



GUIDE TO ENVIRONMENTAL REPORTING FOR THE GOVERNMENT BUREAUX AND DEPARTMENTS



環境保護署

Environmental Protection Department

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Chapter 1 Introduction

1.1 Purpose of Environmental Reports

This Guide is produced by the Environmental Protection Department (EPD) to assist the Controlling Officers of Bureaux or Departments (B/Ds) within the Hong Kong Special Administrative Region (HKSAR) Government in preparing their Environmental Reports.

It is important for the Government to take a proactive role in incorporating environmental and sustainability considerations in the formulation and execution of its policies and programmes, as well as maintaining green office practices in their daily operations. In this connection, all B/Ds within the Government are required to publish their Environmental Reports since 1999.

Environmental Reports can demonstrate the B/Ds' awareness of the latest environmental policy directives, the environmental aspects of their work, how these issues are being addressed and how it is intended to improve upon the environmental performance in future and the contribution of their work to Hong Kong's overall environmental goal.

In line with the latest environmental policy directive to eventually achieve carbon neutrality, this Guide provides a general guidance on the framework and key elements for reporting environmental performance and progress in the Controlling Officer's Environmental Report.

Chapter 2 Overview of the Government's Environmental Policy

2.1 Government's Environmental Goal

The Paris Agreement, a legally binding global agreement within the United Nations Framework Convention on Climate Change ("UNFCCC") dealing with greenhouse gas ("GHG") emissions, was adopted by 195 parties including China and came into force on 4 November 2016 with a view to containing global temperature rise to well below 2°C compared with pre-industrial times and striving to limit to 1.5°C. As decided by the Central People's Government, the Paris Agreement applies to the HKSAR.

In response to the Paris Agreement to combat climate change, the Government sets an interim decarbonisation target to reduce Hong Kong's total carbon emissions by 50% before 2035 as compared to the 2005 level, and strives to achieve carbon neutrality before 2050. This is also the Hong Kong's overall environmental goal.

The work of combating climate change cuts across many policy areas and requires extensive coordination both within and outside the Government. It is therefore crucial for all B/Ds to demonstrate their efforts in implementing various decarbonisation measures in their Environmental Reports and strive to encourage the participation of the whole community.

In Hong Kong's Climate Action Plan 2050, the Government has introduced four multipronged decarbonisation strategies covering various measures and targets on the road to carbon neutrality as summarised in **Table 2.1**, including: -

- (i) Net-zero Electricity Generation;
- (ii) Energy Saving and Green Buildings;
- (iii) Green Transport; and
- (iv) Waste Reduction.

2.2 Environmental Policy Documents

To achieve the overall environmental goal, there are a number of strategic plans promulgating up-to-date policy directives and targets as summarised in **Table 2.2**.

- (i) Hong Kong's Climate Action Plan 2050;
- (ii) Waste Blueprint for Hong Kong 2035;
- (iii) Hong Kong Roadmap for Popularisation of Electric Vehicles;
- (iv) Clean Air Plan for Hong Kong 2035; and
- (v) Energy Saving Plan for the built Environment 2015-2025+.

Table 2.1 Four Major Decarbonisation Strategies in Hong Kong’s Climate Action Plan 2050

Decarbonisation Strategies	Net-zero Electricity Generation	Energy Saving and Green Buildings	Green Transport	Waste Reduction
Measures	<ul style="list-style-type: none"> ● Cease using coal for daily electricity generation ● Increase the share of renewable energy in the fuel mix for electricity generation ● Try out the use of new energy and strengthen co-operation with neighbouring regions 	<ul style="list-style-type: none"> ● Reduce the overall electricity consumption of buildings through promoting green buildings, improving buildings' energy efficiency and promoting a low-carbon lifestyle 	<ul style="list-style-type: none"> ● Promote electrification of vehicles and ferries ● Develop new-energy transport and measures to improve traffic management 	<ul style="list-style-type: none"> ● Develop adequate waste-to-energy facilities to move away from reliance on landfills for municipal waste disposal ● Further promote waste reduction and recycling ● Implement municipal solid waste (MSW) charging ● Introduce producer responsibility schemes for more products ● Regulate single-use plastic tableware and other plastic products in phases
Long-term Target	Net-zero carbon emissions in electricity generation before 2050	Reducing the electricity consumption of commercial buildings by 30% to 40%, and that of residential buildings by 20% to 30% by 2050, using the operational conditions of 2015 as the comparison basis.	Zero carbon emissions from vehicles and transport sector before 2050	Carbon neutrality in waste management.

Table 2.1 Four Major Decarbonisation Strategies in Hong Kong’s Climate Action Plan 2050 (cont.)

Decarbonisation Strategies	Net-zero Electricity Generation	Energy Saving and Green Buildings	Green Transport	Waste Reduction
Medium-term Target	Cease using coal for daily electricity generation by 2035 and raise the share of zero-carbon energy in the fuel mix for electricity generation to about 60% to 70% before 2035	Reducing the electricity consumption of commercial buildings by 15% to 20%, and that of residential buildings by 10% to 15% by 2035, using the operational conditions of 2015 as the comparison basis.	Set a concrete timetable for adopting new energy public transport	Enhance waste reduction and recycling

Table 2.2 Prevailing Environmental Strategic Plans

	Hong Kong’s Climate Action Plan 2050	Waste Blueprint for Hong Kong 2035	Hong Kong Roadmap for Popularisation of Electric Vehicles	Clean Air Plan for Hong Kong 2035	Energy Saving Plan for the built Environment 2015-2025+
Vision	“Zero-carbon Emissions · Liveable City · Sustainable Development”	“Waste Reduction · Resources Circulation · Zero Landfill”	“Zero Carbon Emissions · Clean Air · Smart City”	“Healthy Living · Low-carbon Transformation · World Class”	-
Long-term Target	To achieve carbon neutrality before 2050	By developing adequate waste-to-energy facilities, to move away from the reliance on landfills in the long run	To achieve zero vehicular emissions by 2050	Air quality to fully meet the ultimate targets under the Air Quality Guidelines of the World Health Organization	To achieve energy intensity reduction by 40 % by 2025 using 2005 as the base
Medium-term Target	To reduce the total carbon emissions by half before 2035 from the 2005 level	By implementing MSW charging and other waste reduction and recycling initiatives, to gradually reduce the per capita MSW disposal by 40-45% and increase the recovery rate to about 55%	No new registration of fuel-propelled private cars including hybrid vehicles in 2035 or earlier	To become a liveable city with air quality on par with major international cities by 2035	-

Notes:

1. Hong Kong’s Climate Action Plan 2050, Waste Blueprint for Hong Kong 2035, Hong Kong Roadmap for Popularisation of Electric Vehicles and Clean Air Plan for Hong Kong 2035 are available at: https://www.epd.gov.hk/epd/english/resources_pub/policy_documents/index.html
2. Energy Saving Plan for the built Environment 2015-2025+ is available at: <https://www.eeb.gov.hk/sites/default/files/pdf/EnergySavingPlanEn.pdf>

Chapter 3 Framework of Environmental Reports

3.1 B/D's Profile

B/D's profile section in the Environmental Report should summarise information about the policy areas, activities and programmes for which the B/D is responsible. Typically, descriptions of the following items may be included to facilitate readers to understand the work of the B/D and have a clear idea on the content of the report, including: -

- Core responsibility (i.e. activities and programmes for which the B/D is responsible and the associated policy areas);
- B/D's role and responsibility in environmental protection and sustainability development;
- List of offices/ buildings/ facilities that B/D is occupying, managing or operating;
- Profile of establishment;
- Expenditure for which the B/D is responsible; and
- Any major operational changes that may affect environmental performance in the reporting period (e.g. commissioning of new plants and facilities).

