

**Construction Industry Council**

**Committee on Environment and Technology**

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Meeting No. 003/12 of the Committee on Environment and Technology for 2012 was held on 12 July 2012 (Thursday) at 2:30 pm at CIC Headquarters, 15/F, Allied Kajima Building, 138 Gloucester Road, Wan Chai, Hong Kong.

Present:	Wai-wai, YU	(WWY)	Chairman
	Andrew CHAN	(AC)	
	James KWAN	(YCK)	
	Christopher LEUNG	(CL)	
	Choi-kai AU	(CKA)	Director of Buildings
	Connie YEUNG	(CYG)	Housing Department
In Attendance:	Wai-wah HO	(WWH)	Chair of TF-RSS
	Conrad WONG	(CW)	Chair of TF-CLF
	Derrick PANG	(DP)	Chair of WG-IPM
	Sam-choi CHAN	(SCC)	Construction Site Workers General Union
	Ping-wai CHOW	(PCH)	Hong Kong Construction Industry Employees General Union
	Pun-hing HO	(PHH)	The Hong Kong Federation of Electrical and Mechanical Contractors
	Thomas NG	(TN)	The University of Hong Kong
	Russell JONES	(RJ)	Hong Kong Construction Association
	Jimmy CHAN	(JC)	Development Bureau
	Dan FUNG	(DF)	Environmental Protection Department
	Greg CHAN	(GC)	The University of Hong Kong
	Christopher TO	(CT)	Executive Director
	Guiyi LI	(GYL)	Director - Zero Carbon Building
	Ivan WONG	(IW)	Senior Manager - Council Services 2
	Ivan KO	(IK)	Manager - Council Services 2
Apologies:	Wo-hei LAM	(WHL)	
	Siu-hung CHAN	(SHC)	
	Hau-wai CHEUNG	(HWC)	
	Jan-ming KO	(JMK)	
	Kevin POOLE	(KP)	
	Ada FUNG	(AF)	for Permanent Secretary for Transport and Housing (Housing)

## PROGRESS REPORT

At the commencement of the meeting, the Chairman welcomed new Members, Mr. CHAN Sam-choi and Prof. Thomas NG, who joined the committee for the first time.

### Action

#### 3.1 Confirmation of the Progress Report of the Previous Meeting

Members took note of Paper CIC/ENT/R/002/12 and confirmed the progress report of the last meeting held on Thursday, 29 March 2012 at CIC Headquarters, 15/F, Allied Kajima Building, 138 Gloucester Road, Wan Chai, Hong Kong.

#### 3.2 Matters Arising from the Previous Meeting

##### 3.2.1 Environmental Alert for Transportation of Construction Waste

Two posters had been released and would be available for download from CIC's official website. Two posters were:

1. Say "No" to Overloading of Dump Trucks (in Chinese: 向泥頭車超重運載說“不”)
2. Say "Yes" to Cleaner Environment by Proper Transportation of Construction Waste (in Chinese: 適當運載建築廢料)

Posters in hard copy would be delivered to construction sites of which the contractors have made requests. It was reported that the request for the posters were overwhelming.

##### 3.2.2 Proposed Nomination of Co-opted Members from Feb 2012 to Jan 2014

HKIS nominated the following nominees as Co-opted Members:

**Sr James Pong** who is professional of Building Surveying, Property and Facility Management, and Planning and Development.

**Sr Kenneth Poon** who is professional of Quantity Surveying.

Members endorsed the nomination.

3.2.3 Proposed Research Policy

Discussed under Agenda Item 3.6.

3.2.4 Report Update on Migration from British Standards to Eurocodes

The Update Report had been released and was available for download from the CIC's official website.

DevB delivered a presentation to Members updating the Government's implementation plan for the migration to Eurocodes in public works projects which covered the migration plan in the Government, current progress of the migration, feedback to the industry concerns, and upcoming action items like conducting industry-wide seminar, circulating updated design manuals to stakeholders for comments, providing regular update and reminder to the Industry, etc.

**3.3 Research on Establishing a Hong Kong Based Carbon Labelling Framework for Construction Materials**

Members took note of Paper CIC/ENT/P/022/12.

