

# ECONOMY UPDATES

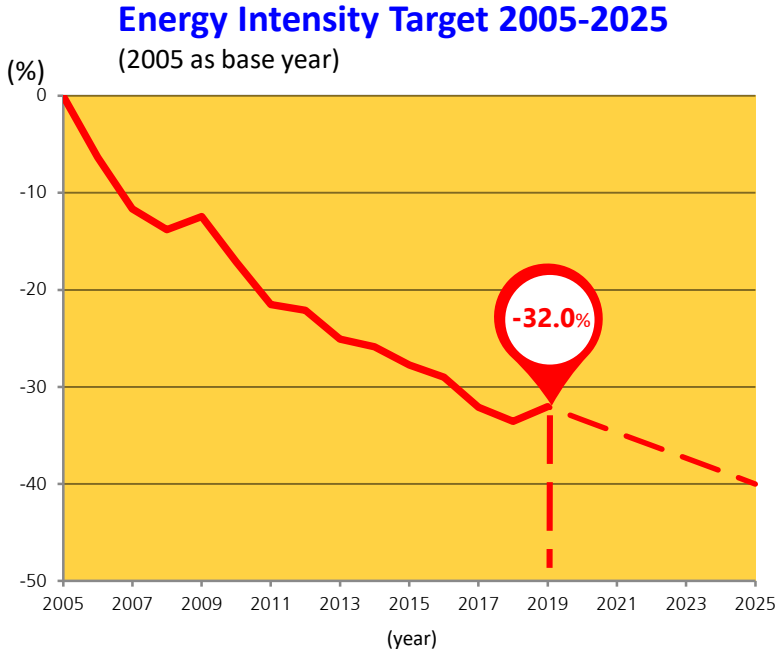
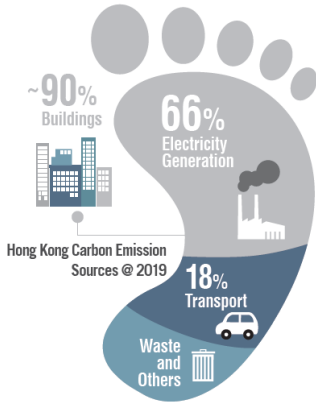
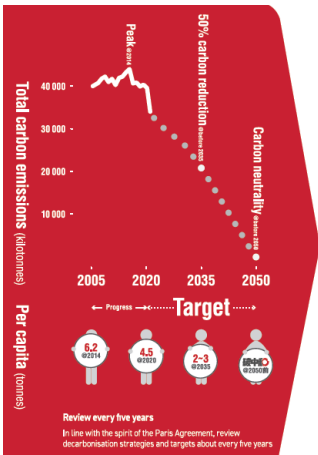
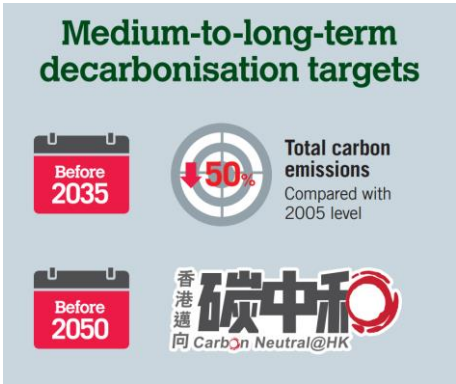
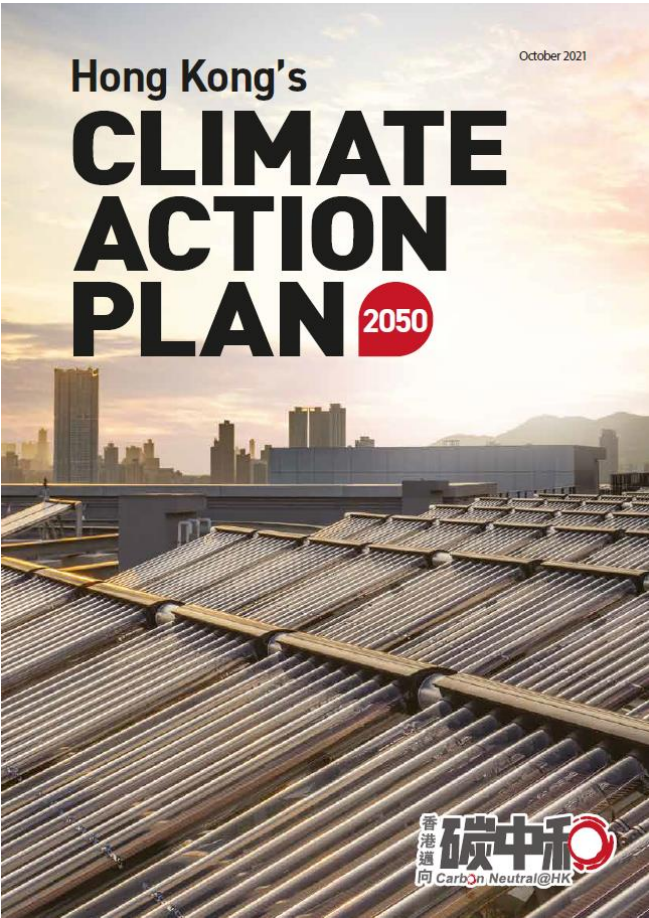
## Hong Kong, China

