarly applied to Hong Kong, and whether landfill gas could be used as an alternative energy source for power generation. SEN said that for environmental reasons, and taking into the retirement plan of coal-fired generators, the share of coal in the fuel mix had to be reduced. Alternative sources of energy for power generation had to be identified and the share of RE, such as wind energy and solar energy, in the fuel mix would have to be worked out to take into account their availability locally. Under the Memorandum of Understanding on Energy Cooperation signed in 2008, it was also possible to increase the share of natural gas in the fuel mix to 40% 10 years later. RE currently comprised less than 1% of the fuel mix. While the plan was to double the share of RE in 10 years' time, this together with increase in supply of natural gas could not totally replace the share of coal in the fuel mix, which at present was 54%. He added that the landfill gas from all three strategic landfills had already been used for on-site electricity generation, and surplus landfill gas from one of the landfills already connected to the Tai Po plant of Hong Kong and China Gas as an alternative energy source.

45. Ms Audrey EU sought deputations' views on energy efficiency and conservation, particularly following the recent enactment of the Buildings Energy Efficiency Ordinance (Cap. 610). She enquired whether incentives should be provided to encourage the business sector to reduce energy consumption in buildings. Dr William YU/WWF said that as the import of nuclear energy from Guangdong would bring about risk to both Hong Kong and the Mainland, efforts should be made to promote energy conservation to reduce the reliance on nuclear energy. WWF believed that Hong Kong could continue to have sufficient power supply without the need to significantly increase the import of nuclear power. According to the carbon roadmap formulated by the Arup consultants commissioned by WWF, there would be about 10% savings in electricity with 70% penetration of energy efficient appliances. The

mandatory compliance with the Building Energy Codes by buildings would not only achieve significant energy savings, but also create business and employment opportunities. WWF suggested to increase the share of RE to 4% and natural gas to 50% to be supplemented by energy conservation initiatives. Mr FONG Cham-leung/EIHK said that the Administration should consider introducing legislation to control external lighting to restrict excessive glare from commercial premises, minimize energy consumption, and reduce light nuisance, particularly at night. On demand side management, more work could be done in sectors including public transport, private commercial buildings, residential estates and retail trade. Consideration should be given to providing incentives to encourage voluntary carbon reduction schemes and energy conservation in these sectors. Some building management companies were willing to reduce the duration and intensity of lighting of the buildings. Mr Philippe LACAMP/CCBF said that CCBF supported the provision of the highest possible energy efficiency standard for buildings in Hong Kong, as well as incentives to encourage energy conservation. There was also a need to foster a change in consumer behavior. SEN agreed to the need for increased efforts to conserve energy. With the support of the Legislative Council, the Buildings Energy Efficiency Ordinance had been enacted to improve the energy efficiency of both new and existing buildings. Furthermore, to assist owners to improve the energy efficiency of their buildings, the Environment and Conservation Fund had set aside \$450 million for implementing the Buildings Energy Efficiency Funding Schemes to support building owners in carrying out energy efficiency works. He would welcome further views on building energy efficiency. The Senior Environmental Protection Officer (Cross-Boundary & International) 5 said that there had been significant reduction in electricity consumption over the years. By way of illustration, the electricity consumed by air conditioning and lighting in 2008 had been reduced by 6% and 25% respectively as compared with 2000. However, as there would be continual growth in population and economy, etc, the chance to reduce electricity consumption by 25% in the next 10 years would not be high. The European Union, for example, projected that its electricity demand would increase by 1.2% annually in the coming 10 years despite its plan to achieve rather substantial reduction in GHG emissions.

II. Any other business

46. There being no other business, the meeting ended at 7:05 pm.