



**ENERGY SAVING  
FOR ALL**

# Energy Saving Charter 2020

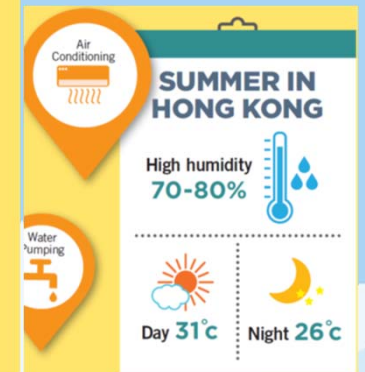
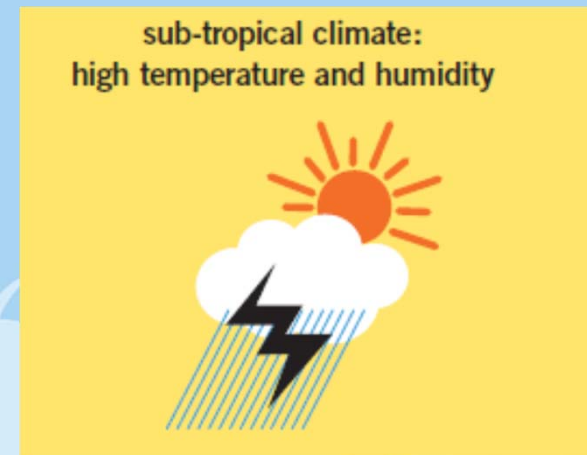
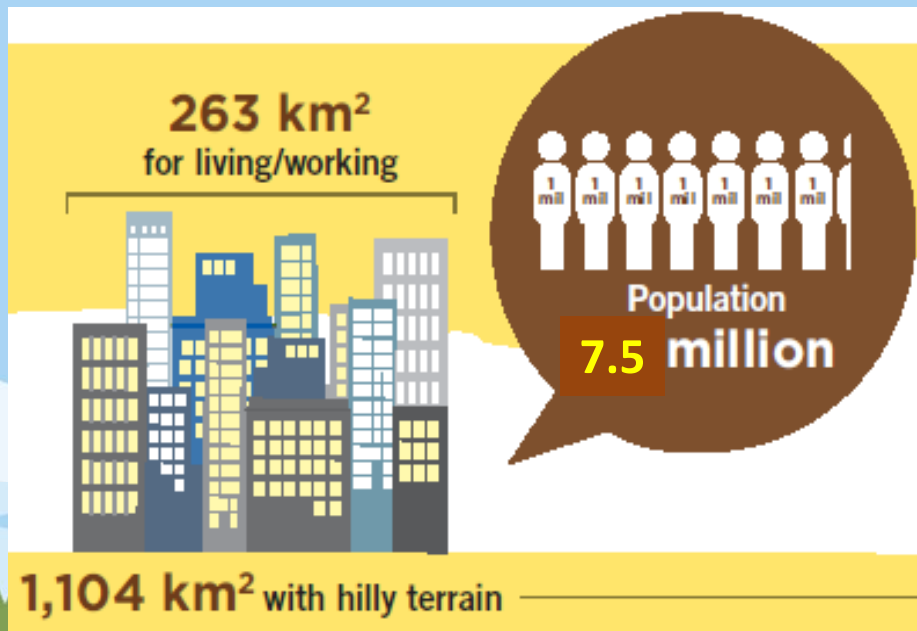
Aug 2020



# Hong Kong's Position

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- High population density: approx. 28,000 persons/km<sup>2</sup> (Built-up areas only)
- High humidity and Hot in summer (average 29 very hot days per year in past 5 years)



