

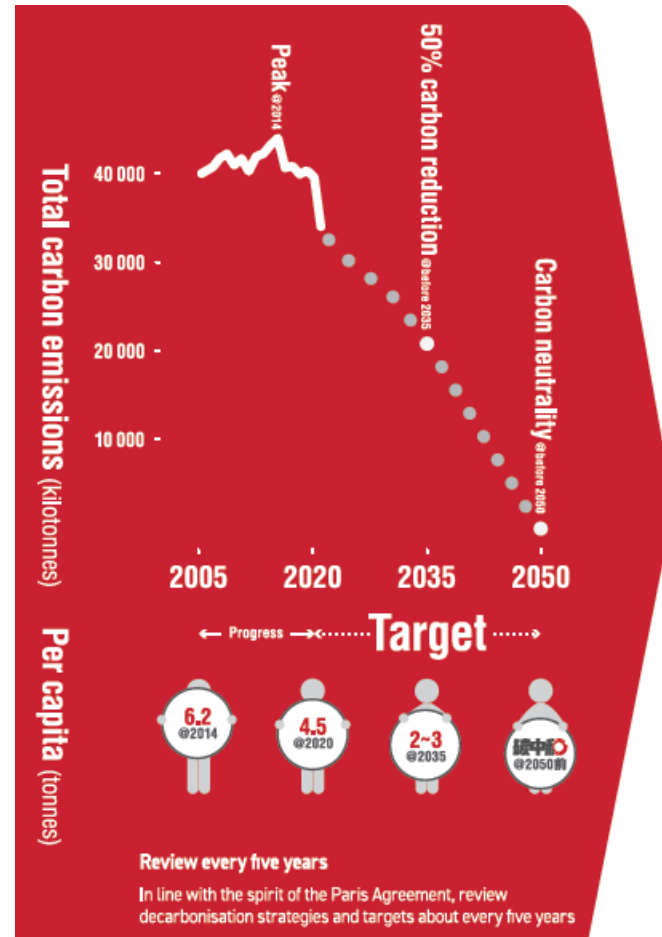
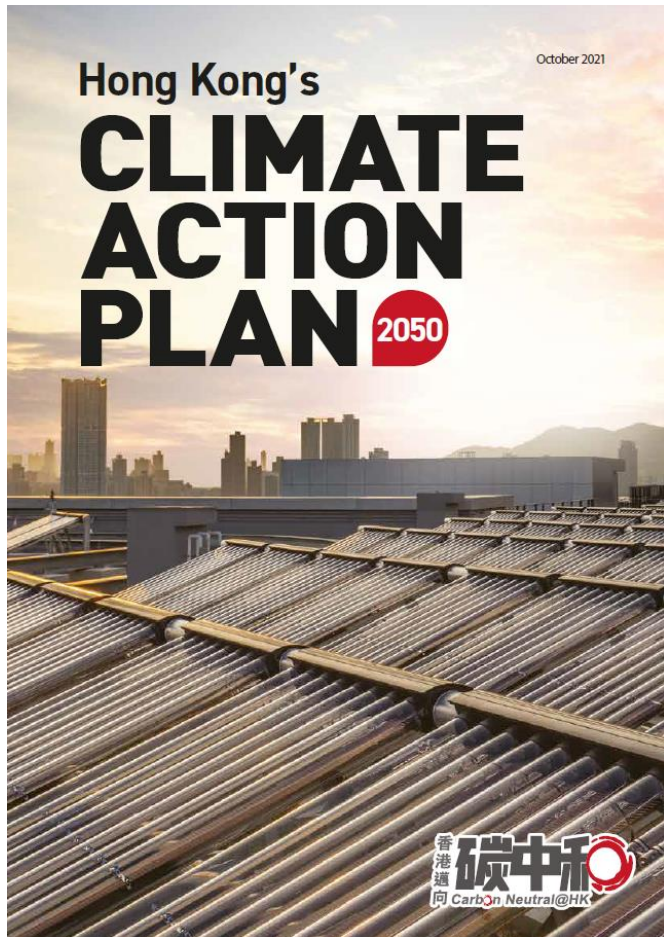
ECONOMY UPDATES