This section should be concise and focused but with sufficient details to relate to the other content elements such as decarbonisation and environmental initiatives, environmental performance and progress analysis in the reporting year that follow.

Examples of Core Responsibility: -

“The EEB(EB) and EPD are responsible for developing government policies and programmes to protect Hong Kong's environment. The EEB(EB) is responsible for overall policy on the environment. The EPD assists EEB(EB) to develop and implement policies and programmes on climate change, air, environmental assessment and planning, noise, waste and water. The EEB(EB) also develops policy on nature conservation, which is implemented by the Agriculture, Fisheries and Conservation Department (AFCD). ...”

(Extracted from EPD “Environmental Performance Report 2023”, p7)

“The DSD is committed to providing world-class wastewater and stormwater drainage services for Hong Kong and thereby reducing flood risks for the community. To continuously enhance flood prevention and sewage treatment efforts, the DSD is building “Rivers in the City” in a more proactive way to sustain the water quality in Hong Kong and create a more livable environment for citizens.”
(Extracted from Drainage Services Department (DSD) “DSD Sustainability Report 2021-22: City • River • Communion”, p.72)

3.2 Highlights of the Year

(i) Contributions to Government’s Overall Environmental Goal

The Government has pledged to achieve carbon neutrality before 2050 (i.e. Hong Kong’s overall environmental goal), which requires a “whole-government” approach in planning and implementing bold, comprehensive and coherent strategies and action plans. Taking into account the policy areas, activities and programmes, and B/Ds’ efforts in reducing carbon emissions, B/Ds’ are recommended to highlight their key initiatives conducive to achieving this goal, as well as the performance and progress of these initiatives in their Environmental Reports to showcase the Government’s concerted efforts.

Examples of Highlights Related To Decarbonisation: -

“The development of renewable energy contributes towards the Government’s target of achieving carbon neutrality by 2050. We grasp the opportunity brought by the 24 square kilometres of reservoir water surface to proactively develop mega-scale floating photovoltaic systems at impounding reservoirs for harnessing solar energy efficiently. With the successful pilots installed at the Shek Pik, Plover Cove and Tai Lam Chung reservoirs, we are planning larger floating solar farms at these three reservoirs to generate about 50 gigawatt-hours per year (GWh/year) of renewable energy in total. In parallel, we are also exploring the feasibility of a mega-scale floating solar farm at the Plover Cove Reservoir. Our plan is to increase progressively the renewable energy generation capacity up to about 160 GWh/year by 2035 onwards...”

(Extracted from Water Supplies Department “Annual Report - Water Supplies Department 2021 – 2022”, p.8)

“International and regional exchanges

Hong Kong continues to work closely with the international community on climate change, including Parties to the United Nations' Framework Convention on Climate Change and the C40 Cities Climate Leadership Group, on the objectives of the Paris Agreement. Regionally, Hong Kong and Guangdong have been promoting and deepening exchanges and co-operation on climate change mitigation, adaptation and resilience, such as plans for achieving decarbonisation and carbon neutrality, RE technologies, retro-commissioning technologies for existing buildings, and the development of new energy vehicles. These exchanges are arranged under the Special Panel on Combating Climate Change of the Hong Kong-Guangdong Joint Working Group on Environmental Protection and Combating Climate Change”

(Extracted from EPD “Environment Hong Kong 2022 – Our Path to Carbon Neutrality”, p.78)

“Involvement in The Formulation of Hong Kong’s Climate Action Plan 2050

During the year, we took part in the formulation of Hong Kong’s Climate Action Plan 2050 (the Action Plan) spearheaded by the then Environment Bureau (ENB), for which we advised on the carbon reduction strategies and actions in the section about energy saving and green buildings. For example, we explored the possibility of expanding the scope of regulation covered by the Buildings Energy Efficiency Ordinance (BEEO) and proposed various approaches, which have been included in the Action Plan after discussion with ENB. The Action Plan was published in October 2021. Our long-term task is to assist ENB to embark on related studies, such as exploring the possibility of further expanding the scope of regulation of the BEEO to cover all buildings with high energy consumption. In view of the development of emerging industries, such as the increasing number of data centres with high energy demand, we will also look for ways to enhance the energy efficiency standards for such buildings, with a view to ensuring that the energy efficiency standards of building services installations are up to date. We will conduct discussion and consultation with the trade on the study results before finalising the content of the related legislative amendments. ...”

(Extracted from Electrical and Mechanical Services Department (EMSD) “EMSD Annual Report 2021/22”, p.73)

(ii) Achievements on Climate Change Adaptation and Resilience

In addition to implementing decarbonisation strategies, a comprehensive strategy on climate change adaptation and resilience to protect the lives, health and properties of people from extreme weather and strengthen the resilience of the community is also indispensable. With reference to various climate change adaptation and resilience strategies in the Hong Kong's Climate Action Plan 2050 (in **Table 3.1**), B/Ds are encouraged to incorporate their work and achievements on these topics to demonstrate the Government's commitment to combating climate change.