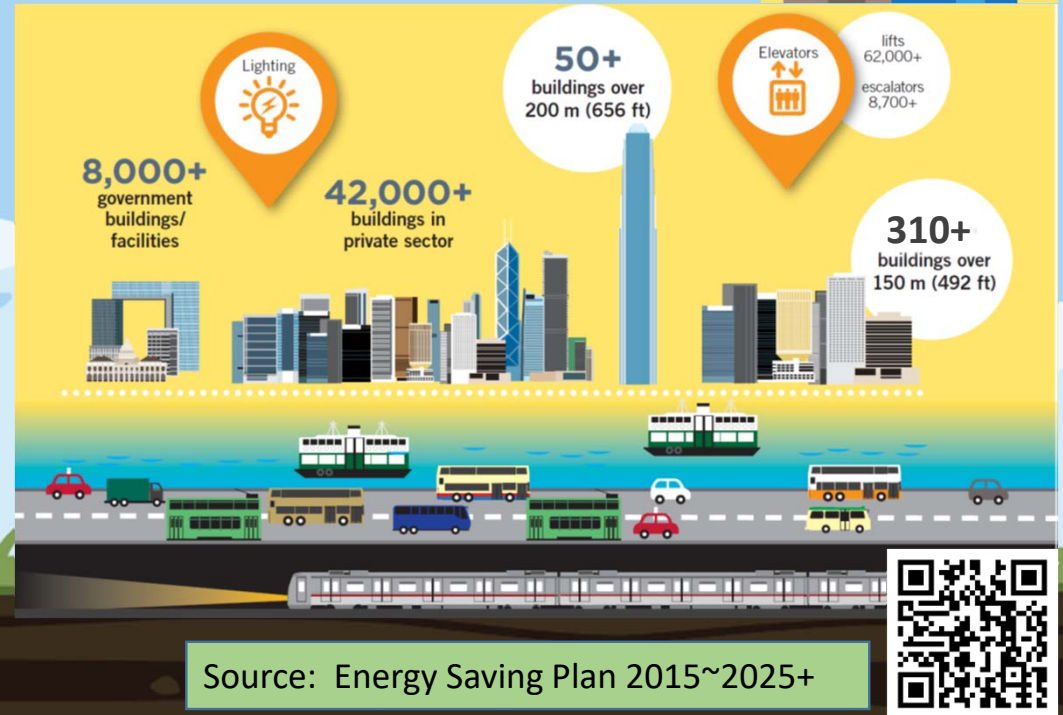
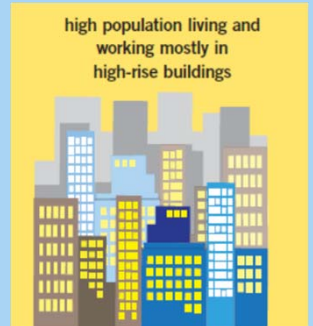


# Hong Kong's Position

- 50,000+ buildings (360+ skyscrapers over 150m or 40/F)
- Total energy use (2017) : 286,270 Tera-joules (TJ)
- Total electricity use (2017) : 43,880 million kWh (~500 kWh/month/person)



## ENERGY SAVING FOR ALL





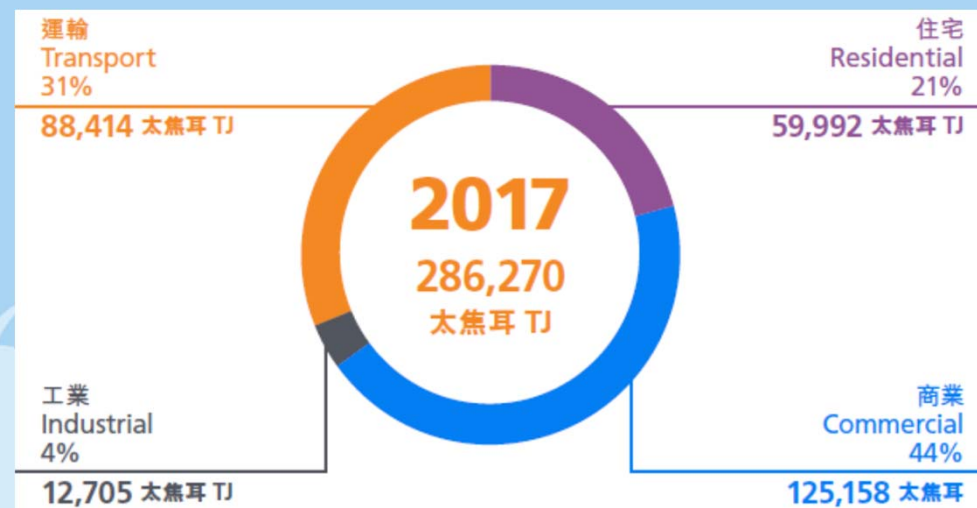
# Hong Kong's Energy Use

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## Energy End-use by Fuel Types