Hong Kong, China

THE 63RD MEETING OF THE APEC EXPERT GROUP ON ENERGY
EFFICIENCY & CONSERVATION

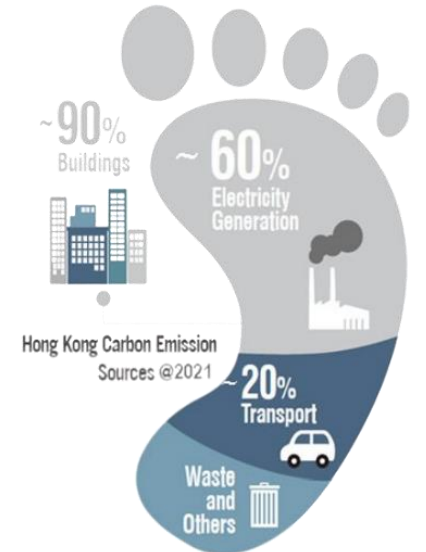
NOVEMBER 2024

Maximizing Clean Energy Utilization and Boosting Energy Efficiency



Renewable Energy (RE)

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



Electricity Saving in Buildings

2035

COMMERCIAL BUILDINGS
15-20%

RESIDENTIAL BUILDINGS
10-15%

Electricity consumption (Compared with 2015)

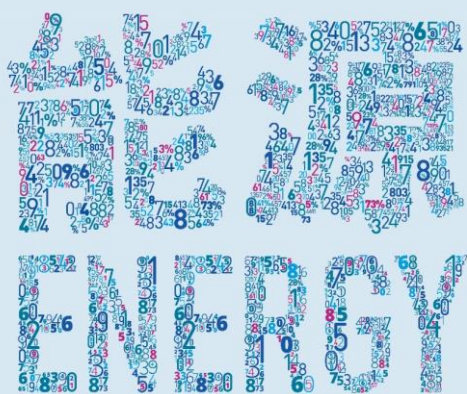
(Reduce by 30-40% subsequently)

(Reduce by 20-30% subsequently)



Hong Kong Energy End-use Data

香港能源最終用途數據
Hong Kong
Energy End-use Data
2024



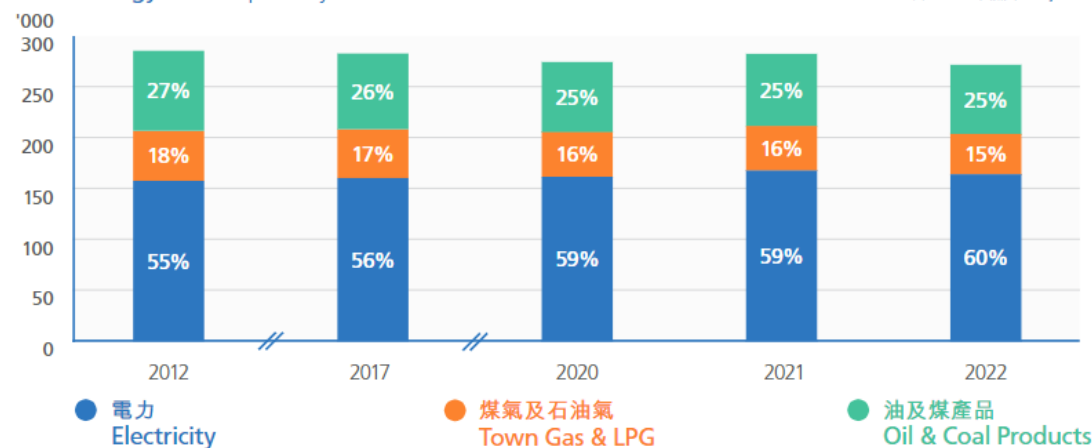
所有能源使用按燃料和類別劃分
Total Energy Consumption by Fuel & by Sector