### 31 March 2022

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THE 58TH MEETING OF THE APEC EXPERT GROUP  
ON ENERGY EFFICIENCY & CONSERVATION

# HK will strive to achieve carbon neutrality before 2050



(Source: Hong Kong Energy End-use Data 2021)

# Net-zero Electricity Generation · Energy Saving and Green Buildings

## Renewable Energy (RE)

Target **2035 7.5-10%**  
(increase to 15% subsequently)



## Electricity Saving in Buildings

Target **2035**  
Electricity consumption (Compared with 2015)

**COMMERCIAL BUILDINGS**  
15-20%  
(Reduce by 30-40% subsequently)

**RESIDENTIAL BUILDINGS**  
10-15%  
(Reduce by 20-30% subsequently)



## Initiatives:

### Strengthening Regulation

Continuous enhancement of energy performance of buildings



Explore setting minimum energy efficiency requirement for specified appliances



### Smart Management

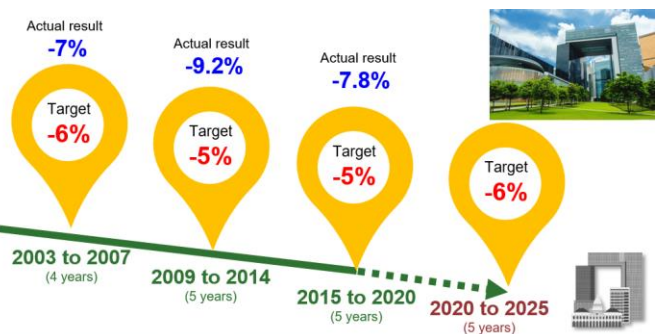
Use smart technologies to enhance energy saving management and energy efficiency of buildings and infrastructure