## Energy End-use by Sectors



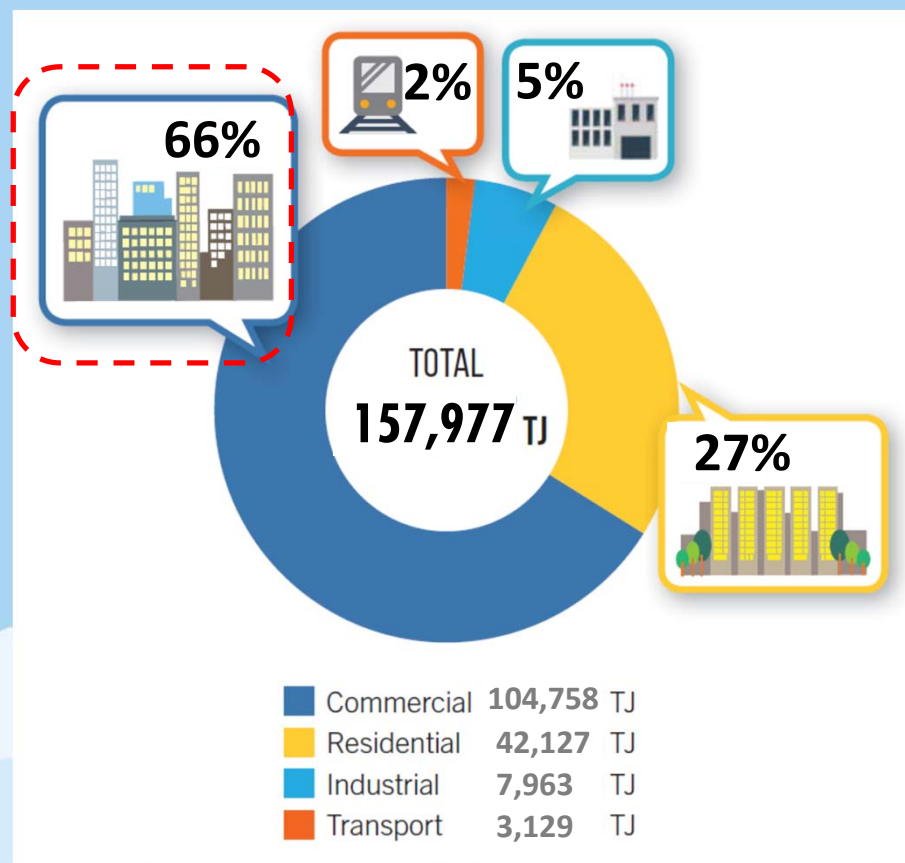
Source: Hong Kong Energy End-use Data, EMSD





# Hong Kong's Electricity Consumption

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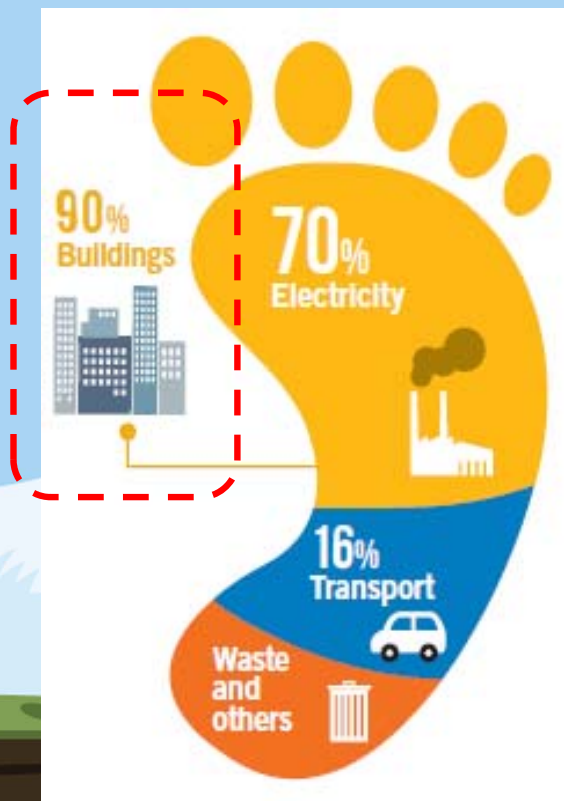
Source: Hong Kong Energy End-use Data [https://www.emsd.gov.hk/filemanager/en/content\\_762/HKEEUD2019.pdf](https://www.emsd.gov.hk/filemanager/en/content_762/HKEEUD2019.pdf)



# Hong Kong's Electricity Consumption

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Electricity generation is major source of carbon emissions



**Building sector:**

~ **90%** electricity

~ **60%** carbon emission



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# Energy Saving Charter

(First launching in 2012)

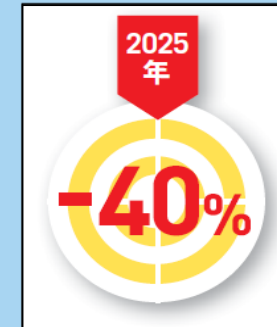


# Energy Saving Charter - Background

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## Energy Saving Plan

- Target: **40% reduction** in energy intensity (energy use per GDP) in 2025 (using 2005 as base year)
- Engage large energy commercial users to save energy
- Inhabitants' behavior and use of appliances are critical in energy saving in buildings