參考表格 Refer Table 2, 8, 9, 10

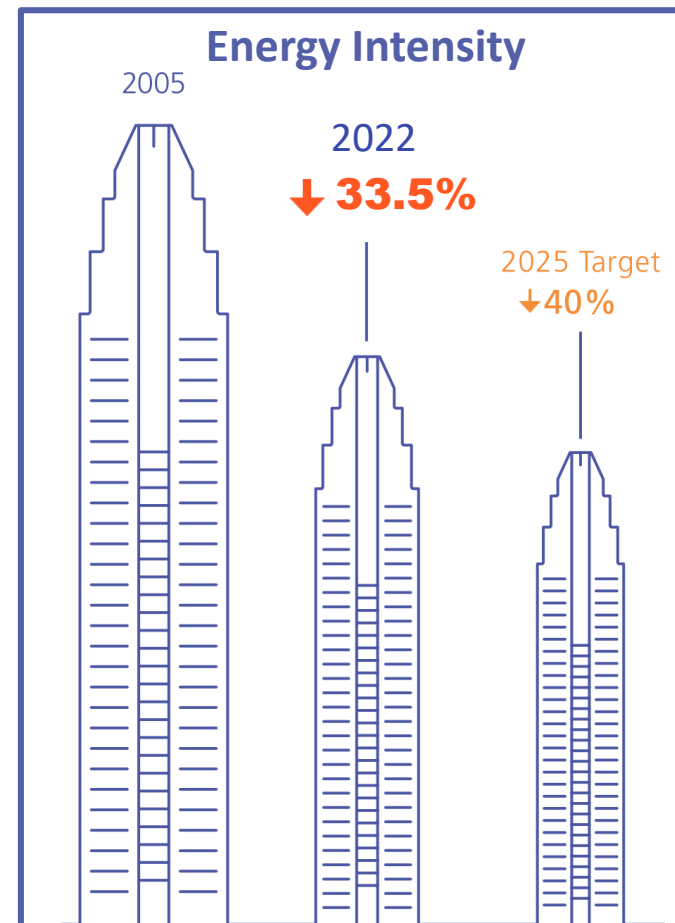


圖表 Chart 9
所有能源使用按燃料劃分
Total Energy Consumption by Fuel

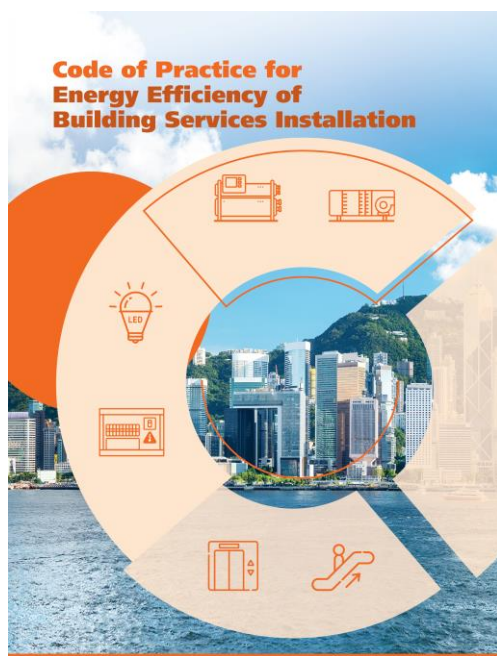
參考表格 Refer Table 2
單位 Unit: 太焦耳 Terajoule



