

ECONOMY UPDATES

Hong Kong, China

12 May 2021

THE 56TH MEETING OF THE APEC EXPERT GROUP
ON ENERGY EFFICIENCY & CONSERVATION

HK will strive to achieve carbon neutrality before 2050

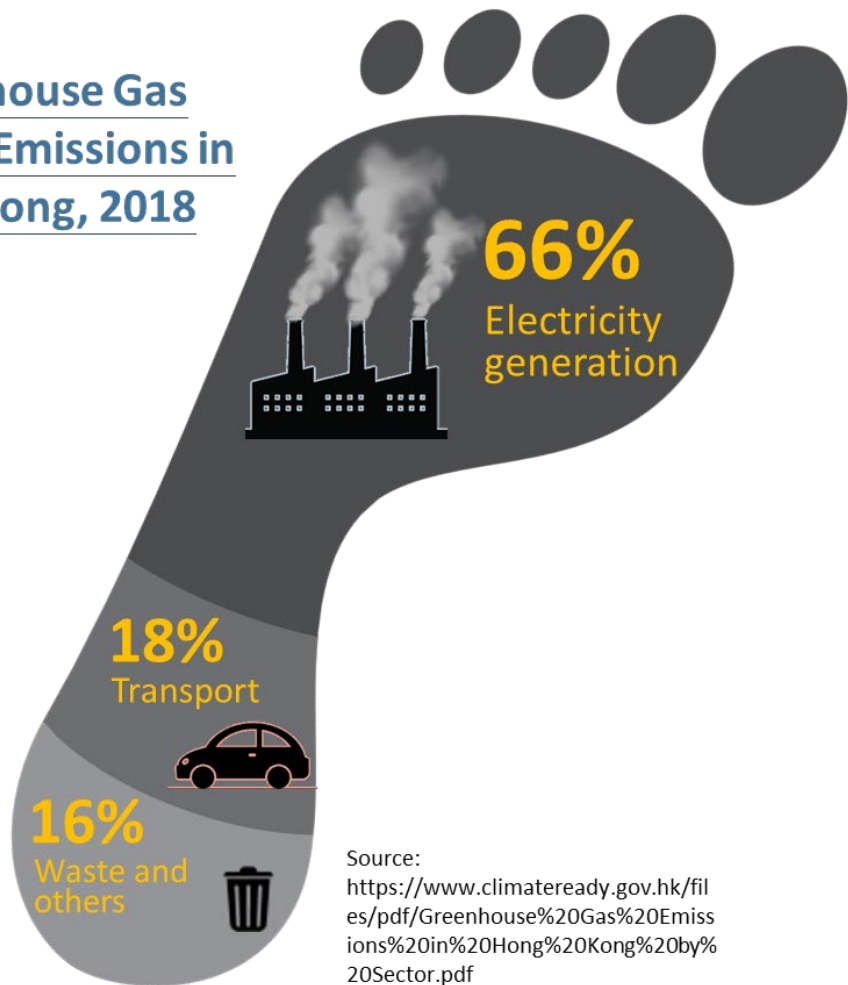


CARBON
NEUTRALITY
BEFORE 2050



HK will strive to achieve carbon neutrality before 2050

Greenhouse Gas (GHG) Emissions in Hong Kong, 2018

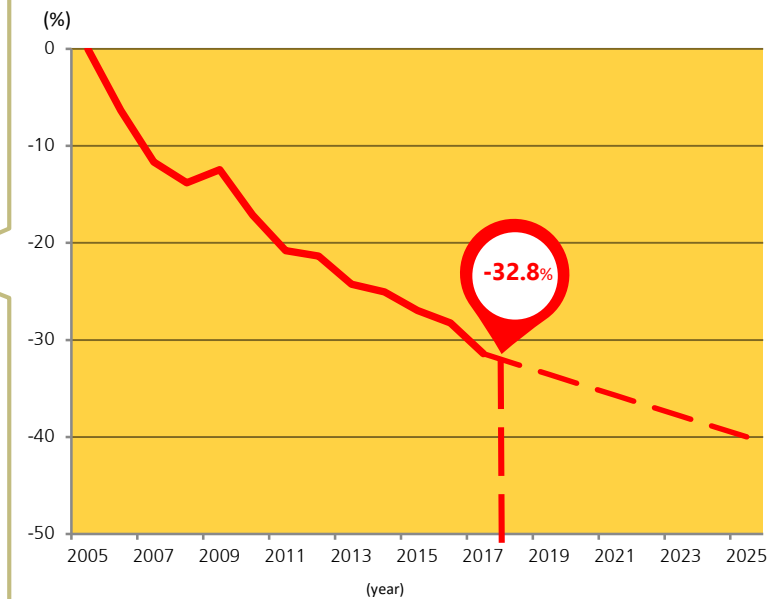


ENERGY SAVING PLAN

For Hong Kong's Built Environment 2015~2025+

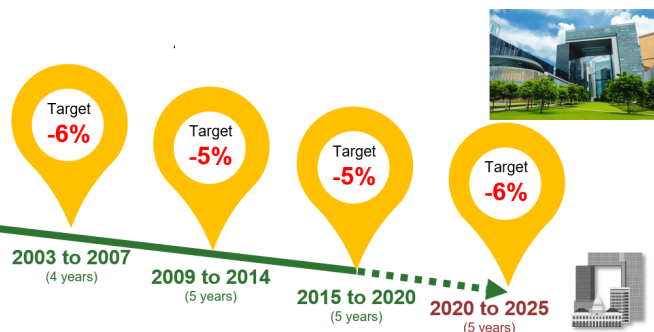
Environment Bureau in collaboration with
Development Bureau
Transport and Housing Bureau
May 2015

Energy Intensity Target 2005-2025 (2005 as base year)