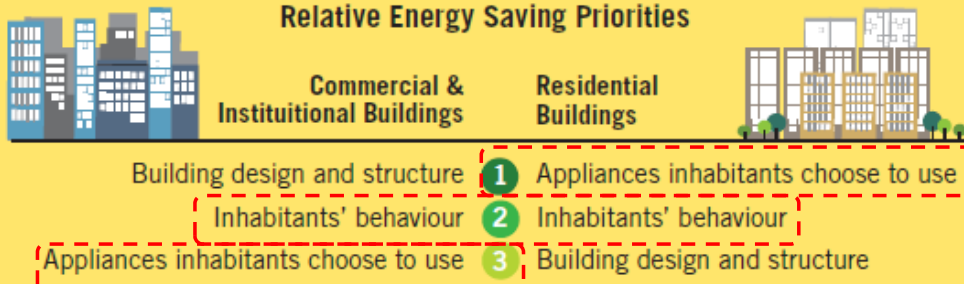
## KEY ACTIONS



### SOCIAL

- 8 Support community campaigns via government funding schemes
- 9 Collaborate with large energy commercial users to develop sector specific campaigns
- 10 Secretary for the Environment to engage built environment leaders to accelerate green building adoption in the private sector

## Relative Energy Saving Priorities



Source: 《Energy Saving Plan 2015~2025+》 <http://www.enb.gov.hk/sc/energysavingplan.html>





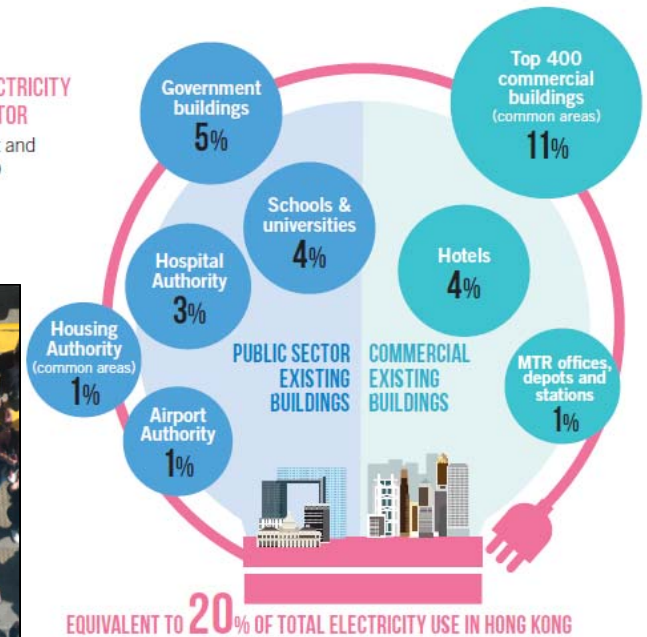
# Energy Saving Charter - Background

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Major electricity users:

- Commercial buildings (11% for top 400)
- Government buildings (5%)
- Schools & universities (4%)
- Hotels (4%)
- Hospitals (3%)
- Housing Authority (1%)

**FIGURE 13**  
**PERCENTAGE OF ELECTRICITY  
IN COMMERCIAL SECTOR**  
(includes government and  
institutional buildings)



Source: Climate Action Plan 2030+, <http://www.enb.gov.hk/sites/default/files/pdf/ClimateActionPlanEng.pdf>



# Energy Saving Charter - Scope

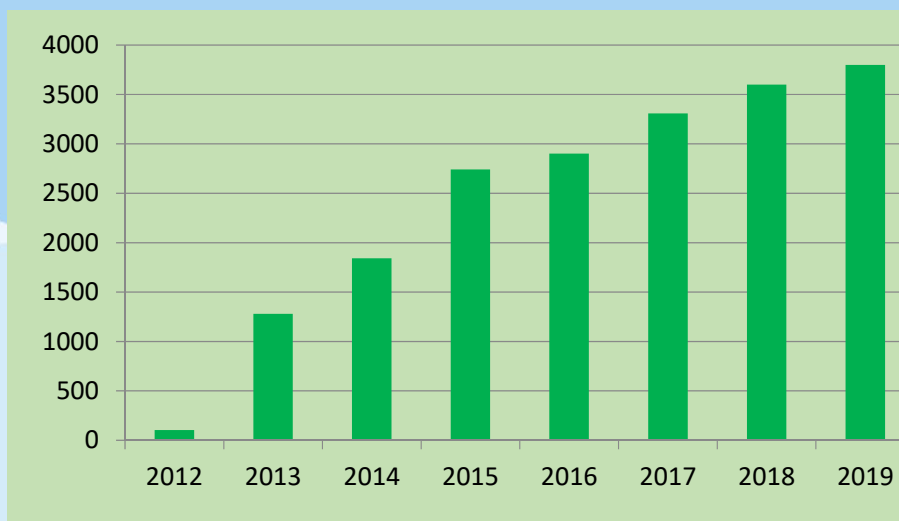
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2012 - 2015