Energy Intensity

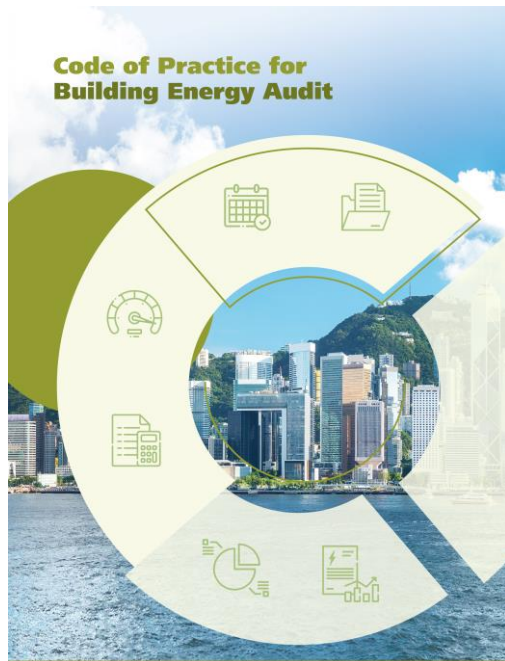


Governing Buildings Energy Efficiency



2021

EMSD



2021

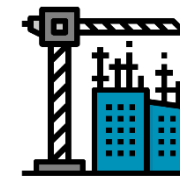
EMSD



Estimated electricity saving of about **5 billion kWh/year** by 2035 (compare with current legislation)

Buildings Energy Efficiency Ordinance

- Energy efficiency standards of building services installations are reviewed once every 3 years



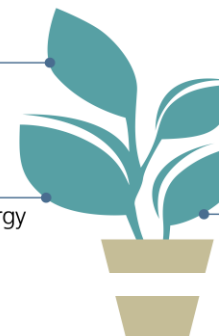
(2021 edition: 15% uplifts compare to 2015)
(2024 edition: to be release by end 2024)

>4,000

Energy Audit Reports

>1,100

Registered Energy Assessors

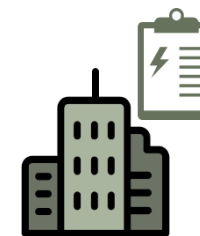


>15,000

Major Retrofitting Works in Existing Buildings

>2,300

New Buildings



- Legislative amendments in 2024/25:
 - Cover more types of buildings
 - Shorten interval of energy audit
 - Enhance data transparency

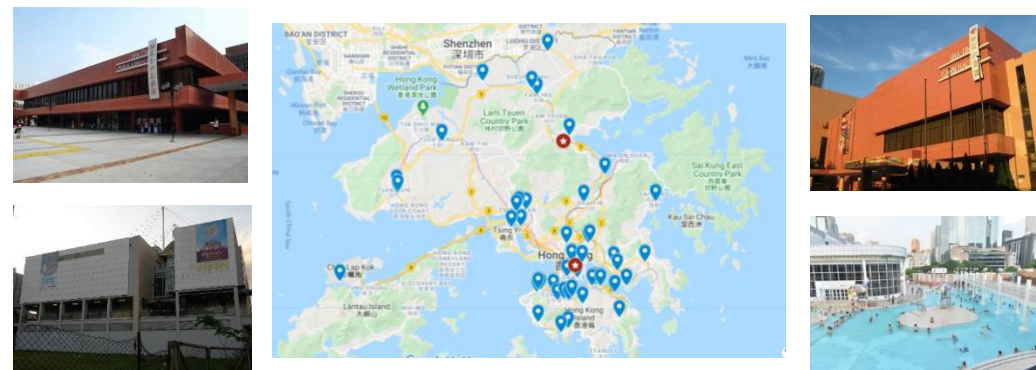
Retro-commissioning (RCx)

Existing buildings are often...



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

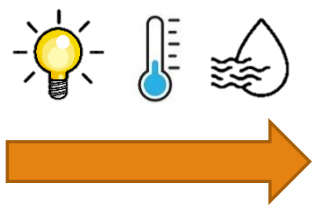
Conduct RCx in suitable major government buildings



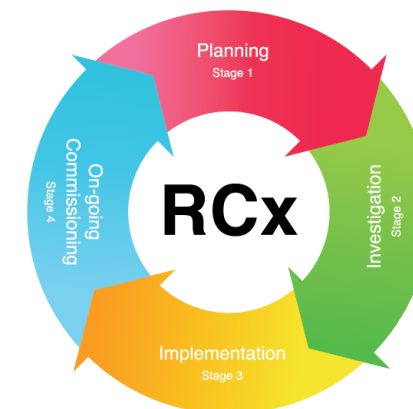
Wireless data collection of room condition



Smart Sensors



Workstation



Retro-commissioning (RCx)

EMSD

TECHNICAL GUIDELINES ON RETRO-COMMISSIONING

2023

The cover features a collage of images related to building systems: a server room, a control panel, a person checking a gauge, and a computer monitor displaying data.

