

Hong Kong Zero Carbon Partnership QUESTIONNAIRE SURVEY

AIM OF THE QUESTIONNAIRE SURVEY

This questionnaire survey is part of the research project funded by the Construction Industry Council (CIC), which is entitled "Hong Kong Zero Carbon Partnership for Enhancing Public and Stakeholder Engagement". The survey aims to identify building professionals' understanding, attitudes and behaviours with respect to building towards zero carbon in Hong Kong.

HOW TO COMPLETE AND RETURN THE QUESTIONNAIRE

This questionnaire is designed to be completed in about 10 minutes. We would be most grateful if you could kindly return the completed questionnaire by email or by post using the information below.

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Email: wpan@hku.hk

Alternatively, you may complete the on-line version of this questionnaire, which is available at: <http://goo.gl/forms/xElwsYTcfl>.

All responses will be treated in strict confidentiality with identity protected.

I INFORMATION OF PARTICIPANTS

1a. Please provide your email if you would like to receive a summary report of the research findings.

1b. Please specify your affiliated professional body/ company: _____

2. Your primary area of practice (please tick one box only)

- Engineer Surveyor Architect Energy Consultant Research/Education Developer Contractor Government
 Manufacturer & Supplier Others (please specify) _____

3. Number of years working in the building sector in Hong Kong

- 0-5 6-9 10-19 20 and above

4. Are you a certified green building professional?

- BEAM Pro LEED AP Others (please specify) _____ No

5. How many BEAM Plus registered or LEED registered building projects have you been involved in?

- 0 1 2-4 5 and above

II UNDERSTANDING/ KNOWLEDGE OF ZERO CARBON BUILDINGS

6. How important do you think the following strategies are to achieving zero carbon building in Hong Kong?

Strategy (Tick one option for each row)	Not important	Of little importance	Somewhat important	Important	Very important
(a) On-site renewable energy generation;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Off-site renewable energy generation, but directly connected to the building;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Accredited renewable energy, i.e. contributed to but not directly connected to the building;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Carbon offsetting and Carbon Capture & Storage (CCS);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Reduce energy demand by user behavioral changes;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Reduce energy loss through efficient building fabric;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Improve energy efficiency of Monitoring & Evaluation systems;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h) Improve energy efficiency of white goods (large electrical appliances used domestically);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Reduce energy loss in transmission;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(j) Improve efficiency in energy production and supply.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How would you appraise the statement: "The energy rating calculation for buildings towards zero carbon in Hong Kong should only include regulated energy (space heating, cooling, ventilation, etc.), but not unregulated energy (cooking, washing and electronic appliances)"?

- Strongly disagree Disagree Neutral Agree Strongly agree

8. Which unit of energy balance do you think should be used for measuring building energy use and carbon emissions?

-
- End-use energy Delivered energy Primary energy Not sure

9. Which indicator do you think should be used for evaluating building energy performance? (Please tick all related)

-
- kWh/m²/yr kgCO₂/m²/yr kWh/HH/yr kW W Not sure

10. Which time period do you think should be adopted for calculating building energy use and carbon emissions?

-
- Monthly Seasonally Annually Life cycle Not sure

11. How would you appraise the statement: "Although it is useful to adopt the life cycle approach to reducing carbon emissions, for achieving 'zero carbon', it is necessary to focus on the operation stage of the building"?

-
- Strongly disagree Disagree Neutral Agree Strongly agree

12. Do you think the renewable energy generated on site should be connected with grid?

-
- Yes No Not sure

13. How important or relevant do you think the following options of renewable energy are to delivering buildings towards zero carbon in Hong Kong?

Options (Tick one option for each row)	Not important or relevant	Of little importance or relevance	Somewhat important or relevant	Important or relevant	Very important or relevant
(a) generation within the building's footprint (e.g. BIPV, roof-mounted PV);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) on-site generation from on-site renewables (e.g. on-site solar and wind turbines requiring no source transport);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) on-site generation from off-site renewables (e.g. biomass requiring source transport);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) off-site generation (i.e. investment in off-site technologies: e.g. wind farm);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) off-site supply (purchase of green energy)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

III ATTITUDE/ VALUE ON ZERO CARBON BUILDINGS

14. How would you describe the willingness of developers in Hong Kong to deliver buildings towards zero carbon?

-
- Very weak Weak Neutral Strong Very strong

15. How would you evaluate the influence of zero carbon living on realizing zero carbon buildings?

-
- Very weak Weak Neutral Strong Very strong

16. How would you rate the public's awareness on zero carbon buildings in Hong Kong?

-
- Very poor Poor Neutral Good Very good

17. How would you appraise the statement: "There is enough legislation in Hong Kong to support the delivery of buildings towards zero carbon"?

-
- Strongly disagree Disagree Neutral Agree Strongly agree

18. How would you appraise the statement: "Hong Kong sets high standards for energy efficiency of different products/systems"?

-
- Strongly disagree Disagree Neutral Agree Strongly agree

19. How would you appraise the statement: "The realization of buildings towards zero carbon in Hong Kong may be hindered by the unique geographic conditions and high-rise high-density urban environment in Hong Kong"?

-
- Strongly disagree Disagree Neutral Agree Strongly agree

20. How significant would you think the following barriers are to delivering buildings towards zero carbon in Hong Kong?

Barriers (Tick one option for each row)	Not significant	Of little significance	Somewhat significant	Significant	Very significant
(a) Lack of customer recognition;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Lack of authoritative energy performance data;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Higher initial cost;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Uncertain long-term economic return;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Lack of government policy support;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Lack of public awareness of zero carbon building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Lack of skilled labor for constructing zero carbon buildings;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h) Insufficient capacity of suppliers;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Lack of low/zero carbon technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. How significant would you think the following aspects are to successfully delivering zero carbon buildings?

Aspects (Tick one option for each row)	Not significant	Of little significance	Somewhat significant	Significant	Very significant
(a) technical feasibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) commercial viability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) socio-cultural preference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) policy and regulatory compatibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) supply chain competency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV BEHAVIORS/ PRACTICES OF ZERO CARBON BUILDINGS

22. How would you appraise the statement: "Low/zero carbon living style is adopted by general public in Hong Kong"?

 Strongly disagree Disagree Neutral Agree Strongly agree

23. How often do you apply the knowledge of low/zero carbon building technologies in your practices?

 Never Rarely Sometimes Often Always

24. How many zero carbon building projects has your organization been involved in Hong Kong or elsewhere?

 0 1 2-4 5 and above

25. How often do you refer to Buildings Energy Efficiency Ordinance and Building Energy Code (BEC) 2012 Edition in your practices?

 Never or not aware Rarely Sometimes Often Always

26. How often do you refer to Practice Note APP 156 (Design and Construction Requirements for Energy Efficiency of Residential Buildings) in your practices?

 Never or not aware Rarely Sometimes Often Always

27. How would you rate the feasibility of achieving net-zero carbon emissions in high-rise buildings in Hong Kong?

 Highly impossible Impossible Not sure Possible Highly possible

Please provide your reasons:

-END OF THE QUESTIONNAIRE-

Thank you for your participation!