2016 - 2020

Energy Saving Charter on Indoor Temperature

Energy Saving Charter





# Energy Saving Charter - Category

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2012	2013	2014	2015	2016	2017 - 2020
Shopping Mall	Shopping Mall	Shopping Mall	Shopping Mall	Shopping Mall	Shopping Mall
	Shop	Shop	Shop	Shop	Shop
	Office Building	Office Building	Office Building	Office Building	Office/ Commercial/ Industrial Building
	Office	Office	Office	Office	Office
		Residential Building/ Housing Estate	Residential Building/ Housing Estate	Residential Building/ Housing Estate	Residential Building/ Housing Estate
			NGO	NGO	NGO/ Community Facility
				School	School (Kindergarten/ Primary & Secondary/ Post Secondary)
					Hotel
					Hospital
					Others



# Energy Saving Charter 2020 – Coverage

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## 10 Categories:-

- 1) Shopping Mall
- 2) Residential Building/ Housing Estate
- 3) Office/ Commercial/ Industrial Building
- 4) Office\*
- 5) Non-governmental Organization/Community Facilities
- 6) Shop \*
- 7) Schools (Kindergarten / Primary & Secondary Schools / Post-Secondary Education Institution)
- 8) Hotel
- 9) Hospital
- 10) Others (not covered in the above sectors, such as Airport Authority, MTRC, quasi-government organizations)

\* Supportive organizations (recruit shops/offices)





# Energy Saving Charter 2020 – Benefits

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- 1) Participating certificates for signatories
  - ✓ With recognition for premises signed up the Charter (e.g., since 2012)
- 2) Uploading names participating premises to event website

**PARTICIPANTS**

Shopping Mall

- Office Building / Commercial Building / Industrial Building
- Housing Estate / Residential Building
- Office
- Shop
- Non-governmental Organisation / Community Facility
- School (Kindergarten / Primary & Secondary Schools / Post-Secondary Education Institution)
- Hotel
- Hospital
- Others

**2019**

**Shopping Mall**

- 1881 Heritage
  - 1881 Heritage
- ARA Asset Management (Fortune) Limited
  - Fortune Kingswood
- Belair Garden Management Company
  - Belair Gardens (Shopping Arcade)
- Cayley Property Management Company Lim
  - Smithfield Court
- Citybase Property Management Limited
  - The Pacifica Mall
- Country House Property Management Limit
  - Pioneer Centre
- Fanling Town Centre Management Limited
  - Fanling Town Centre

**Home**

**環境局**  
Environment Bureau

**機電工程署**  
EMSD

**節能約章2019**  
Energy Saving Charter

**為應對氣候變化，提倡全民節能**  
我們支持政府的《節能約章2019》  
我們承諾

(1) 在2019年夏季6月至9月期間，將室內平均溫度維持在24至26度之間；  
(2) 在2019年6月至2020年5月期間，關掉不使用的電器及系統；並且採購具能源效益的產品（如貼有一級能源標籤）及系統；及  
(3) 與員工 / 學生 / 租客共同實踐以上節約能源措施。

**To encourage community-wide participation in saving energy we support the Government's Energy Saving Charter 2019**

**We pledge**

(a) maintain average indoor air temperature between 24-26 °C during the summer months of June to September in 2019;  
(b) switch off electrical appliances & systems when not in use and procure energy efficient electrical appliances (such as with Grade 1 energy labels) & systems from June 2019 to May 2020; and  
(c) engage staffs / students / tenants to adopt the above energy saving practices together.

Certificate template is for reference only, design will be further finalized





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# Energy Saving Charter 2020 – Benefits

- 3) Supportive organizations (recruit shops/offices) – recognition by appreciation certificates/ invite Hanson to visit supportive shopping malls





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# Energy Saving Charter 2020 – Scope

## 1) To implement energy saving practices

- ✓ Maintain average indoor temperature at 24-26°C during summer (*June to September 2020*)
- ✓ Switch off appliances and systems when not in use
- ✓ Procure energy efficient products and systems (*such as Grade 1 electrical appliances*)
- ✓ Engage staff/students/tenants to adopt the above practices together