Table 3.1 Initiatives for Climate Change Adaptation and Resilience in

Hong Kong's Climate Action Plan 2050

<u>Adaptation</u>	<u>Resilience</u>
a) Strengthening Infrastructure (e.g. review and update the relevant design standards for infrastructure)	a) Contingency Plan for Natural Disasters (e.g. enhance capabilities in post-disaster recovery)
b) Combating Sea Level Rise and Marine Protection (e.g. enhance the capability of low-lying coastal areas and windy locations to withstand storm surges and strong waves)	b) Warning and Monitoring (e.g. enhance dissemination of weather warnings)
c) Combating Extreme Rainstorms and Tropical Cyclones (e.g. enhance flood prevention and drainage management to reduce flood risk)	c) Transport System (e.g. regularly review emergency response plans for transport system)
d) Combating Extreme Droughts and Safeguarding Water Supply (e.g. promote water conservation and implement water loss management)	
e) Combating Extreme Heat (e.g. promote urban forestry and increase tree planting)	

Examples of Achievements on Climate Change Adaptation and Resilience: -

“04. Emergency Preparedness for Climate Change on Slope Safety

Due to climate change, extreme rainfall events will become more frequent and intense. The Civil Engineering and Development Department (CEDD) has conducted a study on the impact of extreme rainfall on the landslide risk in Hong Kong. It is found that under extreme rainfall scenarios, hundreds of landslides affecting buildings and roads could happen in Hong Kong despite that the Hong Kong Slope Safety System has successfully reduced the overall risk of landslides in Hong Kong to an “as low as reasonably practicable” level, commensurate with the international best practice in risk management. To get prepared for the possible extreme landslide scenarios, it is not cost-effective to rely solely on enhanced slope engineering works to manage the risk. Other measures to improve the emergency preparedness and community resilience should also be in place. In this regard, we have stepped up our early warning and emergency response systems by the following measures: -

- 1. CEDD operates the Landslip Warning System jointly with the Hong Kong Observatory to alert the public about the landslide danger during heavy rainfalls. We also manage an extensive cloud-based network of automatic raingauges to collect real-time rainfall data for supporting the operation of the warning system.*
- 2. CEDD has enhanced our landslide emergency system for dealing with severe landslide scenarios. The enhancements include setting up of a service continuity plan to maintain emergency service under prolonged disruption of power supply or communication services in our Headquarters.*
- 3. To expedite emergency response, CEDD is developing the Smart Barrier System, an internet-of-things sensor system, to detect the impact of landslide debris on debris-resisting barriers in real-time and to send instant alerts to relevant officers for prompt follow-up actions.*
- 4. Multiple hazards, e.g. landslides, flooding and tree falls, can occur at the same time in events of extreme weather. With the support of the Development Bureau, CEDD is developing the Common Operational Picture, an electronic platform for real-time sharing of emergency information among relevant government departments. It can provide an instant overall picture of emergency situations in multiple hazard scenarios, enhancing the situational*

awareness and facilitating decision-making and coordination of emergency response across departments.

With the above measures which aim at enhancing our preparedness and resilience against landslide hazards implemented, lives and properties of our community could be safeguarded in extreme rainfall scenarios.”

(Extracted from Civil Engineering and Development Department (CEDD) “Departmental Report 2015 – 2019 – Hong Kong Slope Safety System”)

“In 2018, we updated the Stormwater Drainage Manual by including the design considerations of rainfall increase and sea level rise due to climate change with reference to the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report. We have also commenced a number of studies, including strategic planning studies on flood management against sea level rise and extreme rainfall, to review and formulate long-term flood control strategies as well as to strengthen the capabilities under and get well-prepared in coping with climate change.”

(Extracted from DSD “DSD Sustainability Report 2021-22: City • River • Communion”, p.120)

3.3 Performance and Progress on Key Environmental Reporting Areas

(i) Identification of Environmental Impacts and Reporting Areas

In addition to the above, it is good practice to make clear to the readers what significant impacts the B/D’s activities or programmes may have on the environment taking into account of the following: -

- Offices, buildings and facilities being managed;
- Operational activities undertaken;
- Formulation and execution of its policies or programmes;
- Prevailing Government environmental goal and policies; and
- Role and responsibility of B/D in tackling these environmental impacts and promoting environmental protection and sustainability development.

Annex 1 is a comprehensive checklist to facilitate B/Ds in identifying the environmental reporting areas relevant to their work. The checklist, which is for general reference and not exhaustive, lists out most of, the mandatory and optional environmental requirements of six major reporting areas that might be reported where applicable. The six reporting areas, which are in line with the Hong Kong’s overall environmental goal as mentioned in the previous chapter, are: -

- (a) Net-zero Electricity Generation;
- (b) Energy Saving and Green Buildings;
- (c) Green Transport;
- (d) Waste Reduction;
- (e) Carbon Management; and
- (f) Other Green Performance/ Housekeeping Measures, e.g. Water Management, Biodiversity Conservation, Indoor Air Quality (IAQ) and Green Procurement, etc.

(ii) Environmental Performance and Progress Analysis

Environmental management involves having the system for managing and monitoring environmental performance and progress to ensure that environmental impacts arising from the day-to-day operations and programmes of the B/Ds are being addressed in an environmentally responsible manner. B/Ds might detail the measures/ initiatives undertaken under the six major environmental reporting areas as set out in **Annex 1** in the reporting year (and/ or previous years) and devise their environmental targets and milestones representing the detailed performance requirements.

When devising these targets and milestones, the B/Ds might take the following into account, as appropriate: -

- Prevailing environmental goal and policies;
- Legal requirements under existing environmental legislation;
- Extent of environmental impacts;
- Technological options;
- Financial and operational factors; and
- Views of interested parties.

As a general rule, the targets and milestones should be: -

- Set with specific timescale, usually on a calendar year basis;
- As specific and measurable as possible;
- Set for both short and long terms; and
- Consistent with the environmental policy.

Environmental performance indicators should be selected to quantify and track environmental performance. The following factors might assist B/Ds in defining such indicators: -

- figures that report the most significant impacts;

- figures that could be quantified;
- figures that could best be normalized to allow for changes in volume of work or production; and
- figures that are commonly adopted in the respective profession, trade and business.

These indicators could cover both internal green housekeeping measures as well as the activities and programmes of the B/Ds with environmental impacts. Where it is not possible to provide data to support performance achieved, a narrative description might be considered.

With reference to each performance indicator, the environmental performance and progress analysis might compare environmental performance against the environmental goal, policy, and targets/ milestones through the use of operational, scientific or other relevant statistics and data. Key statistics and data to be included in the Environmental Report may cover those set out in **Table 3.2**.

Table 3.2 Key Statistics and Data in Environmental Report

Environmental Aspects	Key Statistics and Data
(a) Net Zero Electricity Generation	– Renewable Energy Generation and Usage
(b) Energy Saving and Green Buildings	– Energy Consumption and Saving
(c) Green Transport	– Replacement Plan of Electric Vehicle (EV) Fleet and Provision of EV Charging Facilities – Progress On the Use of Clean Fuel
(d) Waste Reduction and Recycling	– Quantity of Waste Reduced and Recyclable Collected
(e) Carbon Management	– Direct GHG Emissions, Energy Indirect GHG Emissions and Other Indirect GHG Emissions (Scopes 1 – 3) – Green Measures and Environmental Initiatives Implemented for GHG Reduction, e.g. Water Saving and Paper Saving
(f) Other Green Performance/ Housekeeping Measures	– Green Charter, Recognition and Awards (e.g. IAQ Certification Scheme, Wastewi\$e Certificate, Energywi\$e

	Certificate, BEAM Plus Assessment, etc.) – Staff Training on Green and Carbon Management – Expenditure and Major Items of Green Products/ Services Procured – Water Management
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When targets/ milestones are not met, reasons for the results and proposed corrective action plans might need to be given. The environmental performance and progress analysis might include one or more of the following dimensions, where appropriate: -

- An analysis of performance/ progress against certain benchmarks, which could range from what have been set under the environmental policy, targets/ milestones to trend analysis;
- An analysis of performance by line of business and/ or by premises where appropriate;
- Corrective actions applied or to be applied;
- Discussion of activities that offset environmental damage (including generation of renewable resources and restoration of sites); and
- Environmental improvement programmes with staff, contractors and other relevant stakeholders.

