

Hong Kong Green Building Council Limited 香港線色建築議會有限公司 1/F Jockey Club Environmental Building 77 Tat Chee Avenue, Kowloon Tong, Hong Kong 香港九龍塘達之路77號賽馬會環保樓一樓 Tel +852 3994 8888 Fax +852 3994 8899 www.hkgbc.org.hk

#### Hong Kong Green Building Council Limited (HKGBC)

Invitation for Expression of Interest (EoI) to Participate as the "ACT-Shop" Pilot Project – 4<sup>th</sup> Round

#### **Background**

HKSAR Government (HKSARG) has launched an "Energy Saving Plan for Hong Kong's Built Environment 2015~2025+" in May 2015 for achieving an energy intensity reduction target of 40% by 2025. One of the main focuses is to identify where the best potential energy savings of existing buildings are retro-commissioning and retrofits. In view of this, the Hong Kong Green Building Council Limited (HKGBC) (<a href="www.hkgbc.org.hk">www.hkgbc.org.hk</a>) is initiating an "ACT-Shop" Programme to build up the capacity of the industry on knowledge-based energy management.

#### **Objective**

The HKGBC wishes to engage different building practitioners (participants), in a voluntary basis, without any financial implication, to join our "ACT-Shop" Programme to drive the industry on implementation of knowledge-based energy management, retro-commissioning practices. The focus of this Pilot Project will be on the HVAC systems.

#### What is "ACT-Shop"?

A platform for a group of participating companies to

- work step-by-step with experienced facilitators to carry out retro-commissioning for their buildings;
- **build up their in-house competence** in terms of data, knowledge, technology etc. on retroand re-commissioning practices so as to plan for major retrofits and make ready for next mandatory energy audit; and
- actively participate in HKSARG's "Climate Ready @ HK" Campaign.

For more details, please refer to **Annex A**.

#### What is special about "ACT-Shop"?

"ACT-Shop" provides a collaborative platform for private sector working as peers to develop standarised alternative methodologies for achieving comprehensive data instead of using resourceful metering systems.

#### **Expected Deliverables**

Throughout the "ACT" process, different parties can achieve the followings but not limited to:

#### The HKSARG

- 1. contribution for future revamp of energy codes; and
- 2. a training ground for recognised professionals.



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#### The Industry

- 1. centre of excellence for energy efficiency;
- 2. centre of training and skill transfer; and
- 3. certification body of retro-commissioning professionals.

#### Participating organisations

- 1. cost & benefits justifications;
- 2. electronic operation and maintenance manual enhancement; and
- 3. continuous exchange of data/information and knowledge.

#### **Obligations**

All interested parties are having their obligations to

- 1. actively participate in "ACT-Shop";
- 2. implement energy saving initiatives;
- 3. provide resources, equipment and instruments for adjustment; and (Resources and liability of all instruments and equipment installation will be borne by the participants)
- 4. act as "ACT-Shop" member to promote benefits of "ACT-Shop".

# Disclaimer and other relevant document shall be issued to participants before commencement of the "ACT-Shop" Programme. The details of building and participant would not be disclosed unless a written consent from the participant is obtained. All the technical data of the building will be formulated as a database, maintained by the HKGBC, and solely used for knowledge sharing among "ACT-Shop" participants.

#### We are looking for these buildings:

- 1. Commercial buildings with centralised air-conditioning system (Priority will be given to buildings with multiple chillers in operation);
- 2. Building age of 5-30 years;
- 3. Buildings with equipment and instruments (eg. Temperature sensors/thermostat, pressure gauges, air-conditioning pump curves and fan curves etc.) in reasonably good conditions, and operating records (eg. database, logsheets etc.) available;
- 4. Buildings with management and operation team to support re-tuning actions;
- 5. Building owners and/or management companies that have not participated in previous batches of ACT-Shop Pilot Project will be given a higher priority; and
- 6. Buildings which are planning to commence their major retrofit on the chiller plant in July 2018 to March 2019 will be given a lower priority.



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#### **Submission**

Any parties who are interested in the Pilot Project are invited to submit building information in our REPLY SLIP (Annex B), fulfilling the above mentioned requirements and guidelines, by email (rpe@hkgbc.org.hk) (a confirmation email will be sent upon receipt of your submission), by post or in person to the following address before 6:00pm on 29 June 2018 (Friday) (Please be reminded that all documents sent by post or in person shall be included in a sealed envelope with contact information clearly indicated and put into the drop box at the HKGBC reception area).

Attention:

"ACT-Shop" Pilot Project - 4th Round

Hong Kong Green Building Council Ltd., 1/F Jockey Club Environmental Building, 77 Tat Chee Avenue, Kowloon Tong

<u>Late submission will not be considered.</u> Only selected candidates will be informed. The number of the  $4^{th}$  round of Pilot Case will be limited to 6 buildings.

HKGBC reserves the rights to determine the best suited participants.