### District Cooling Systems (DCS)



# Energy Efficiency Initiatives

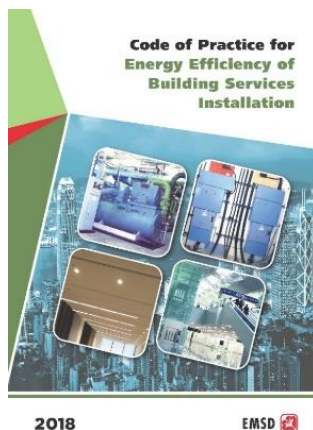


**Green Energy Target for Government Buildings and Infrastructures**



**District Cooling Systems (DCS)**

**Mandatory Energy Efficiency Labelling Scheme (MEELS)**

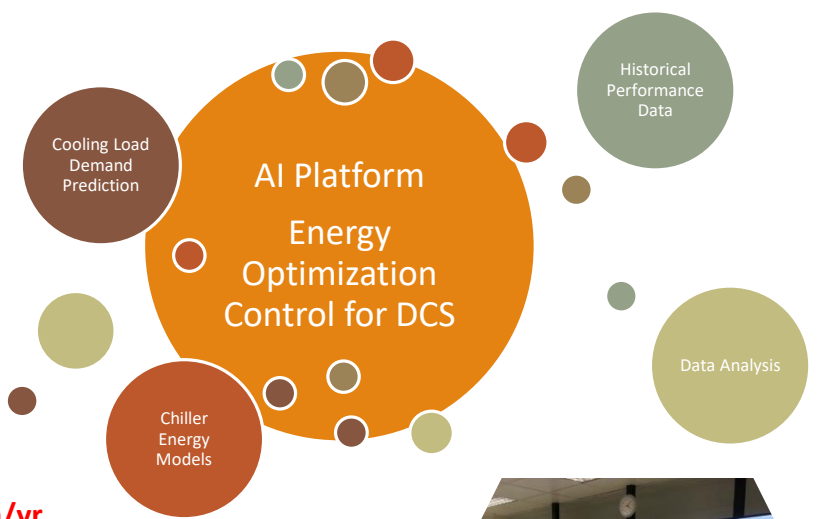


**Building Energy Efficiency Ordinance (BEEO)**



**Retro-commissioning (RCx)**

# Development of the District Cooling Systems (DCS)



# DCS in planning stage

# Building Energy Efficiency Ordinance and Energy Efficiency Registration Scheme for Buildings

2012

Enacted Buildings Energy Efficiency Ordinance  
BEC & EAC 2012



2015

BEC & EAC 2015



2018

BEC & EAC 2018

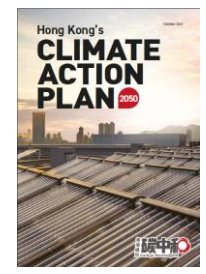


2021

BEC & EAC 2021 (new)



---> 2050



~10% improvement

Compare to BEC 2012

~18% improvement

Compare to BEC 2015

~15% improvement

On-going improvement (BEC review by 3-year interval)

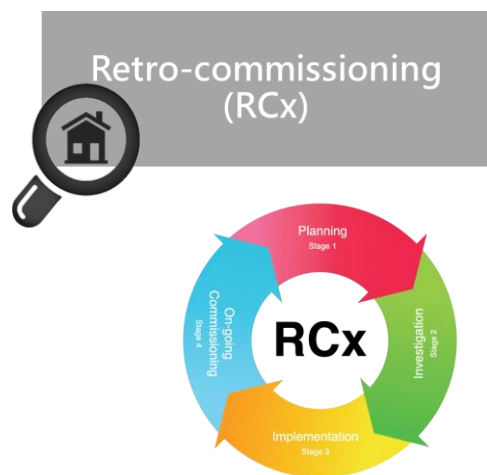
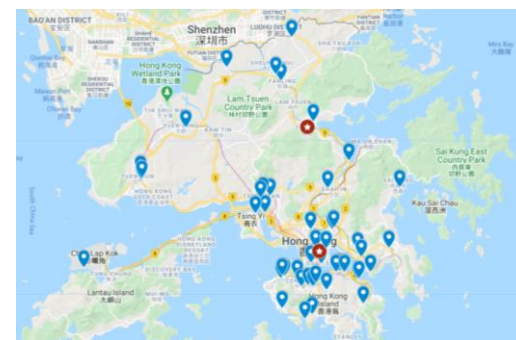
# Retro-commissioning for major government buildings

