

ENVIRONMENTAL REPORT 2023



Education Bureau

The Government of the Hong Kong Special Administrative Region
of the People's Republic of China



Contents



		Page
I.	Profile and Environmental Policy of Education Bureau	1
II.	Key Environmental Performance in 2023	3
	(A) Environmental Education	4
	(B) Building Greener Schools	7
	(C) Environmental Housekeeping Measures	9
	(D) Promotional Green Activities	12
III.	Looking Forward	13

Cover Photos: Participation in the Yuen Chau Tsai Shoreline Cleanup Event by the EDB Volunteer Team in February 2023

Scope of the Report

This Environmental Report covers the period from 1 January 2023 to 31 December 2023 unless otherwise specified. It provides an overview of the efforts of the Education Bureau (EDB) to maintain an environmentally friendly surrounding and create a sustainable environment.

This report is published in English and Chinese on our website to reduce paper consumption. Internet version can be accessed by scanning the following QR Codes.

English



繁體中文版



簡體中文版





I. Profile and Environmental Policy of EDB

Roof Garden in Kowloon Tong Education Services Centre

Vision and Mission

1.1 Our vision is to provide quality school education for our students, develop their potential to the full, and prepare them for the challenges in life.

1.2 Our mission is to –

- deliver professional services and ensure effective use of resources; and
- forge partnerships to promote excellence in school education.

Our Work

1.3 Our major responsibilities are –

- formulating, developing and reviewing policies, programmes and legislation in respect of education from pre-primary to tertiary levels; and
- overseeing the effective implementation of educational programmes.

1.4 We are also the School Sponsoring Body for 34 government primary schools and 31 government secondary schools.

Environmental Goal and Policy

1.5 Our environmental goal is to maintain an environmentally friendly surrounding and create a sustainable environment for our generations.

1.6 In meeting our goal, we are committed to –

- promoting environmental education;
- adopting green designs and construction works for schools;
- implementing environmental housekeeping measures; and
- enhancing environmental awareness and compliance with relevant legislation and codes of practices amongst colleagues.





II. Key Environmental Performance in 2023

Visit to Mai Po Nature Reserve by Ma Tau Chung Government Primary School in May 2023

(A) ENVIRONMENTAL EDUCATION



2.1 Our mission is to enhance students' environmental awareness through education and enlist their participation in conserving the environment. To take this forward, we adopt a cross-curricular approach in the promotion of environmental education and promote school-based and action-oriented activities. We also collaborate with green groups, such as the Environmental Campaign Committee and the World Wide Fund for Nature Hong Kong Education Committee to provide advice on organisation of school activities and production of resources materials to schools.

2.2 To fulfil the goal of promoting environmental education, various initiatives were undertaken in 2023.



Green Activities Organised by Schools

2.3 Government schools continued to promote environmental education by organising green activities for their students in 2023.



Environmental Exhibition held by Kowloon Technical School in May 2023



Participation in Greening School Project Award 2022/2023 by South Tuen Mun Government Secondary School in 2023



Participation in Exploring Nature with the Experts by Homantin Government Secondary School in 2023

Learning Resources for Schools

Professional Development Programmes

- (i) **26 professional development programmes** (PDP) related to education on **sustainable development**, covering achieving carbon neutrality, sustainable farming, climate change mitigation, forest, waste reduction, marine ecology conservation and biodiversity conservation, etc., were organised for all school teachers in 2023. Among them, two PDPs were held in collaboration with the **Environment and Ecology Bureau** (EEB), one PDP was held in collaboration with the **Environmental Protection Department** (EPD) and one PDP was held in collaboration with the **Agriculture, Fisheries and Conservation Department**. A PDP related to sustainable development and environmental protection was organised for primary school teachers in March 2023.

Seminars

- (ii) 11 **seminars** related to sustainable development, climate change, achieving carbon neutrality and biodiversity conservation were held in 2023.