广东省建设科技与标准化协会

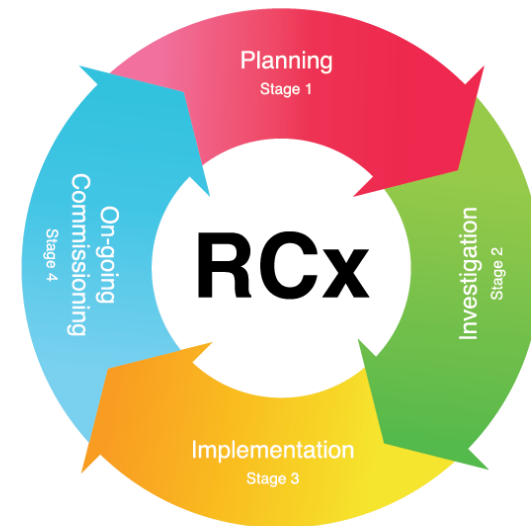
关于发布《粤港澳大湾区既有建筑机电系统再调适技术导则》的公告（省建标发布函【2024】013）

根据广东省建设科技与标准化协会【关于同意《粤港澳大湾区既有建筑机电系统再调适技术导则》《石英砂蒸压加气混凝土板》两项团体标准立项的公告】（省建标立项函[2020]003）的相关要求，由广东省建筑科学研究院集团股份有限公司联合香港机电工程署等单位编制的团体标准《粤港澳大湾区既有建筑机电系统再调适技术导则》，经广东省建设科技与标准化协会组织审查，现批准发布，编号为T/GDJSKB 015-2024。自2024年3月1日起实施。