## Existing buildings are often...

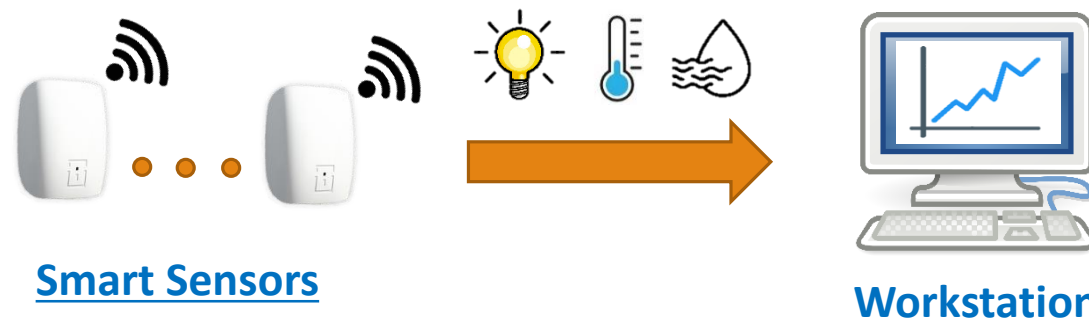


- Equipped with aging equipment
- Outdated building services system control
- High energy consumption
- unsatisfactory performance of systems

## Conduct RCx in suitable major government buildings



## Wireless data collection of room condition



# Energy Saving and Decarbonisation for All 2022 Campaign

## 1) Energy Saving Charter and 4T Charter



## 2) Energy Saving Championship Scheme

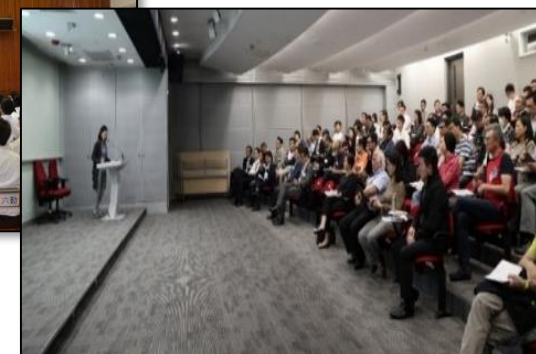
Competition for organisations



Competition for students



## 3) Training and outreaching activities





# Development of the Mandatory Energy Efficiency Labelling Scheme (MEELS)



**3 Phases + 2 Upgrading**

925 million kWh / year

647,500 tonnes / year

**2021 2<sup>nd</sup> Upgrading of Standards**

**2023 Phase 4**

**MEELS Energy Coverage in Residential Sector**

**80%** (11 products) (Phase 4)

↑

**49%** (8 products) (in first 3 Phases)

**2015 1<sup>st</sup> Upgrading of Standards**

**2019 Phase 3**

**2011 Phase 2**

**2009 - Phase 1**

Under legislative amendment



568.8 TJ / year

75,350 tonnes / year\*

*\*Remarks: Different CO<sub>2</sub>-e for electricity and gaseous fuel consumed*

# “Green Schools 2.0” – Solar Harvest

To provide one-stop service for installation of small-scale solar energy generation systems at