Some examples of Environmental Performance and Progress Analysis in the Six Reporting Areas are tabulated below: -

Environmental Aspects/ Measures	Environmental Performance and Progress
(a) Net Zero Electricity Generation	
1) Application of Renewable Energy (RE) technologies for electricity consumption	<p><u><i>“Landfill gas utilisation and solar farm development:</i></u> <i>Landfill gas is used to generate power and thermal energy for both on-site and off-site uses. For instance, the WENT Landfill uses surplus landfill gas to generate electricity for export to CLP Power Hong Kong Limited’s power grid. The NENT Landfill exports surplus landfill gas to the plant of Hong Kong and China Gas Company Limited at Tai Po as heating fuel. The SENT Landfill conveys its surplus landfill gas to the Hong Kong and China Gas Company Limited’s on-site reprocessing facilities for conversion into synthetic natural gas before it is injected into the latter’s off-take station at Tseng Lan Shu.</i></p>

In addition, a pilot solar farm with a capacity of 1 megawatt has been actively taken forward at the SENT Landfill. This will help to establish the technical requirements and suitable models for developing large-scale solar farms at landfills in future.”
 (Extracted from EPD “Environmental Performance Report 2023”, p.26-27)

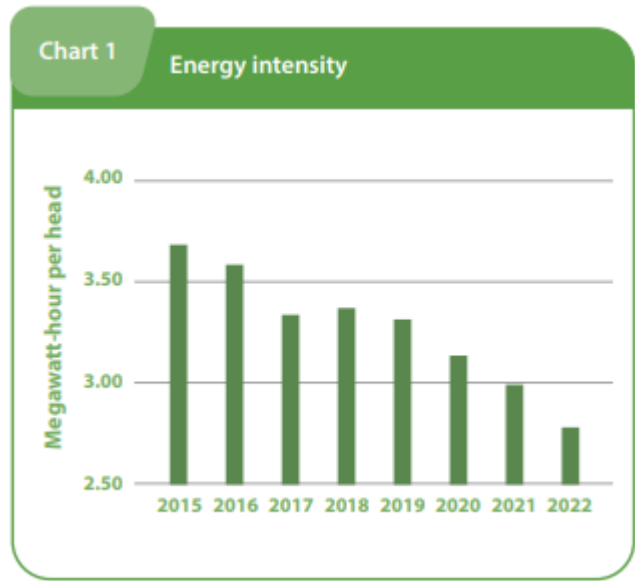
(b) Energy Saving and Green Buildings

1) Energy consumption and saving, and RE generation

“Energy savings
The HKMA has been deploying various energy-saving measures, including: -

- *installing LED lighting, motion sensors and auto timers for the entire office premises;*
- *setting indoor air-conditioned temperature at 25°C;*
- *exploring and adopting environmentally friendly equipment and solutions as far as possible; and*
- *setting office equipment in power-saving mode.*

The total energy consumption was 4,996.4 megawatt hour in 2022, or 2.8 megawatt-hour per head, which represents a reduction of 24.4% compared to the 2015 level (Chart 1).”



(Extracted from Hong Kong Monetary Authority (HKMA) “2022 Sustainability Report”, p.38)

(c) Green Transport

1) Promotion of the use of electric vehicle (EV)

“572 private car parking spaces (as at February 2023) in government car parks open to public use under the management of the Agency have been installed with electric vehicle (EV) chargers. We will continue to liaise with relevant bureaux and departments to increase EV charging facilities.

To facilitate EV drivers to use these charging facilities, we have made special arrangements with car park operators to reserve some parking spaces fitted with charging facilities during non-peak parking hours for priority use by EV drivers for recharging. To draw EV drivers' attention to the charging facilities, notices are displayed in these car parks.

(Extracted from Government Property Agency (GPA) "Environmental Report 2022", p.9)

(d) Waste Reduction and Recycling

1) Waste disposal and recovery

"Paper Conservation"
Daily Paper Saving Measures in Housekeeping
We promote the "4-R principle" in paper conservation.

Measures on Paper Conservation

Apart from the daily housekeeping, we adopt the following arrangements in order to reduce the use of paper: -

- *No longer producing hardcopies of the CAD Annual Report since 2017. This arrangement has saved about 28,000 sheets of A4 size paper per year;*
- *Posting notices at paper towel dispensers to encourage staff to use less paper towel; and*
- *Circulating newspaper cuttings by electronic means instead of hardcopies. It is estimated that about 46,000 sheets of A4 size paper were saved in 2021.*

Paper Consumption

In 2021, we consumed 5,174 reams of paper, which recorded a decrease of about 8% against the consumption in 2020. This demonstrated that the bit by bit effort in daily paper conservation by individual staff has paid off. Staff are encouraged to keep up with the good practice.

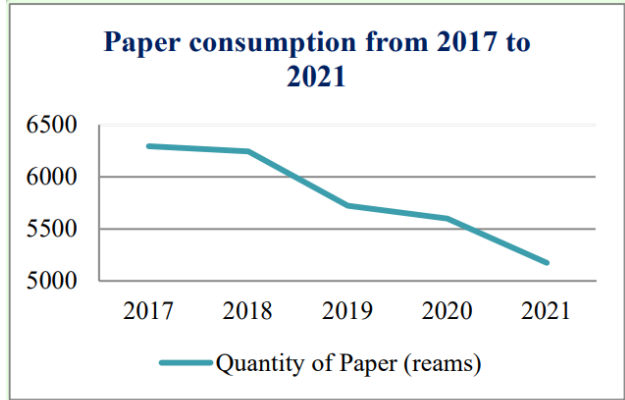


Figure 5-8: Paper consumption from year 2017 to 2021

Waste Reduction, Collection and Recycling

Recycling Bins to Collect Waste Paper, Plastic Bottle, Metal Can and Glass Bottle

We collect waste paper, used plastic bottle, metal can, glass bottle and rechargeable batteries, etc. for recycling. Recycling bins are placed in common areas to facilitate disposal by staff members and visitors. The materials collected are delivered on a regular basis to recycling operators. The table below shows the amount of recyclables collected in 2021.”