Visits to Educational Facilities

- (iii) Visits to **Po Shan Drainage Tunnel – Landslide Sci-Tech Chamber, CIC-Zero Carbon Park, Kwun Tong Recycling Station, Jockey Club Museum of Climate Change, Yuen Long Bypass Floodway, Controlled Environment Hydroponic Research and Development Centre & Vegetable Marketing Organisation** and **Towngas Headquarters** were organised for secondary school teachers to enhance their knowledge on sustainable development, climate change mitigation measures and the importance of green building in combating climate change.

Learning and Teaching Resources

- (iv) Two “life event” exemplars of **low-carbon diet and green travel** were developed for reference of teachers in primary and secondary schools in 2023.



Educational Multimedia Resources

- (v) An educational multimedia resource (EMM) series namely “**Nature and Living**” consisting of 13 videos and one song book on a wide range of topics including glass recycling, wind energy and ocean pollution was developed and made available on the EMM Website (click [here](#) to visit EMM Website).



Winning School Visits cum Environmental Training Workshops for 2023 Hong Kong Awards for Environmental Excellence (Schools Sector) held in collaboration with EEB from November to December 2023



One of the 13 videos on “Nature and Living” available on the EMM Website to cultivate students’ awareness of environmental protection

Promoting Students' Environmental Awareness

(i) Visits to Mai Po Nature Reserve

Funding was provided for 239 school visits to Mai Po Nature Reserve in 2023.

(ii) Student Environmental Protection Ambassador (SEPA) Scheme 2023/24

SEPA Scheme was organised in collaboration with the EEB and the Environmental Campaign Committee to promote environmental protection in schools. The main theme in 2023/24 was "Carbon Neutrality" to promote low-carbon lifestyle and to enable students to better understand the environmental initiatives in Hong Kong.

A total of **265 primary and secondary schools** participated in the SEPA Scheme 2023/24. As at December 2023, **5 438 student ambassadors** were appointed to assist teachers in organising environmental education activities. Schools, families and student ambassadors were encouraged to adopt a greener lifestyle and improve

the environment. Knowledge on assessing and ways of reducing their carbon emissions in their daily lives, thereby promoting behavioural change towards low-carbon living were also introduced through a series of environmental training and activities.



SEPA Scheme Activity held in 2023

(iii) Outdoor Education Camp Scheme

We support schools in organising Outdoor Education Camp Scheme (OECS), in which enhancing students' awareness of environmental protection is one of the learning elements. Related themes or activities include "Nature and I", "Science and Ecology Trips", "Climatology, Geography and Ecology Study Camps", "Green Living", "Saving Energy", etc.

Schools organised 370 outdoor education camps under the OECS for over **33 900 students** in the 2022/23 school year.

(iv) Student Educational Activities

In 2023, **Exploration of Biodiversity** in Hong Kong Short Video Competition was organised for primary and secondary schools with a view to encouraging students to actively explore the biodiversity in Hong Kong through field trips and appreciation of different species of wild fauna and flora, so as to cultivate their love and care for the natural environment, as well as their sense of responsibility and commitment to environmental protection.

(v) Waste Separation and Recycling Scheme in Schools

Under the Scheme, we worked together with the Environmental Campaign Committee to promote the concept of 4Rs, i.e. reducing, re-using, recycling and replacing disposable products.

Performance in 2023:

As at the end of 2023, the participating schools recycled about -

- **296 705 kg** of waste paper;
- **98 462 kg** of plastic materials; and
- **14 951 kg** of metal containers.