- Non Profit-making & Non-Government schools and;
- Welfare NGOs

As of mid-February 2022

Over 600 nos. application

Over 300 no. systems installed

Accumulated electricity generation is over 1.8M kWh

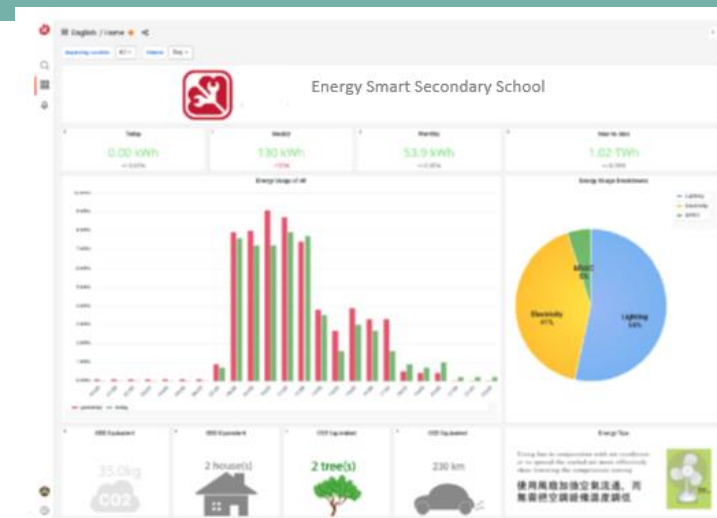


# “Green Schools 2.0” – Energy Smart



Non Profit-making & Non-Government Primary & Secondary Schools

Beneficiary:  
300 Schools,  
over 100,000  
students



## “Energy Saving Tips” for education purpose

碳中和 節能小Tips – 實時能源監察系統

- 能夠簡單清楚學校樓層或個別房間的用電量
- 能使用簡單圖示作個別房間的用電量比對
- 鼓勵老師及同學們共同實踐節能措施
- 平均每一度電所產生的二氧化碳當量排放量為0.7千克CO<sub>2</sub>

機電工程署 EMSD

## Comparison of Energy Consumption of Various Classroom





# Green Welfare Non-Government Organisations



Energy Audit

**Beneficiary: 300 Welfare NGO premises**

ENERGY LABEL 能源標籤	
Brand 牌子	ABC 某某牌
Model 型號	HK1234
Annual Energy Consumption (kWh) Actual energy consumption depends on how the television is used. Based on 1000 hours operation. 實際耗電量 (千瓦小時) 實際耗電量視乎電視機的使用方式。以每年使用1000小時計算。	123
Energy Efficiency Grade* 能源效益級別 *Among the five grades, Grade 1 is the most energy efficient. 在五個級別中，第一級為最優等。	1
Screen Size Measured Diagonally in cm (inch) 屏幕對角尺寸 - 以厘米 (英寸) 量度	102 (40)
EEL Registration Number 能源標籤登記號碼	TV11-0001

\*The data are provided according to the Hong Kong Energy Efficiency Labeling Scheme administered by the Electrical and Mechanical Services Department (EMSD), Government of the Hong Kong Special Administrative Region. The registration record can be found at the EMSD website at [www.emsd.gov.hk](http://www.emsd.gov.hk).  
資料根據香港特別行政區政府機電工程署發行的香港能源效益標籤計劃的規定方法。有關註冊記錄可查閱網址 [www.emsd.gov.hk](http://www.emsd.gov.hk)。