Recyclables	Amount Collected
Waste Paper	1,362 kg
Plastic	9 kg
Metal	8 kg
Glass Bottle	26 pcs
Rechargeable Battery	65 pcs

(Extracted from Civil Aviation Department (CAD) “CAD Environmental Report 2021”, p.20)

5) Food waste reduction and recycling

“Food Waste Collection and Decomposition System

Food waste is one of the major solid wastes in Hong Kong. Reduction of food waste is therefore crucial for minimizing the load of landfills. To work towards this goal, a food waste decomposition system had been installed in CAD Headquarters.

Food wastes are collected in the CAD Staff Canteen at CAD Headquarters, and then are disposed of into the food waste decomposition system. During the decomposition process, the food wastes are converted by enzyme into liquid, part of which is used as a natural fertilizer for the vegetation at CAD Headquarters and the remaining is discharged as an effluent. In 2021, we collected about 1.55 tonnes of food waste.

Reduction of Waste in Staff Canteen

Besides handling the food waste collected through the food waste decomposition system, the Staff Canteen has taken actions to reduce other solid wastes through the following means:-

- Promotion of No Straw Campaign;
- Ban the use of poly-foam food containers;
- Encourage customers to bring their own food container and avoid the use of disposable utensils;
- Encourage customers to request a smaller portion of rice, thus reducing the chance of creating food waste; and

➤ *Publicity materials are posted in the Staff Canteen to remind customers to reduce the amount of leftover food and avoid the use of disposable plastic food container and utensils.*

Food Wise Charter

We have signed the Food Wise Charter implemented by the Environmental Protection Department since 2016. Upon joining the Charter, measures on food waste reduction are being reviewed regularly. Communication among the management, staff and the Staff Canteen operator is maintained through the Canteen Sub-committee meetings.”

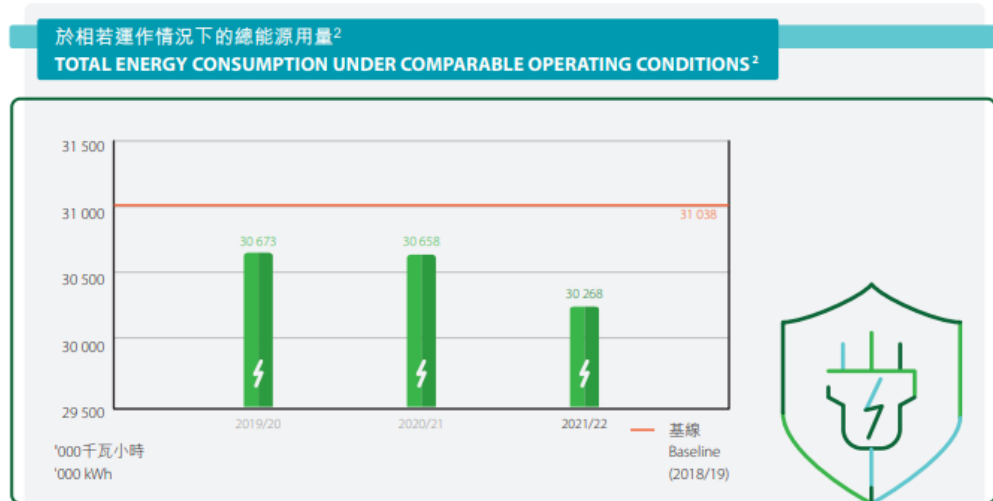
(Extracted from CAD “CAD Environmental Report 2021”, p.20-22)

(e) Carbon Management

1) Carbon audit

“Reduction on Energy Uses and Carbon Emissions

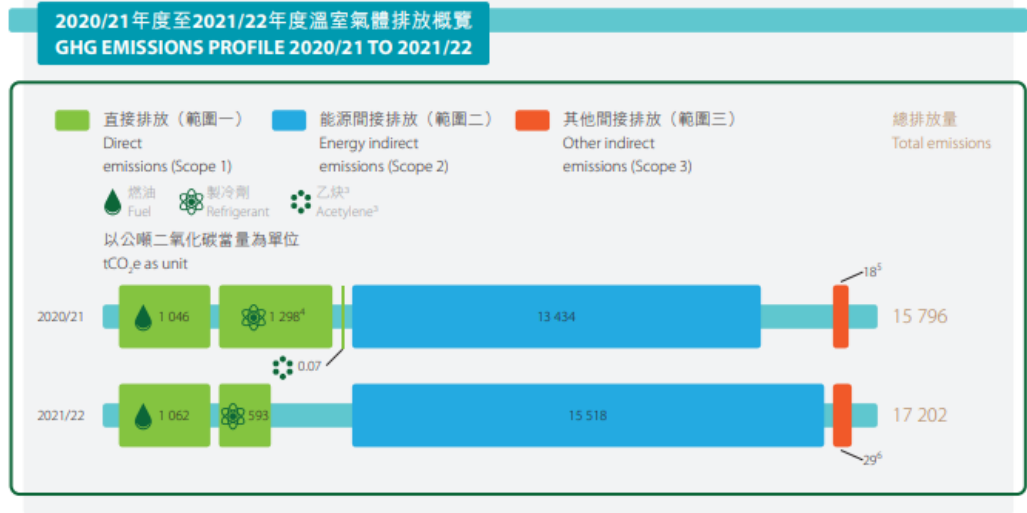
We have actively reviewed the progress to date and continued to explore energy performance improvement opportunities to achieve the Government’s new Green Energy Target. The Government has set a Green Energy Target of improving energy performance by 6% in the five-year period from 2020/21 to 2024/25, using 2018/19 as the baseline year. This target covers electricity, other forms of energy in government buildings and its infrastructure facilities, as well as contribution of renewable energy. During the reporting period, energy performance of our buildings and infrastructure facilities was up about 2.6% on 2018/19.



² The calculation compares the energy consumption changes of operating units that were still in operation from 2018/19 to 2021/22.

Sources of our main greenhouse gas (GHG) emissions include fuel consumption of vehicles and generators as well as refrigerant consumption (Scope 1), purchased electricity consumption (Scope 2), and others, such as waste paper

disposal and business travelling (Scope 3). Total GHG emissions during the reporting year were approximately 17 202 tonnes of carbon dioxide equivalent (tCO₂ e), with an intensity of 2.90 tCO₂ e per employee. Below is the composition of the EMSD’s carbon footprint in 2020/21 and 2021/22.”