## 2) Implement from June 2020 and May 2021 (12 months)



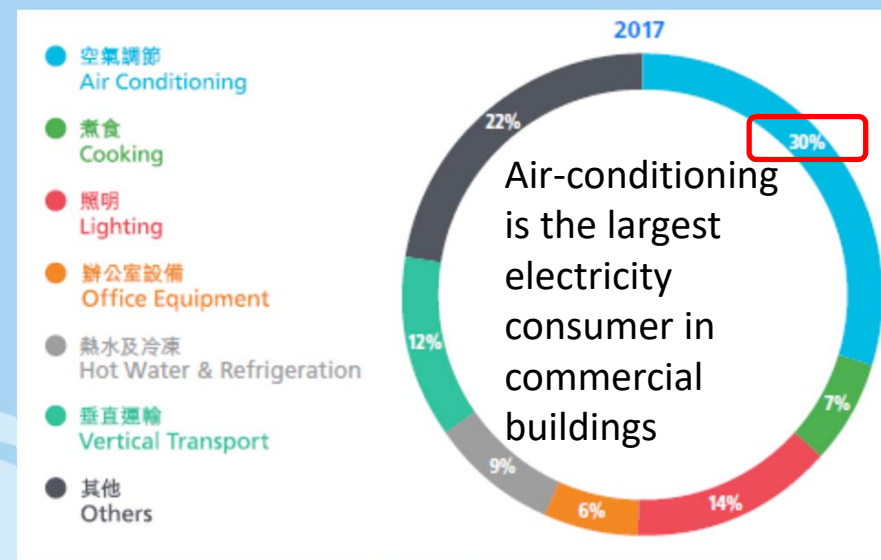
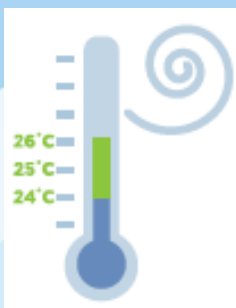


# Energy Saving Charter 2020 – Scope

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## (1) Maintain average indoor room temperature at 24-26°C during summer (June to September)

- Similar practice adopted in the Mainland (26°C ), Japan (26°C ) and US (78°F, which is about 25.5°C )





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# Energy Saving Charter 2020 – Scope

## **(1) Maintain indoor room temperature at 24-26°C during summer**

- Conduct air temperature measurement regularly
- Keep all the windows and doors close when air-conditioner is running.
- Keep doors between air-conditioned and non-air-conditioned areas such as those connecting the outside of the building, lift lobbies, toilets and stores shut so as to minimize air infiltration when the air-conditioner is operating.
- Procure fridges with doors and keep doors of fridges closed.





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# Energy Saving Charter 2020 – Scope

## **(2) Switch off appliances and systems when not in use**

- Lights, air-conditioners should be switched off in areas that are unoccupied.
- lift and escalator idled or with light load during non-peak hours.
- Use appliances with timer control or automatically switch-off control functions to avoid leaving appliances in standby mode for a long period
- Switch off the computer screen can save more energy instead of letting the "screen saver" run.
- Arrange for the last-man-out to check and switch off the power source when leaving office

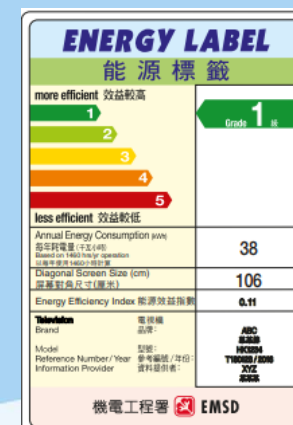
See more tips at [http://www.energysaving.gov.hk/esc2018/filemanager/doc/be\\_hanson\\_energy\\_saving\\_tips.pdf](http://www.energysaving.gov.hk/esc2018/filemanager/doc/be_hanson_energy_saving_tips.pdf)





# ENERGY SAVING FOR ALL

**(3) Procure energy efficient appliances and systems, such as appliances with **Grade 1 energy label****



	第1級比第3級 Grade 1 vs Grade 3	第1級比第5級 Grade 1 vs Grade 5
空調機（製冷表現） Room Air Conditioners (Cooling Performance)	23%	43%
空調機（供暖表現） Room Air Conditioners (Heating Performance)	18%	37%
冷凍器具 Refrigerating Appliances	41%	97%
慳電膽 Compact Fluorescent Lamps (CFLs)	14%	18%

Source: <https://www.emsd.gov.hk/energylabel/en/about/background2.html>



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# Energy Saving Charter 2020 – Scope

## (3) Procure energy efficient appliances and systems, such as appliances with **Voluntary Energy Efficiency Labelling Scheme (VEELS)**