(Source: Hong Kong Energy End-use Data 2020)

Energy Efficiency and Conversation in Hong Kong



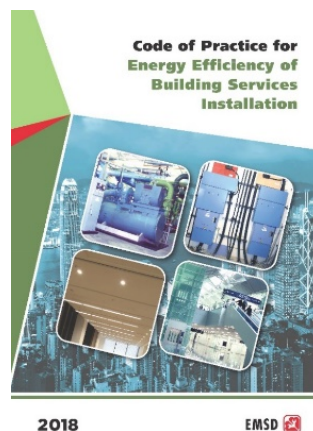
Green Energy Target for Government Buildings and Infrastructures



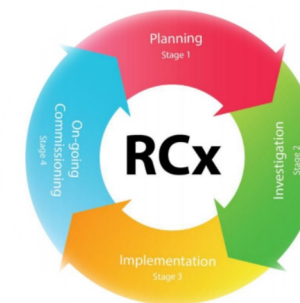
District Cooling Systems (DCS)

ENERGY LABEL 能源標籤	
more efficient 效益較高	Grade 1 級
1	
2	
3	
4	
5	
less efficient 效益較低	
Annual Energy Consumption (kWh/Cooling) 每年耗電量 (千呎小時制)	420
Cooling Capacity (kW) 製冷量 (千瓦)	2.54
Refrigerant 製冷劑	R410A
Room Air Conditioner Brand 空調機品牌:	ABC 品牌
Model 型號:	HK1234
Reference Number / Year Information Provider 參考編號 / 年份: 資料提供者:	U1-C180123 / 2018 XYZ 集團
機電工程署 EMSD	

Mandatory Energy Efficiency Labelling Scheme (MEELS)