(Extracted from EMSD “EMSD Annual Report 2021/22”, p.181-183)

(f) Other Green Performance/ Housekeeping Measures

2) Indoor Air Quality (IAQ)

*“Green Recognition
... In addition, our 23 offices, visitor centres and facilities attained “Good Class” or “Excellent Class” in 2021 under the Indoor Air Quality (IAQ) Certification Scheme.”*

(Extracted from EPD “Environmental Performance Report 2022”, p.18)

3) Water management

*“4.4 Water Consumption and Indoor Air Quality Management
... Other water saving systems have been installed in new buildings, such as rainwater harvest system for irrigation in West Kowloon Government Offices and Hong Kong-Zhuhai-Macao Bridge Hong Kong Port (HZMB HKP). In HZMB HKP, waste water is also treated by sewage treatment plant and subsequently fed to reclaimed water plant for flushing purpose.”*

(Extracted from GPA “Environmental Report 2022”, p.7)

4) Green procurement

*“Green Government procurement:
... In 2022, the EEB(EB) and EPD together spent about \$12.36 million in purchasing products and services from the [green procurement] list.”*

(Extracted from EPD “Environmental Performance Report 2023”, p.17)

3.4 Continuous Improvement

B/Ds might wish to give their views on how well their B/Ds have performed in the current year and which specific areas they would focus their efforts on in the coming year, in particular, a progressive plan on carbon emission reduction that is

conducive to achieving the environmental goal.

In this part of the report, it might be worthwhile for the B/Ds to consider the potential challenges likely to be faced by them with regard to: -

- Changes in the activities and programmes;
- Changing expectations and requirements from the communities;
- Recent advances in technology; and
- Review of last year's achievements.

Example of Continuous Improvement: -

“Focus 3 : Continuing to participate in the Government’s effort in carbon reduction and carbon neutrality

As electric vehicles (EVs) has become increasingly popular, we are working closely with stakeholders such as the trade practitioners, academic and training organisations, professional groups, car owner associations, and relevant departments to explore the addition of a dedicated service category for EV mechanics and workshops under the Voluntary Registration Scheme for Vehicle Mechanics (VRSVM). This can, on one hand, encourage the EV trade to take part in the VRSVM and in turn ensure that proper maintenance support will be available for the EVs, and on the other hand, help EV mechanics and workshops acquire relevant knowledge and techniques, thereby ensuring road safety. ...”

(Extracted from EMSD “EMSD Annual Report 2021/22 - The Year Ahead: Six Key Focuses”, p.48)

Chapter 4 Publication of Environmental Reports

4.1 Timing of Publication

Environmental Reports should be published during the calendar year that follows the calendar year being reported on. Policy Secretaries may wish to consider whether all their departments should publish their Environmental Reports at the same time. Some Policy Secretaries might like to have the Environmental Reports of all the departments under the same policy bureau be published concurrently with the obvious benefit of facilitating readership from public relations point of view.

4.2 Report Preparation

As it is recognised that there are differences between the work of each B/D, it is not intended to impose unnecessary uniformity in respect of the format or contents

of Environmental Reports. The general guidelines for preparation of the Environmental Reports are set out below.

(i) Report Format

B/Ds can choose to publish the Environmental Reports as either: -

- A chapter or a section of the annual report; or
- A "stand-alone" Environmental Report.

(ii) Key Steps for Report Preparation

- Draft content list starting with B/D's profile (see **Section 3.1**), key initiatives conducive to achieving overall Government environmental goal (see **Section 3.2**), the organization's environmental measures in the six reporting areas with help of checklist (see **Annex 1**) and the expectations of the target readers;
- Decide on the type of information and data that will be required to gauge performance of each environmental issue, in particular, the key statistics and data (see **Table 3.2**) against the relevant performance indicators;
- Identify key work areas to contribute specific data (or information); and
- Establish the appropriate time scale for data (or information) coverage and presentation.

(iii) Writing Report

A few points to note when writing the report: -

- Match the style of the report with the identified key target readers; and
- Present data in a way that is comprehensible to the target readers. Tables, charts, graphics and percentage changes, where appropriate, present performance with better clarity than text.

(iv) Obtain Internal Approval

After drafting has been completed, the report will require internal vetting and approval by top management and the Controlling Officer of the B/D. To demonstrate top management commitment, it would be desirable for the Controlling Officer to provide a personal statement as foreword to the report, highlighting the B/D's commitment to protecting the environment or sustainable development. It will also underline the importance of environmental initiatives within the overall business strategy of the B/D.

(v) Publication of Environmental Reports

It is important that the report is made accessible to the general public and its key target readers. To keep the number of paper publications to the absolute minimum, B/Ds are encouraged to publish their Environmental Reports in electronic format instead of printed copies. In this connection, B/Ds are requested to publish their Environmental Reports in the following manner as a minimum requirement: -

- i) Publish on their homepages on the Internet; and
- ii) Provide EPD with one electronic version in Portable Document Format (PDF) and the hyperlink to the reports on their homepages for publishing on EPD homepage.

(vi) Feedback Invitation

It is a good practice to provide a mechanism to encourage direct feedback on the report from key target readers, to handle enquiries, and to evaluate the effectiveness of the report. The feedback can facilitate review for improvement in the next reporting exercise. There are many ways to invite feedback, including: -

- Include a feedback form in the published report that invites the readers to respond to a set of survey questions;
- Provide a contact name and email address in the report to encourage feedback from the readers; and
- Hold formal or informal meetings with interested groups for feedback.

Examples of Feedback Forms: -

EPR2022 Feedback Form

1. Please rate our report based on the following items (completion of at least one item is required)

	Good	Average	Poor	Other comment
a. Readability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
b. Coverage of key environmental protection issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
c. Understanding the environmental protection works in Hong Kong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

2. Which section(s) below would you like us to provide more comprehensive information? (You may leave this section blank or choose more than one option)

- Our Profile
- Greening Our Offices
- Waste Management Facilities
- Human Resources and Development
- Recognition of Achievements

3. Which section(s) below are you most interested in? (You may leave this section blank or choose more than one option)

- Our Profile
- Greening Our Offices
- Waste Management Facilities

(Extracted from EPD “Environmental Performance Report 2022”)

DSD Sustainability Report 2021-22 ▼

1. Please indicate whether you agree or disagree with the following statements:*

	Strongly agree	Agree	Disagree	Strongly disagree	No comment
The report provides a clear understanding of our works and services as well as sustainability strategy and performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content of the report is balanced and adequate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The information of the report is useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The structure of the report is clear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The proportion of graphics and text is appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The design of the report is decent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The report is easy to read and navigate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The report enables you to understand more about DSD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Please rate our Sustainability Report 2021-22 and sustainability performance:*

	Excellent	Good	Fair	Poor	Bad
How would you rate our Sustainability Report?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How would you rate our sustainability performance?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Which aspect of the report did you find most interesting?*

Economic
 Social
 Environmental
 Governance
 Other(s), please specify

(Max: 50 Characters)

4. Which aspect of the report did you find most useful?*

Economic
 Social
 Environmental
 Governance
 Other(s), please specify

(Max: 50 Characters)

(Extracted from DSD “DSD Sustainability Report 2021-22: City • River • Communion”) (Questions 1 to 4)

Annex I Checklist of Requirements for Preparation of Environmental Reports

(i) Checklist of Mandatory Requirements for Preparation of Environmental Performance Report by Controlling Officers