Grading Type	
Household Appliances	Refrigerating Appliances (Voluntary Scheme), Room Air Conditioners (Voluntary Scheme), Household Electric Storage Water Heaters, Washing Machines (Voluntary Scheme), Television, (Light Emitting Diode) LED Lamp, Induction Cookers and Electric Clothes Dryers

Recognition Type	
Household Appliances	Non-integrated Type Compact Fluorescent Lamps, Electric Rice-Cookers, Dehumidifiers (Voluntary Scheme), Microwave Ovens and Electronic Ballasts
Office Equipment	Computers, Hot/ Cold Bottled Water Dispensers, LCD Monitors, Photocopiers, Fax Machines, Multifunction Devices and Printers
Gas Appliance	Domestic Gas Instantaneous Water Heaters and Gas Cookers

ENERGY LABEL 能源標籤	
Brand 牌子	ABC 某某牌
Model 型號	HK1234
Annual Energy Consumption * kWh/yr 每年耗電量 每年耗電量	364
Energy Efficiency Grade* 能源效率級別	2
Washing Machine Category * 洗衣機類別	1
Washing Capacity (kg) 洗衣量 (公斤)	5
Water Consumption (litre) 耗水量 (公升)	72
EEL Registration Number 能源標籤登記號碼	W 97-0001

ENERGY LABEL 能源標籤	
Reg. No. 登記號碼: RC11-0001	
Electric Rice-Cooker (電飯煲)	
機電工程署 EMSD	

Source: <https://www.energysaving.gov.hk/esc2019/en/tips/index.html>

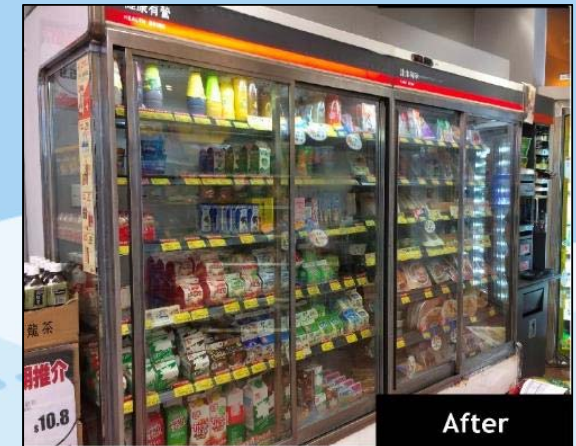


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# Energy Saving Charter 2020 – Scope

Procure fridges with door

- Approach head offices of chain shop, supermarkets



Source: <https://www.wwf.org.hk/en/news/featuredstories/?19520/Feature-Story-Fridge-Doors-Save-the-Climate-Hong-Kongs-first-energy-report-and-best-practice-guide-on-commercial-refrigeration>





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## Energy Saving Charter 2020 – Scope

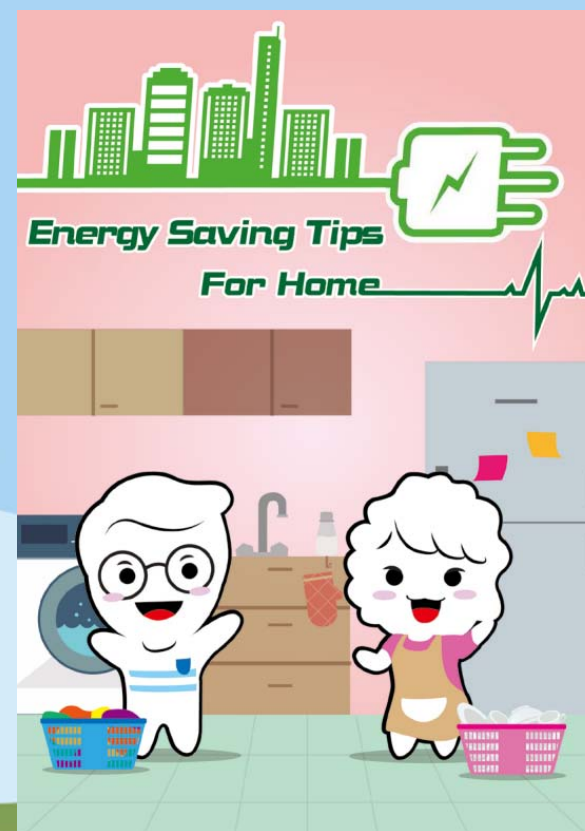
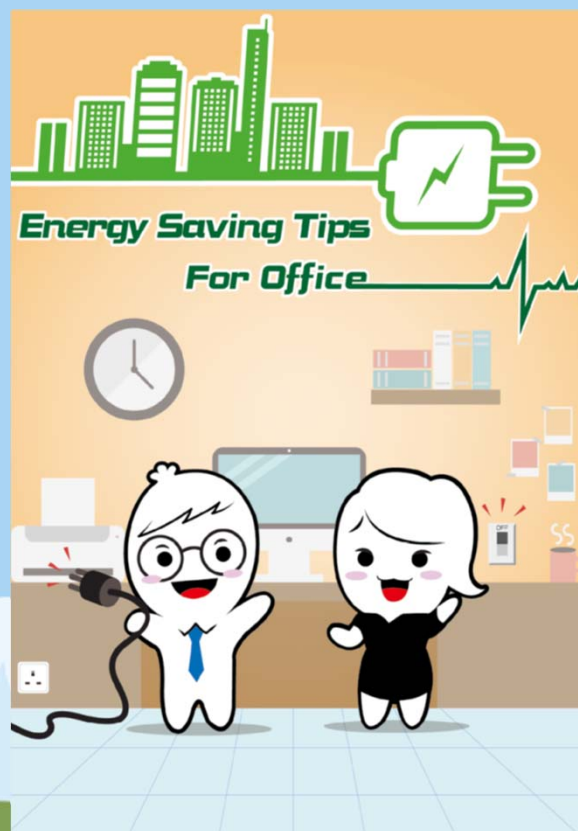
### **(4) Engage staff / students to adopt the above energy saving practices together**