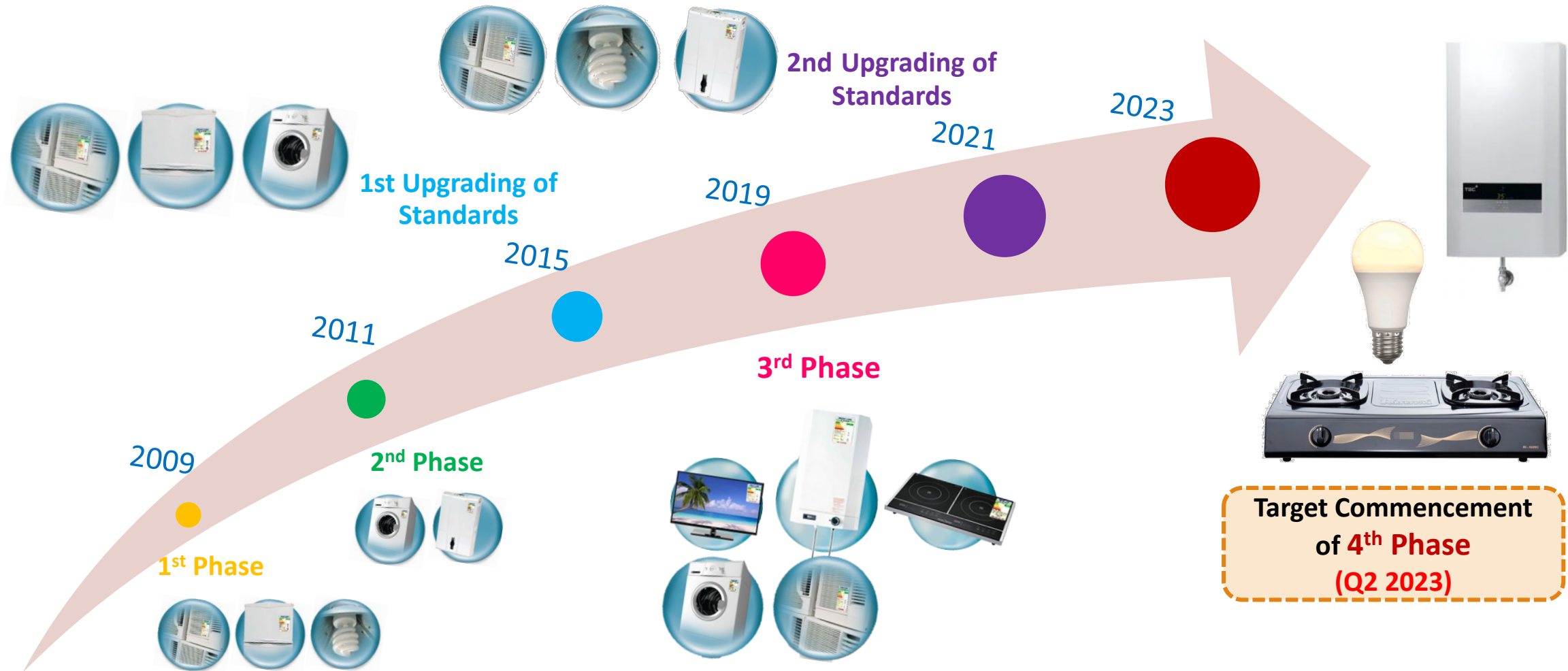


Building Energy Efficiency Ordinance (BEEO)