Environmental Aspects	Measures / Examples	Action Party(ies)
(a) Net Zero Electricity Generation		
1) Application of Renewable Energy (RE) technologies for electricity consumption	<p>RE technologies: solar photovoltaic (PV) technology (including both conventional and new technologies, such as thin-film solar PV and building-integrated PV technologies, etc.), bio-gas heating / electricity generation technology and waste-to-energy technology, etc.</p> <p>Examples: solar PV systems at rooftops of Government buildings and at open car parks of Government premises, floating PV systems at reservoirs, solar farms at landfills, solar hot water systems at municipal buildings (i.e. sports centres and swimming pool complex with high demand on shower facilities) and sludge treatment, organic waste treatment, integrated waste management and food waste/ sewage sludge anaerobic co-digestion facilities</p>	All B/Ds with Government buildings and premises which are suitable for installation of RE systems for on-site self-consumption or for direct use by nearby facilities in economical terms
(b) Energy Saving and Green Buildings		
1) Energy consumption and saving, and RE generation	<p>(i) Reporting total annual energy consumption, energy saving, and generation of RE</p> <p>(ii) Reporting the progress or result of energy performance improvement achieved for the Government's energy target. (For example, the target to improve the overall</p>	All B&Ds

	energy performance of Government premises by more than 6% by FY2024/25, using FY2018/19 as the base.)	
2) Energy audit	(i) Conducting energy audit (ii) Reporting the result/ finding of energy audit (iii) Adoption of green housekeeping measures recommended	All B&Ds with Government buildings with annual electricity consumption over 500 000 kWh or as required by the Buildings Energy Efficiency Ordinance (Cap.610)
3) External lighting (Guidelines on Industry Best Practices for External Lighting Installations)	(i) Switching off external lighting installations for advertising, promotional and decorative purposes affecting the outdoor environment ¹ , and lighting installations that are for outdoor environment (e.g. flood lighting of sports grounds that are not in use) but are not required for safety, security and operational purposes, at or before 10p.m. until 7a.m. on the following day (ii) Reporting best practices adopted for external lighting installations, e.g. operating hours for lighting, automatic controls for lighting, light nuisance control measures, energy efficiency measures, lighting protect design planning, prevention of glare to road users	All Government buildings
4) Office Area Planning	(i) Reviewing the illumination level in office area where colleagues do not normally have to read written material (e.g. lift lobbies, corridors, staircases, corners of file cabinets, photocopiers, printers), and adjusting down by removing excessive bulbs or fluorescent tubes	All B&Ds

¹ This includes but is not limited to lighting installations of Government buildings, premises and venues that are intended for the outdoor environment such as illuminated signs and video walls at the building façade and rooftop, as well as similar installations managed by the Government.

<p>5) Adoption of energy efficient features / technologies / other innovative energy saving projects</p>	<p>Energy efficient features: building energy management system, energy efficient lighting system, energy efficient air-conditioning system, energy efficient lift and escalator system and high efficiency motors</p> <p>Energy efficient technologies: use of smart metering system/ real-time operation system for building services installations</p> <p>Passive energy efficiency features: use of day lighting, natural ventilation and passive cooling, sun shading, and low overall thermal transfer value (OTTV) design of the building envelope</p> <p>Examples: “Green Schools 2.0 – Energy Smart” to install energy-efficient variable speed air-conditioners and light emitting diode (“LED”) lighting as well as real-time energy monitoring systems for schools</p>	<p>Newly constructed Government buildings / Existing buildings with major retrofitting works for building services installations</p>
<p>6) Low carbon construction and materials</p>	<p>(i) Consideration in the use of low carbon construction materials</p> <p>Examples: use of certified environmentally sustainable building materials or those with high recyclable content, considering the impact of carbon emission caused by long distance material delivery from country of origin in material selection, and recycling of construction waste</p>	<p>Newly constructed Government buildings</p>
<p>7) Green building recognition</p>	<p>(i) Accreditation under the BEAM Plus as promulgated by the Hong Kong Green Building Council (HKGBC)</p>	<p>Newly constructed Government buildings of CFA above 5 000m² with central air-conditioning or above 10 000 m²</p>

(c) Green Transport		
1) Promotion of the use of electric vehicle (EV)	<ul style="list-style-type: none"> (i) Installation of EV chargers in existing and new Government car parks and/or premises (ii) Installation of smart systems for the charging facilities (iii) Reporting utilisation rate of the EV chargers in parking spaces <p>Smart systems include features such as charging fee payment system, dissemination of real-time information (such as charger availability status), load management, advance booking, capturing of usage data, reporting of utilisation, smart phone interface and apps.</p>	All Government buildings
2) Adoption of EVs in the Government fleet	<ul style="list-style-type: none"> (i) Procure or replace small and medium private cars (5 or less seats (including driver) with EVs 	All B&Ds
(d) Waste Reduction and Recycling		
1) Waste disposal and recovery	<ul style="list-style-type: none"> (i) Reporting the amount (in volume or weight) of waste disposed of, the types (e.g. paper, metal, plastics, food waste and glass) and amount of materials recovered for recycling 	All B&Ds
2) Paper consumption	<ul style="list-style-type: none"> (i) Reporting paper consumption quantity 	All B&Ds
3) Separation, storage and collection of recyclables	<ul style="list-style-type: none"> (i) Provision of adequate space and facilities in office area and areas accessible to the public (e.g. public facilities like libraries and parks, or public area in office buildings) to facilitate separation, sorting, storage and collection of materials for recycling 	All Government buildings

	(ii) Provision of waste separation bins (e.g. tricolour recycling bins for paper, plastic and metal; recycling bins for waste glass, beverage cartons, CFLs, and rechargeable batteries) and separate collection of recyclables for recycling	
4) Recycling corner	(i) Comprehensive recycling corner provided for residential building	Newly constructed residential buildings
5) Food waste reduction and recycling	(i) Organising food waste reduction campaign (ii) Separate collection of food waste for recycling (iii) Installation of food waste composter/ on-site treatment facilities	All Government buildings with markets, canteens or catering facilities
(e) Carbon Management		
1) Carbon audit	(i) Conducting carbon audit to account for and report on the GHG emissions arising from Government buildings (ii) Reporting of the results/ findings of annual carbon audit (iii) Implementation of carbon reduction measures recommended for managing carbon emissions of Government buildings	All B&Ds with major Government buildings with annual electricity consumption over 500 000 kWh
(f) Other Green Performance/ Housekeeping Measures		
1) Green management	(i) Appointment of Green Manager and Energy Warden (ii) Implementation of green and energy saving housekeeping measures	All B&Ds
2) Indoor Air Quality (IAQ)	(i) Participation in the IAQ Certification Scheme and achieving the Excellent/ Good Class IAQ certification	All Government buildings served by central air-conditioning systems
3) Green Procurement	(i) Reporting of the total quantity and values of green products and services purchased (ii) Reporting of the major items of green products and	All B&Ds

	services purchased (e.g. examples of 3 green products and services) (iii) Reporting of the overall implementation situations of green procurement	
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(ii) Checklist of Optional Requirements (for all B&Ds) for Preparation of Environmental Performance Report by Controlling Officers