- Involve staff / students in planning and implementation of energy saving practices.
- Set goals and provide feedback to staff / students on progress / results of energy saving practices
- Provide briefing / seminar / workshops to staff / students
- Communicate regularly with staff / students on energy saving practices
- Create opportunities for sharing of goals and accomplishments.



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# Energy Saving Charter 2020 – Saving Tips



Source: [https://www.emsd.gov.hk/filemanager/en/content\\_718/Energy\\_Saving\\_Tips\\_for\\_Office.pdf](https://www.emsd.gov.hk/filemanager/en/content_718/Energy_Saving_Tips_for_Office.pdf)

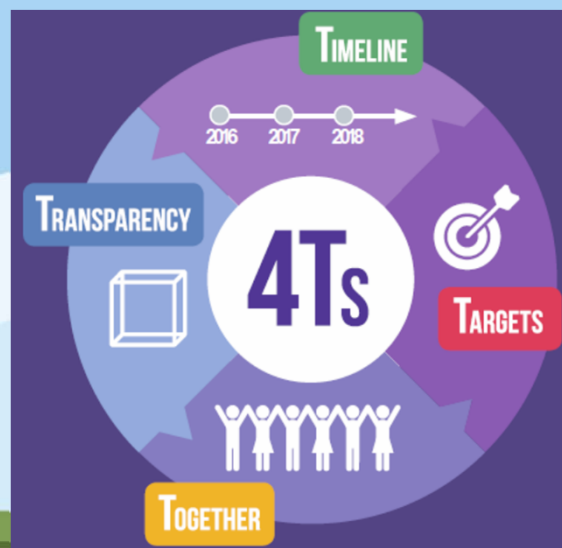




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# 4T Charter

First launched in 2017





# 4T Charter

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## 4T Charter

### Pledging to

- set energy saving **target** with a **timeline**
- ensure **transparency** on energy saving results and building energy data
- encourage inhabitants to work **together** on the above energy saving target

### Categories

- Shopping Mall
- Office/Commercial/Industrial Building
- Housing Estate/Residential Building
- Office
- Shop
- Non-governmental Organisation/Community Facility
- Kindergarten/Primary School/Secondary School/Post-Secondary Education Institution
- Hotel
- Hospital
- Others

Please refer to the website  
(<http://www.energysaving.gov.hk/esc2020/en/charter/index.html>)  
for details.  
For enquiries, please contact the Secretariat  
Tel. 3155 3977



*Details:* <https://www.energysaving.gov.hk/esc2019/en/4ts-tips/index.html>



## 4T Charter

- Establishing energy saving **target** with **timeline**:-

### Example

8 years energy saving target plan

(i)	基準年份 Base Year	2017	年份 Year
(ii)	目標年份 Target Year	2025	年份 Year
(iii)	與基準年份相比，目標年份能源節省的百份比 Percentage of Energy Reduction by Target Year when compare with Base Year	6	%
(iv)	基準年份的總能源消耗 <sup>1</sup> Total Energy Consumption of Base Year	6,856,561	兆焦耳 (MJ)
Include 12 months of energy consumption of the base year			

Note 1: 1 kWh is equivalent to 3.6 Mega Joules (MJ)

Total energy consumption including electricity in kWh x 3.6 MJ + gas consumption in MJ



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Thanks  
Q & A