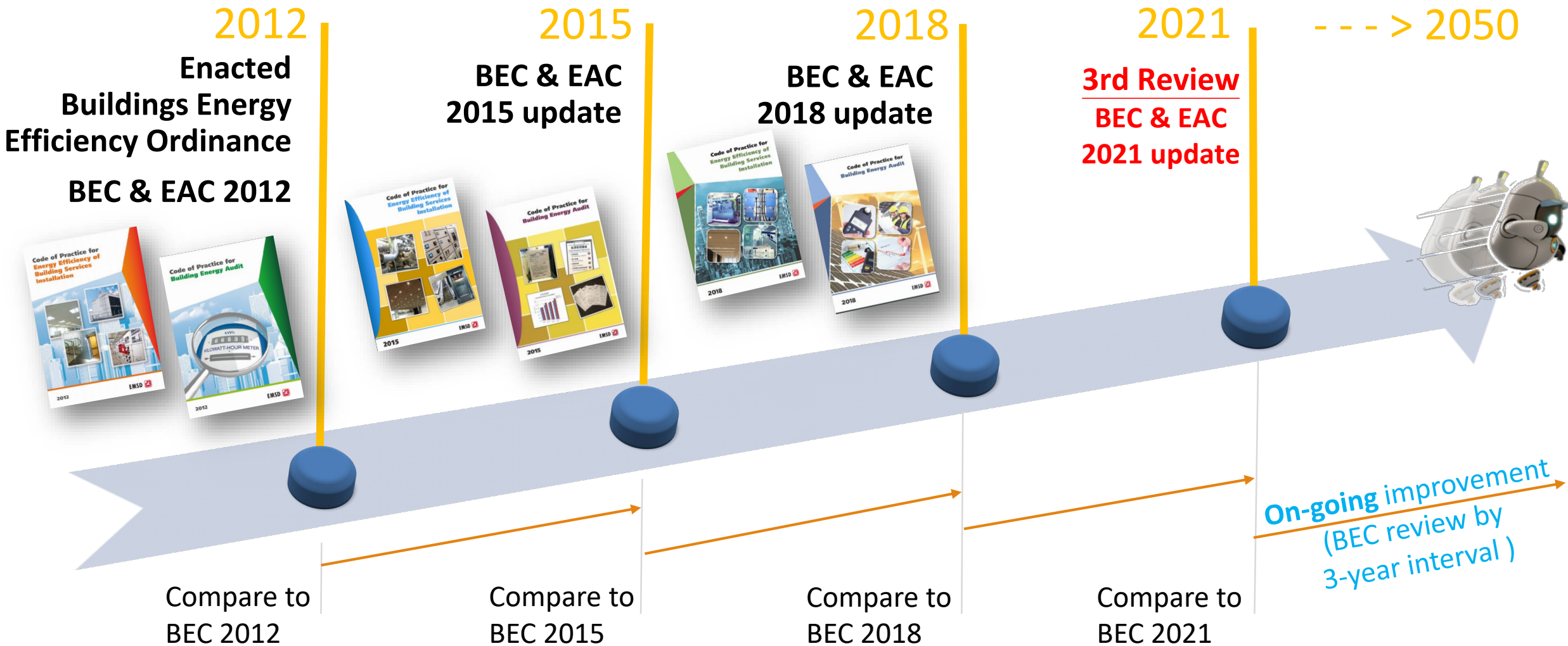


Retro-commissioning (RCx)

Mandatory Energy Efficiency Labelling Scheme Development (MEEELS)



Building Energy Efficiency Ordinance and Energy Efficiency Registration Scheme for Buildings

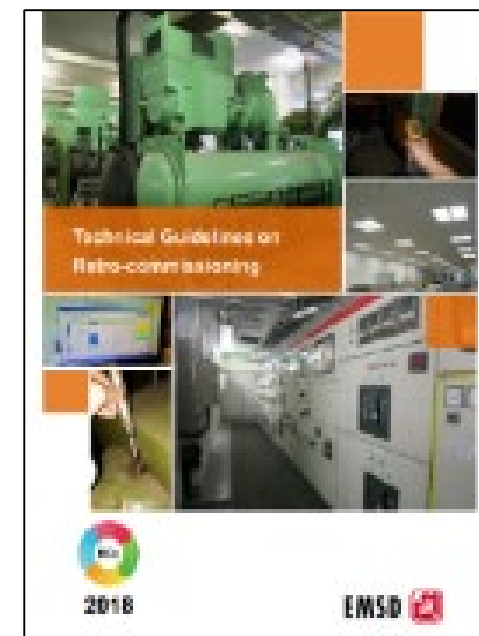
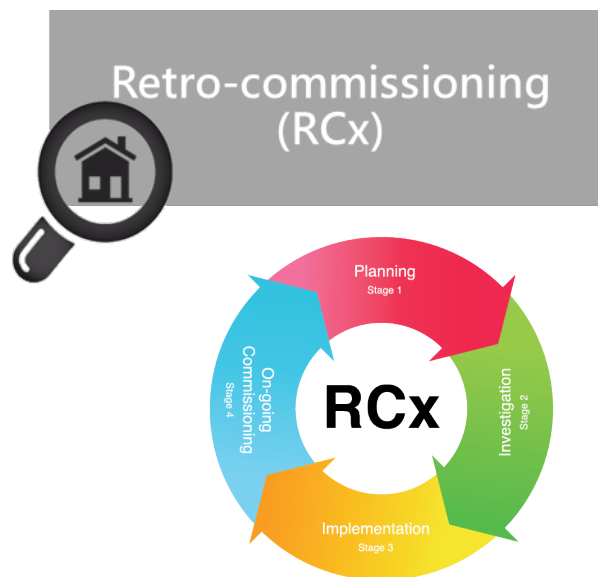


Deepening Energy Saving in Existing Buildings

Existing buildings are often...

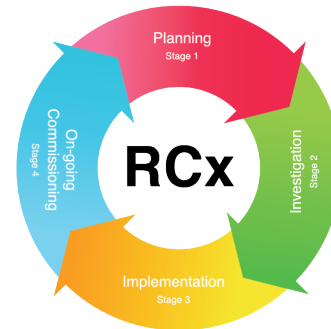


- Equipped with aging equipment
- Outdated building services system control
- High energy consumption
- unsatisfactory performance of systems



Retro-commissioning to reduce energy consumption

- Launched in 26 November 2019
- Over 250 professionals joined registration scheme as of Apr, 2021
- Organised by HKGBC
- Supported by EMSD and different professional bodies
- Training arranged two rounds a year
- 3 tiers of practitioners:-
 - RCx Practitioner Level 1
 - RCx Practitioner Level 2
 - RCx Professional



The screenshot shows the website for the RCx Training and Registration Scheme. At the top left is the HKGBC logo (Hong Kong Green Building Council). The main heading is "Retro-Commissioning Significant Savings at Minimal Cost". Below this is a navigation menu with links for "Registration Scheme", "RCx Directory", "CPD Events", "Trainings", "Resources", "Contact Us", and "Login". A prominent banner reads "RCx Training and Registration Scheme". Below the banner, there is introductory text in English about the scheme's goals and challenges. At the bottom, logos of partner organizations are displayed, including EMSD (Electrical and Mechanical Engineering Department), AEE Hong Kong Chapter, ASHRAE Hong Kong Chapter, and BSQMS.