Should you have any questions, please feel free to contact

Dr Paul SAT at 3994 8821 (email: paul.sat@hkgbc.org.hk) or

Dr Karen Cheung at 3994 8860 (email: karen.cheung@hkgbc.org.hk).

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#### Annex A

#### "ACT-Shop"

The project will be steered and overseen by HKGBC "ACT-Shop" Steering/Working Group members. with project management by the HKGBC Secretariat. This pilot study is expected to be conducted in July 2018 and completed by March 2019. The HKGBC reserved the rights to edit any item of work subject to mutual agreement of both parties (HKGBC & participants).

The main content of this project includes but not limit to:

### Alignment Meeting

- Providing a checklist for reference
- Aligning expectation / addressing concerns
- Understanding the O&M conditions
- Addressing roles and responsibility (HKGBC & participants)

# Site

- Understanding provision and condition of building management system (BMS) and data availability
- •Understanding the arrangenment and conditions of sensors, loggers and metres.
- Understanding data storage formats
- Assessing equipment condition

# **Evaluation**

- Accuiring data by various means
- Compiling data through e-platform
- •Evaluating air-conditioning system performance through benchmarking and parametric analysis
- Conducting scenario analysis through data visualisation
- Identifying symptoms and operation issues
- Identifying and implementing improvement opportunities
- Conducting measurement and verification for improvement measures
- Conducting cost and benefit analysis

**Data Centre** (Capture & Share Data)

"ACT-Shop"

- Developing database on the basis of not disclosing building information
- Promoting and sharing for successful cases
- •Gathering a collection of database on key performance indicators and operation indicators
- •Summarising a collection of technical knowledge, industrial practice and standards for retor-commisssioning
- Raising the standards of future energy audit, Building Energy Code (BEC) and benchmarking tools



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# Annex B

## **Reply Slip**

Gene	eral information						
1.	Type of building:						
	<ul><li>□ office □ retail □ composite (office &amp; retail) □ hotel</li><li>□ others: □</li></ul>						
2.	Building name:						
3.	Building address:						
4.	Owner of the building:						
	☐ Single owner ☐ Multiple owners						
5.	Name of the management company:						
6.	Name of the service provider:						
7.	Internal floor area: sqm						
8.	Year-round Energy Use Intensity (EUI) of building: MJ/sqm/y						
9.	Age of buildings:						
10.	Contact person:						
11.	Contact no.:						
12.	E-mail address:						
13.	HKGBC membership no.:						
Tech	inical Information  Major Retrofit carried out on air-conditioning equipment / system after year 2006						
	<ul> <li>Yes,</li> <li>No</li> <li>If Yes:</li> <li>□ chillers,</li> <li>□ air-conditioning pumps / fans,</li> <li>□ installation of Variable Speed Drives,</li> <li>□ cooling towers,</li> <li>□ others:</li> </ul>						
2.	Retro-/re-commissioning carried out on air-conditioning equipment / system after year 2006						
	⊓ Yes. ⊓ No						
	☐ Yes, ☐ No If Yes: ☐ chillers, ☐ air-conditioning pumps / fans, ☐ heat rejection system						
	□ cooling towers, □ others:						
3.	Provision of air-conditioning equipment / system						
	a.   Centralised system,   De-centralised system						
	b. With Variable Speed Drives for □ air-conditioning pumps / □ fans / □ cooling towers						
	c. More than 1 chiller put in operation during peak summer     Yes,   No						
4.	Centralised air-conditioning operating records:						
	a. Database (over 1 year operating data in electronic format): ☐ Yes, ☐ No						
	b. Logsheet / Logbook (1 year hardcopy available):						
	c. Schematic diagrams of centralised air-conditioning system:   Yes,   No						
	d. Equipment schedule / specification						



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5.	On s	site in-situ instrumentation						
	a.	With Power meters for air-conditioning system / equipment (excluded utility meters):		Yes,		No		
	b. With temperature sensors / thermostat on □ main headers / □ risers of the chilled water system							
	C.							
	d.	With commissioning devices on main branch(es) of the chilled water system:		Yes,		No		
	e. f.	With air-conditioning pump curves: With air-conditioning fan curves:		Yes, Yes,		No No		
6.	Provision of human resources							
	a.	On-site technicians: If Yes, □ in-house, □ outsource		Yes,		No		
	b.	On-site operators:  If Yes, □ in-house, □ outsource		Yes,		No		
7.	Willingness on participating in the "ACT-Shop" exercise							
	a. b. c. d. e.	Property / Facility Management team Engineers Technicians Operators Service Provider		Yes, Yes, Yes, Yes,		No No No No No		
8.	Willingness on sharing the followings							
	a. b. c. d.	Operating Data Graphical Information Equipment / System Photos Personnel as tutors for sharing successful cases, difficulties and skills		Yes, Yes, Yes, Yes,		No No No No		
*Pleas	e ☑ t	ick the appropriate boxes.						
Other \$	Supp	lementary Information (Optional):						

~ End of Reply Slip ~