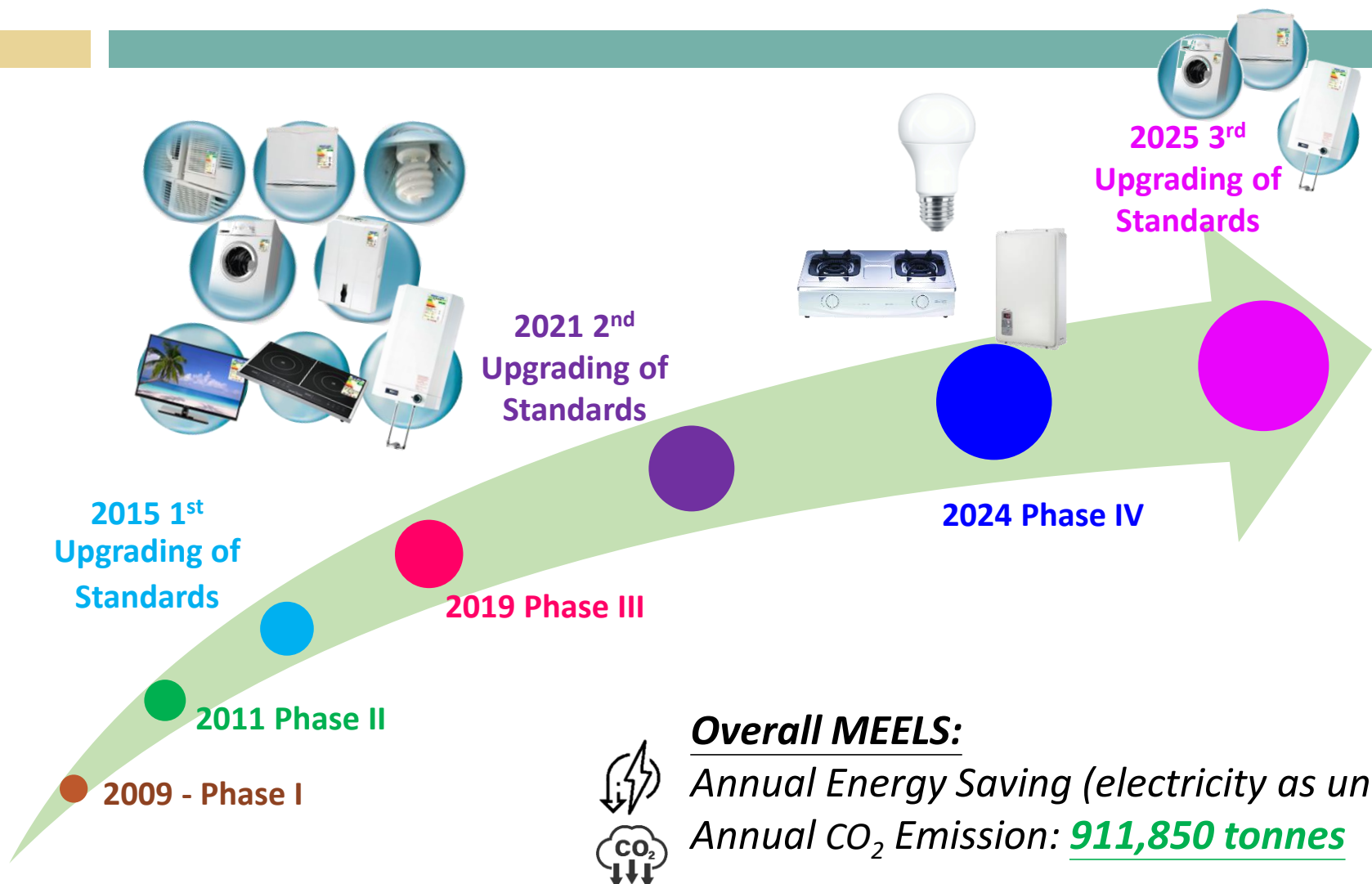
广东省建设科技与标准化协会

2024年1月4日

抄送：广东省住房和城乡建设厅科信处



Mandatory Energy Efficiency Labelling Scheme (MEELS)



MEELS Energy Coverage in Residential Sector

80% (11 products) (Phase IV)

↑

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

Overall MEELS:

Annual Energy Saving (electricity as unit): **1,353 GWh**

Annual CO₂ Emission: **911,850 tonnes**



Green Tech Fund



PRIORITY THEME

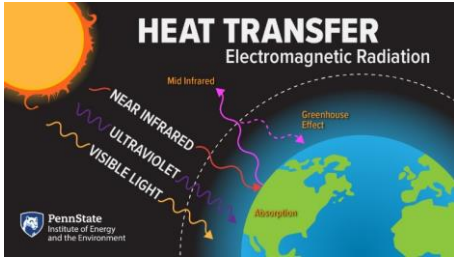
Net-Zero Electricity Generation

Energy Saving and Green Buildings

Green Transport

Waste Reduction

Innovative Energy Efficiency and Conservation: Radiative Cooling Coating (RCC)



An eco-friendly smart day-time radiative cooling coating to keep buildings cool without air conditioners

- ❑ The coating has broadband infrared emissivity that enables the heat dissipation to the outer space while dynamically exchanging heat with the atmosphere. The coating uses Mie-resonance multi-layer particle scattering instead of metal based specular reflection to reduce the solar absorption.
- ❑ The coating integrates fluorescent pigments into the matrix to break through the limitation of conventional coating materials in achieving minimal solar absorption. The coating is waterborne and has minimal VOC emission and thus is environmental friendly.
- ❑ The coating has self-cleaning property, so as to minimize the daily maintenance work.
- ❑ The coated building surface can achieve a sub-ambient cooling effect (i.e. the surface temperature is lower than the ambient) in summer under direct sunlight in Hong Kong.



Reduced daytime indoor air temperature of an average of 2°C

RCC trials conducted on metallic and concrete surfaces of one-storey building roofs



Thank You