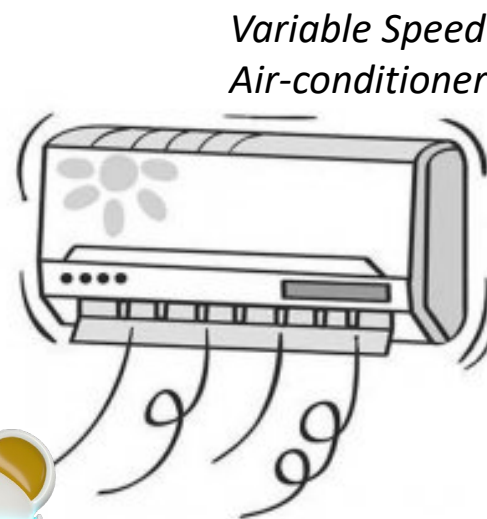
Green Welfare for Non-Government Organisations



Energy Audit



LED Lighting



Energy Efficiency and Conservation

Technologies for deepened energy savings in building services systems and electrical and gas appliances for adoption in existing buildings (e.g. smart building energy management and optimisation using smart metering, IoT sensors, data analytics; automation on retro-commissioning, etc.)

As electricity use in buildings accounts for about 90% of the total electricity consumption in Hong Kong, enhancing energy efficiency in buildings is one of the most critical means to reduce carbon emissions. Potential benefits for improving energy performance for existing buildings should not be underestimated because of their share in the building stock. Research proposals on the development and use of innovative solutions (e.g. data analytics and new building materials) for energy efficiency performance of building services systems and energy-consuming appliances used in existing buildings may help realise these potential benefits.

Technologies for improving energy performance in building envelopes for reducing air-conditioning demand and/or generating electricity (e.g. new low carbon building materials, external fabrics and coatings on walls/roofs; smart and innovative window/curtain wall designs, etc.). Technologies that can also meet the building and fire requirements in Hong Kong should be given a higher priority.

Electricity use in buildings accounts for about 90% of the total electricity consumption in Hong Kong. A large portion of building's electricity consumption is for air-conditioning. If we can reduce the energy consumption for cooling, it will help moving towards zero emission. Some technologies, such as building-integrated photovoltaics, may have dual benefits of reducing indoor temperature and generating renewable energy. Research proposals that take into the building and fire safety requirements in Hong Kong can help ensure the practical applicability of those technologies.

Green Transport

Expand All Hidden All

Promotion of Electric Vehicles (EVs)

Development of a universal EV load management standard for different brands of EV chargers

Giving Second Life to EV Batteries

Unlocking the Full Potential of End-of-life Electric Vehicle (EV) Batteries to Power Sustainable Development and Climate Change Mitigation

The screenshot shows the Green Tech Fund website interface. At the top, there is a navigation menu with links for 'WHAT'S NEW', 'ABOUT THE FUND', 'ADMINISTRATION OF APPROVED PROJECTS', and 'GUIDES AND FORMS'. A search bar is also present. On the left, a sidebar lists categories: 'DECARBONISATION & ENERGY SAVING' (highlighted), 'GREEN TRANSPORT', 'WASTE MANAGEMENT', and 'AIR & WATER QUALITY'. The main content area features a large image of a floating photovoltaic system in a reservoir, with a 'PRIORITY THEME' callout and a 'MORE EXAMPLES' link.

Electrical and Mechanical Services Department (EMSD) launched the E&M InnoPortal which lists the service wishes of various government departments, public organisations and the E&M trades, and invites the I&T sector, including start-ups and universities to propose relevant I&T solutions for matching. For successfully matched I&T wishes and solutions, EMSD will carry out field trials in a bid to promote and drive the research & development and application of innovative technologies.