*[Declaration of Conflict of Interest: TN declared that he lead this research project in the University of Hong Kong (HKU) – the researcher. After his presentation, he excused himself from the meeting before the discussion session of the endorsement of the project.]*

HKU presented the proposed Carbon Labelling Scheme (the Scheme) including Carbon Assessment Framework, Benchmarking Mechanism and Implementation Strategies. HKU also advised some possible challenges might happen during the implementation of the Scheme and recommended some future works.

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HKU reiterated that:

1. this study and the Scheme are the first mover in the world because it is the first and unique scheme that is specifically framed for construction materials;
2. a team of BSI Group working on Publicly Available Specification (PAS) 2050 had shown their interest in collaborating with CIC or the body operating the scheme in future on this Scheme;
3. this study was designed for the assessment of raw material product (e.g. cement, steel) instead of that of by-product or final product (e.g. equipment, machinery, assembly parts);
4. different production line of a raw material product may result in different figures in carbon label for a raw material product because different production line may require different sources of resources;
5. in order to better implement the Scheme, need to setup a specific database for Hong Kong;
6. this study is only the first part of the assessment of carbon emission in the full spectrum; and, it is just a beginning of the destination.

For the implementation of the Scheme, Members suggested that:

1. the carbon emission amount and rating stated on the proposed label would only be one of the factors for comparing raw material products because:
  - different raw material products have their own characteristics, e.g. steel strength, which might affect the choice;
  - operational efficiency of raw material products should also be considered apart from their carbon emission, e.g. carbon emission of a plain glass product may be lower than that of a low illumination glass product; however, the adoption of plain glass may lead to generate more carbon emission, as a whole, because of more air conditioning required;

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2. in long run, a comprehensive solution for the assessment of carbon emission should be developed with respect of full life cycle of a structure/ project. Preliminarily, Members thought that there would have four key areas so as to make the assessment became comprehensive:
  - Area 1: raw material product used;
  - Area 2: machinery used during the construction stage;
  - Area 3: energy efficiency of the built up structure;
  - Area 4: maintenance of a structure / demolition process/ recycling of used materials and demolished materials.
3. it should have a view to ascertain which areas (as aforesaid) could provide most cost effective solution aiming to lowering carbon emission;
4. special credit to be given to those contractor who used lesser carbon emission products during construction stage;
5. special credit to be given to the tenderer who proposed to use lesser carbon emission products in the course of tender evaluation process, like Housing Authority's three envelopes tender submission.

*[CW, TN and HKU excused from the meeting after their presentation.]*

After much deliberation, Members endorsed on the study report. Chairman further explained that this endorsement was to endorse the study report signifying the completion of the consultancy study project only instead of the adoption of the recommendations suggested. In this regard, the way forward of the Scheme would be further discussed in the latter Com-ENT meetings.

*[TN returned to the meeting room at this juncture.]*

### 3.4 **Research on Adhesion Technologies for External Wall Tiles**

Members took note of Paper CIC/ENT/P/023/12.

Owing to the time constraint at the last Committee Meeting, the decision on whether or not releasing the Study Report and Reference Document of the study was postponed to this meeting.

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Publication of the study documents

Members were invited to consider one of the below arrangement:

- a) Publish both the Study Report and the Reference Document; or
- b) Publish the Study Report only but not the Reference Document;  
or
- c) Not to publish both the Study Report and the Reference Document.

After much deliberation, Members agreed:

1. to publish the Study Report in full, with suitable disclaimer, aiming to inform the industry about the progress of the study. It was highlighted that the report is for the Industry's reference only;
2. not to publish the Reference Document in view of further study and substantiation required.

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Outline Brief for Phase 2 Study

The Outline Brief for Phase 2 Study was prepared aiming to bridge the gaps identified in the present study as set out at Annex A of the paper. The Task Force had reviewed the brief in which their comments were incorporated.

Members endorsed on the draft Outline Brief for Phase 2 study. The Outline Brief for Phase 2 study would be subject to review of new Task Force for Phase 2 study, if necessary.

Task Force for Phase 2

It was proposed that a new task force would be set up to manage and steer the Phase 2 study so that the new task force could take a fresh view of the present Study Report, Reference Document and the scope of Phase 2 study.

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Members endorsed on the setup of a new Task Force for Phase 2 study.

### **3.5 Schematic Design for Application of RFID, GPS and Sensor Technology in Monitoring the Movement of Construction Waste**

Members took note of Papers CIC/ENT/P/024/12.