Environmental Aspects	Measures / Examples
(a) Net Zero Electricity Generation	
1) Promotion on the use of RE	(i) Facilitation measures to the development of solar PV systems Examples: Feed-in Tariff Scheme for the purchase of RE generated by the private sector at a rate higher than the electricity tariff by the power companies, facilitation measures for the installation of solar PV systems at open car parks by the private sector, relaxed requirements on the installation of solar PV systems on the rooftops of New Territories Exempted Houses (i.e. village houses)
(b) Energy Saving and Green Buildings	
1) Energy audit (For Government buildings with annual electricity consumption less than 500 000 kWh or not required under the Buildings Energy Efficiency Ordinance)	(i) Conducting energy audit (ii) Reporting the result/ finding of energy audit (iii) Adoption of green housekeeping measures recommended
2) Use of energy efficient appliances	(i) Replacement of old energy-consuming appliances and office equipment by those with Grade 1 energy label under the Mandatory Energy Efficiency Labelling Scheme (MEELS) Examples: room air conditioners and compact fluorescent lamp
3) Electricity saving targets	(i) Contribution to electricity saving targets in buildings (i.e. medium term targets: 15-20% for commercial buildings & 10-15% for residential buildings; long term targets: 30-40% for commercial buildings & 20-30% for residential buildings by 2050) (apart from the items under this aspect)

(c) Green Transport	
1) Adoption of EVs in the Government fleet	(i) Replacement plan of senior Government official vehicles
2) New/green energy transport	(i) Trial on new/green energy transport, e.g. electric ferries, hydrogen fuel cell vehicles, use of liquefied natural gas (LNG) in ocean-going vessels
(d) Waste Reduction and Recycling	
1) Reduction of paper consumption	(i) Reviewing the list of publications and keeping the number of paper publications to the minimum (ii) Promotion of “paperless meetings” by encouraging staff to use electronic devices for presentations and discussions (iii) Use of Geospatial Information System platform for retrieving past record, during meetings, inspections, field surveys or law enforcement (iv) Using recycled paper in lieu of virgin paper
2) Electronic communication and services for internal and the public	(i) Provision of electronic submission options (ii) Implementation of e-licensing / e-certificate services (iii) Use of electronic means in disseminating messages e.g. uploading publications onto website/homepage, using electronic system for incoming faxes, filing and documentation Examples: Electronic Submission Hub to receive and process plans, documents and applications
3) Plastic waste reduction	(i) Promotion of Bring Your Own Cups & Tableware when attending meetings and official events
4) Innovative technologies for waste reduction and/or waste recycling	(i) Application of innovative technologies to enhance efficiency of waste reduction and/or waste recycling Examples: Installation of smart recycling bins, reverse vending machines
5) Municipal Solid Waste (MSW) Charging	(i) Measures to complement the implementation of MSW Charging

	Examples: Installation of smart recycling bins and reverse vending machines, utilization of community recycling facilities of GREEN@COMMUNITY, promoting waste reduction and clean recycling in housing estates / Government quarters, conducting MSW charging trials
6) Zero landfill	(i) Contribution to the target of increasing MSW recovery rate to about 55% and achieving zero landfill by 2035 (apart from other items under this aspect) Examples: Installation of smart recycling bins and reverse vending machines, utilization of community recycling facilities of GREEN@COMMUNITY, waste plastics collection and recycling
(e) Carbon Management	
1) Carbon audit (For Government buildings with annual electricity consumption less than 500 000 kWh)	(i) Conducting carbon audit on Government buildings and disclosing the audit results (ii) Implementation of carbon reduction measures recommended for managing carbon emissions of Government buildings
2) Carbon management	(i) Developing and implementing carbon management plan (ii) Establishing guidelines for staff in relation to carbon emissions reduction
(f) Other Green Performance/ Housekeeping Measures	
1) Staff awareness on green management	(i) Provision of training / workshops for staff on green management (ii) Promotion of clean recycling in offices and households
2) Carbon neutrality before 2050	(i) Contribution in achieving carbon neutrality before 2050 (apart from the above measures) Examples: adopting green and sustainable design elements for developments
3) Innovative Technology for Energy Savings and Carbon Reduction	(i) Applying innovative technology to save energy and reduce carbon emissions. This includes the use of digitalisation, robotics solutions, and data analytics to enhance operational performance and contribute to a greener Hong Kong.

(iii) Checklist of Optional Requirements (for all Government buildings) for Preparation of Environmental Performance Report by Controlling Officers

Environmental Aspects	Measures / Examples
(a) Net Zero Electricity Generation	
1) Mitigation measures to minimize nuisance caused by RE technologies installed in Government premises to residents/occupiers/ general public in the neighbourhood	(i) Mitigation measures such as adoption of non-reflective models of solar panels and suitably adjusting tilting angle and orientation of the panels to minimize nuisance caused by the glare reflected from PV panels
(b) Energy Saving and Green Buildings	
1) Retro-commissioning (RCx)	(i) Conducting RCx (ii) Following up the energy saving opportunities identified, e.g. good practices for energy saving, fine-tuning and/or modification of existing building services systems
2) Energy saving retrofit	(i) Carry out energy saving retrofitting works Example: replacement of air-conditioning chiller with high efficiency variable speed chiller to enhance energy efficiency
3) Innovative building designs and construction techniques	(i) Adoption of innovative designs, construction techniques and practices, and application of new technologies to achieve better environmental performance in energy efficiency and conservation, waste reduction, water savings, and enhancements in the built environment or building operation, e.g.: <ul style="list-style-type: none"> • modular integrated construction (MiC) • daylight penetration • open plan office design • service-on-demand escalators • vertical/roof top greenery

	<ul style="list-style-type: none"> • enhanced natural ventilation to buildings • micro-climate studies • use of digitalization, robotics solutions, and data analytics
4) District cooling systems (“DCSs”)	(i) Adoption of “DCSs” in new development areas (“NDAs”)
(c) Waste Reduction and Recycling	
1) Plastic waste reduction	(i) Regulating the sale of beverages packed in plastic bottles (ii) Installation of water filling type dispensers connected to water mains
(d) Other Green Performance/ Housekeeping Measures	
1) Water management	(i) Use of reclaimed water, where available, and treated greywater and/or harvested rainwater where practical and cost effective for non-potable applications (e.g. toilet flushing) (ii) Installation of water saving devices wherever there are retrofitting works for the interior service and plumbing installations where possible and applicable
2) Biodiversity enhancement and ecological conservation	Examples: Maximize the provision of soft landscaping, migratory bird friendly system, external wall design of Government buildings, wetland conservation and management plan.