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NEW



Flexible PV Panel with Metal Wrap Through (MWT) technology

(REF : P-0179)

[See More](#)

NEW



Development of Water droplet-based Electricity Generator (DEG)

(REF : P-0178)

[See More](#)

TRIAL COMPLETED



Portable solar renewable system

(REF : P-0017)

[See More](#)

TRIAL COMPLETED FINAL REPORT



Kilowatt-class Flow Battery for Cost Effective and Scalable Storage of Renewable Energies

(REF : P-0004)

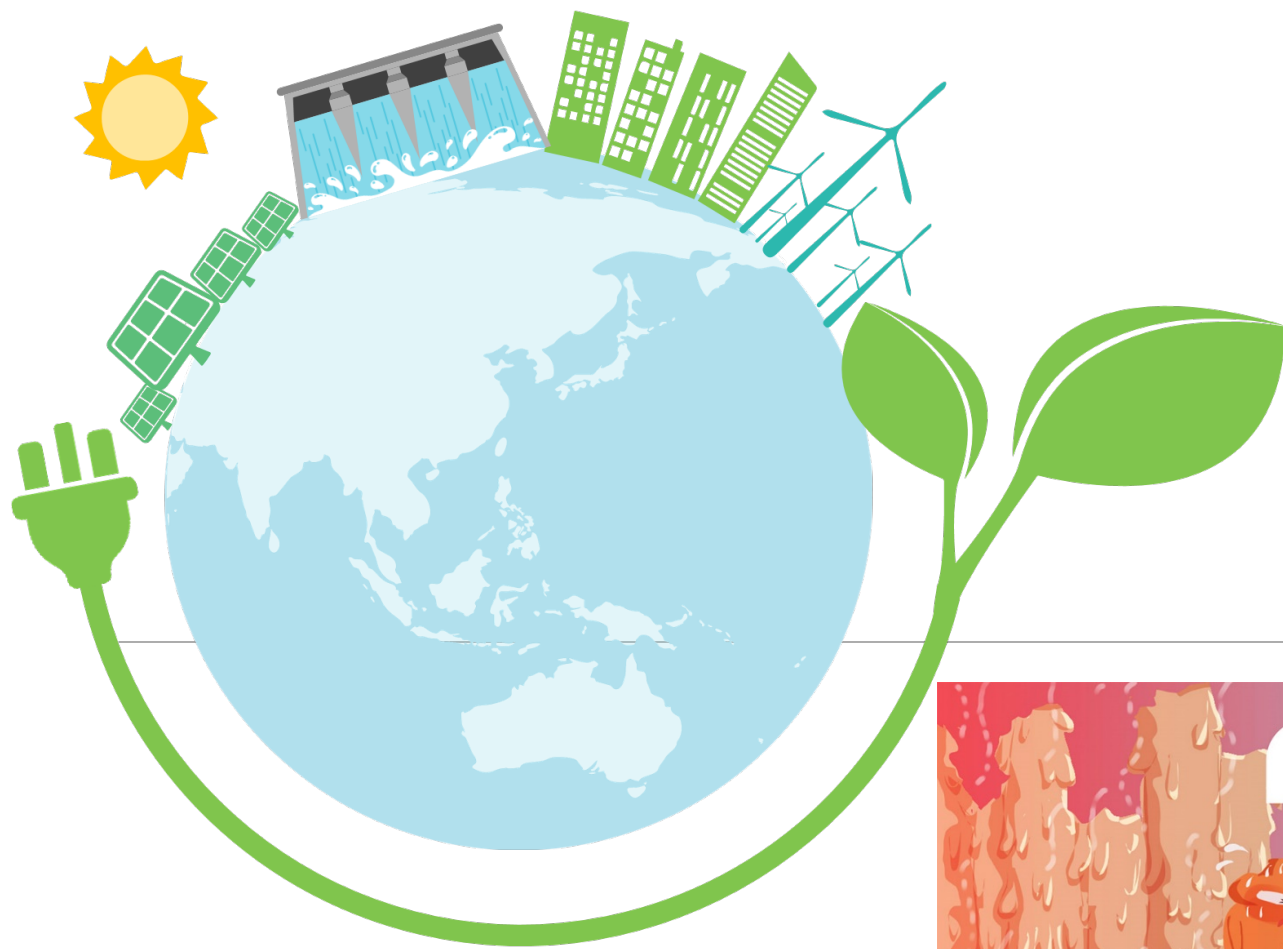
[See More](#)



Thermo-electrochemical capacitor device/Conversion of low-grade waste heat into electricity

(REF : P-0089)

[See More](#)



Thank You