*[Declaration of Conflict of Interest: TN declared that he was actively participating in this type of study in research institute. Member invited TN to stay in the meeting.]*

It was proposed to set up a “Task Force on RFID and GPS Application in Construction Waste Monitoring”. The key objective of the proposed Task Force was to recommend, through commissioning research, a solution aiming to better manage the movement of construction waste by using automatic monitoring system with wireless and non-contact sensing technology (e.g. RFID and GPS) and information technology at construction project level. A tentative scope of study is stated in a draft Outline Brief of the study at Annex A of the paper.

The targeted solution does not aim to replace the present Environmental Protection Department’s CHITS system nor to be a tool for prosecution by the relevant government authority. Instead, the targeted solution aimed to make use of modern technology to reduce manual process in monitoring the disposal of construction waste and hence encourage Employers, Consultants and Contractors taking a more systematic approach to prevent illegal dumping of construction waste.

Members noted that the use of these technologies were commonly found in barge operation in construction projects and logistics industry in Hong Kong. Such that, it was advised that the study should focus on:

1. the application of the existing technology as much as possible (but not technological invention);

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2. definition of business cases on site especially different site conditions and constraints, scenario of the use, etc; and,
3. suitable business and system implementation plan that pursuing industry buy-in.

Members agreed that the use of these technologies may benefit to the industry aiming to better manage the illegal dumping. In this regard, Members endorsed on the setup of the Task Force, its Proposed Membership, and its Proposed Terms of Reference.

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**3.6 Task Force on Research Activities**

Members endorsed on the dismissal of the Task Force on Research Activities in view of the Research Funding Policy having been approved by the Council.

Research funding matters would be taken charge by the Strategic Planning and Steering Committee with the support of individual committees.

Chairman thanked for the effort of the Task Force members especially Task Force Chairman – Mr. T.T. CHEUNG.

**3.7 Working Group on Strategic Implementation of Prefabrication and Modular Construction**

Members took note of Paper CIC/ENT/P/025/12.

DP reported that all of the discussion sessions were completed.

CIC Secretariat would prepare a draft report for Working Group's comment and onward submission to Com-ENT for deliberation.

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Secretariat**

**3.8 Any Other Business**

Members took note of the tabled PowerPoint of the Buildings Department and its consultant Ronald Lu & Partner relating to the Second Stage Stakeholders Consultation and Questionnaire for the 'Consultancy Study on Design and Construction Requirements for Residential Buildings for Energy Efficiency'.

The Buildings Department commissioned Ronald Lu & Partners to conduct this consultancy study in August 2010 to review the design



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and construction requirements for energy efficiency for residential buildings in Hong Kong. The study aimed to formulate a set of design and construction guidelines/ requirements for improving energy efficiency for new residential buildings. The study and the Draft Code of Practice for Design and Construction Requirements for Residential Buildings for Energy Efficiency (the Draft Code) were undergoing Stage 2 Consultation.

The Draft Code proposed the following two key measures to enhance energy efficiency of residential buildings:

1. Residential Thermal Transfer Value (RTTV) that aimed to control façade heat gain. Suitable values of RTTV ( $14 \text{ W/m}^2$  for external wall and  $4 \text{ W/m}^2$  for roof) were recommended; and
2. Natural Ventilation (NV) design that aims to achieve thermal comfort without sole reliance on active building systems.

The proposed measures would dovetail with the current sustainable building design guidelines and building environmental assessment scheme(s). It was proposed that compliance with the RTTV measure and the submission of report on NV should be the imposed conditions for granting of gross floor area concession for green and amenity features and non-mandatory/ non-essential plant rooms and services proposed to be provided in new residential developments.

Moreover, the information on compliance/non-compliance with the RTTV and NV measures would be uploaded to the Buildings Department's website for public inspection/checking after issuance of occupation permits.

In this regard, Members were invited to review and give their comments, or return the questionnaires tabled at the meeting, directly to the Buildings Department and/ or Ronald Lu & Partners.

**All to note**

### 3.9 Tentative Date of Next Meeting for 2012

6 September 2012 at 2:30 pm at the CIC Headquarters, 15/F, Allied Kajima Building, 138 Gloucester Road, Wanchai, Hong Kong

**All to note**

There being no further business, the meeting was adjourned at 5:00 pm.