LED Lighting

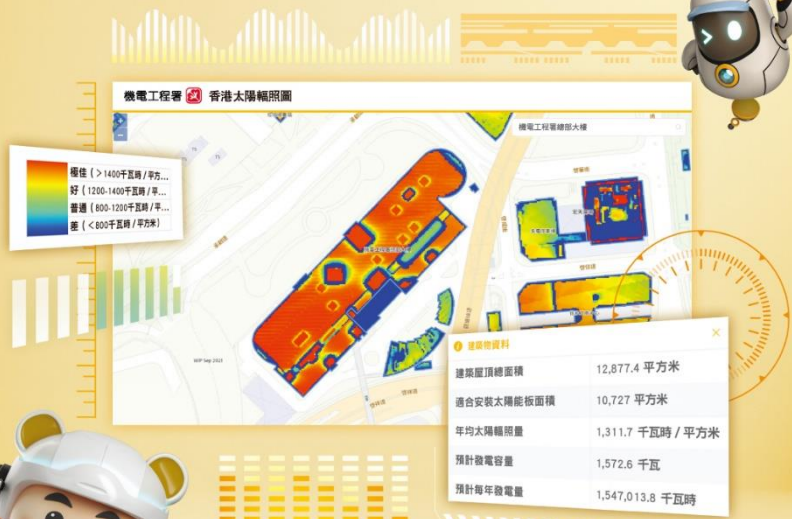


Variable Speed Air-conditioner

**Target to set up common Energy Management Opportunities (EMOs) for various welfare premises**



# Hong Kong Solar Irradiation Map



香港  
太陽輻照圖  
Hong Kong Solar Irradiation Map

## EMSD Hong Kong Solar Irradiation Map

Draw and Calculate

Draw Clear

Options

Solar Irradiation Layer

PV Panel Efficiency (%)

20 (Default)

PV Panel Tilting Angle

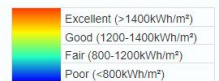
0°

PV Panel Orientation

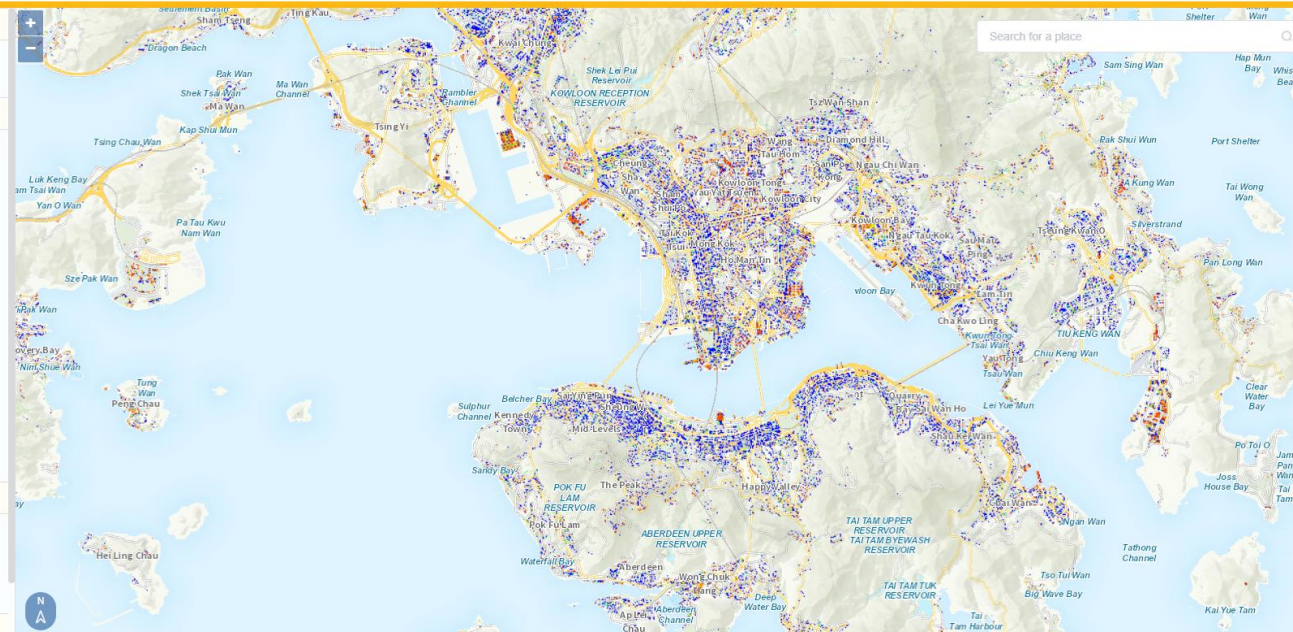
South (Default)

Solar Irradiation Layer Transparency

Legend



Basemap





## PRIORITY THEME

Net-Zero Electricity Generation

Energy Saving and Green Buildings

Green Transport

Waste Reduction

# Green I&T Day



環境局  
Environment Bureau

機電工程署  
EMSD





# Thank You