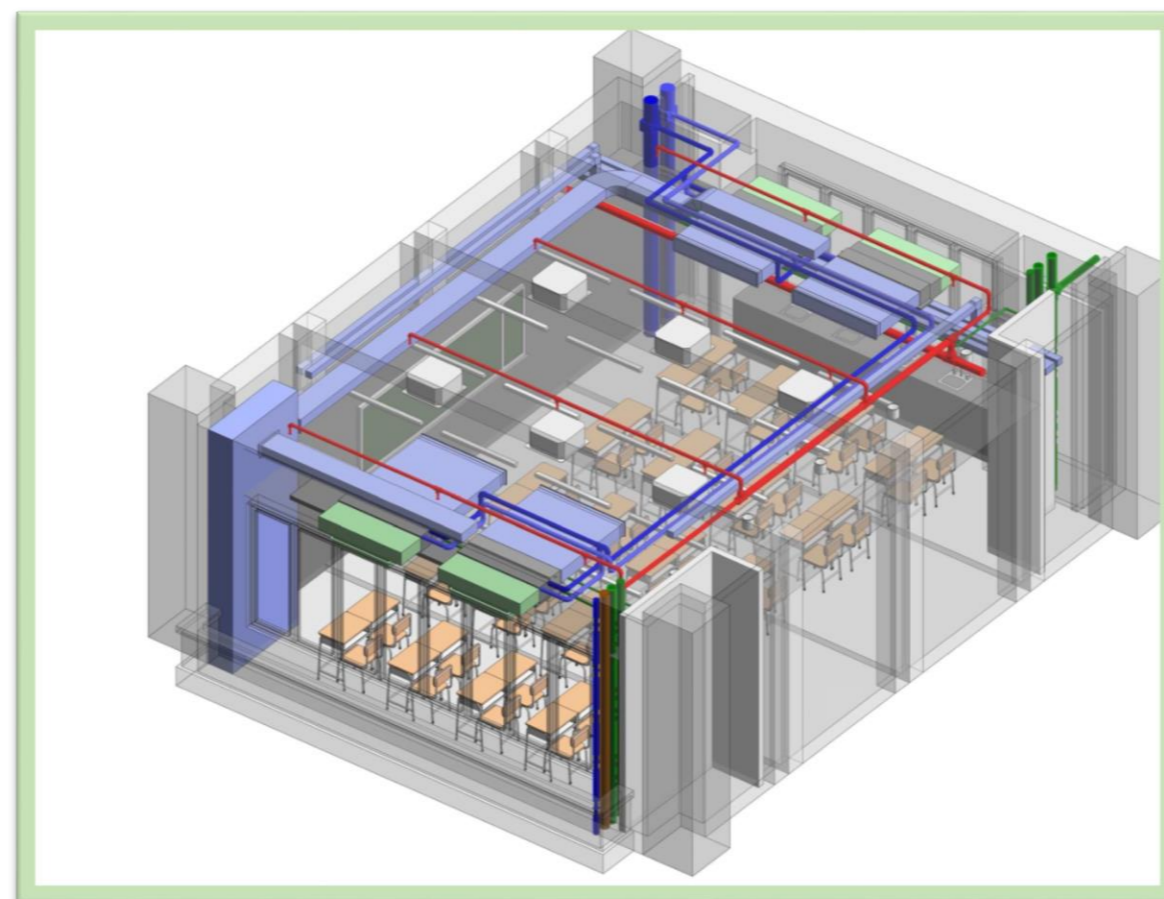
Students learnt to cherish food; they were involved in handling kitchen waste during an outdoor education camp

(B) BUILDING GREENER SCHOOLS

2.4 We introduced various environmentally friendly initiatives, technologies, materials and devices in the design and construction of new school buildings.

Green Designs and Construction

- (i) increased **landscaping** in school playgrounds, and upper levels and roof floor (including **vertical greening**);
- (ii) provision of varied plant species and designated **green areas** in schools to foster students' interest in natural science and enable students to develop horticultural skills;
- (iii) provision of adequate space and **waste separation bins** to facilitate separation, collection and storage of recyclable materials for recycling;
- (iv) use of shared facilities among schools to enable a **greener and more spacious environment therein**;
- (v) provision of **Central Food Portioning Area** to facilitate the use of re-usable cutlery and food containers and to reduce food wastage;



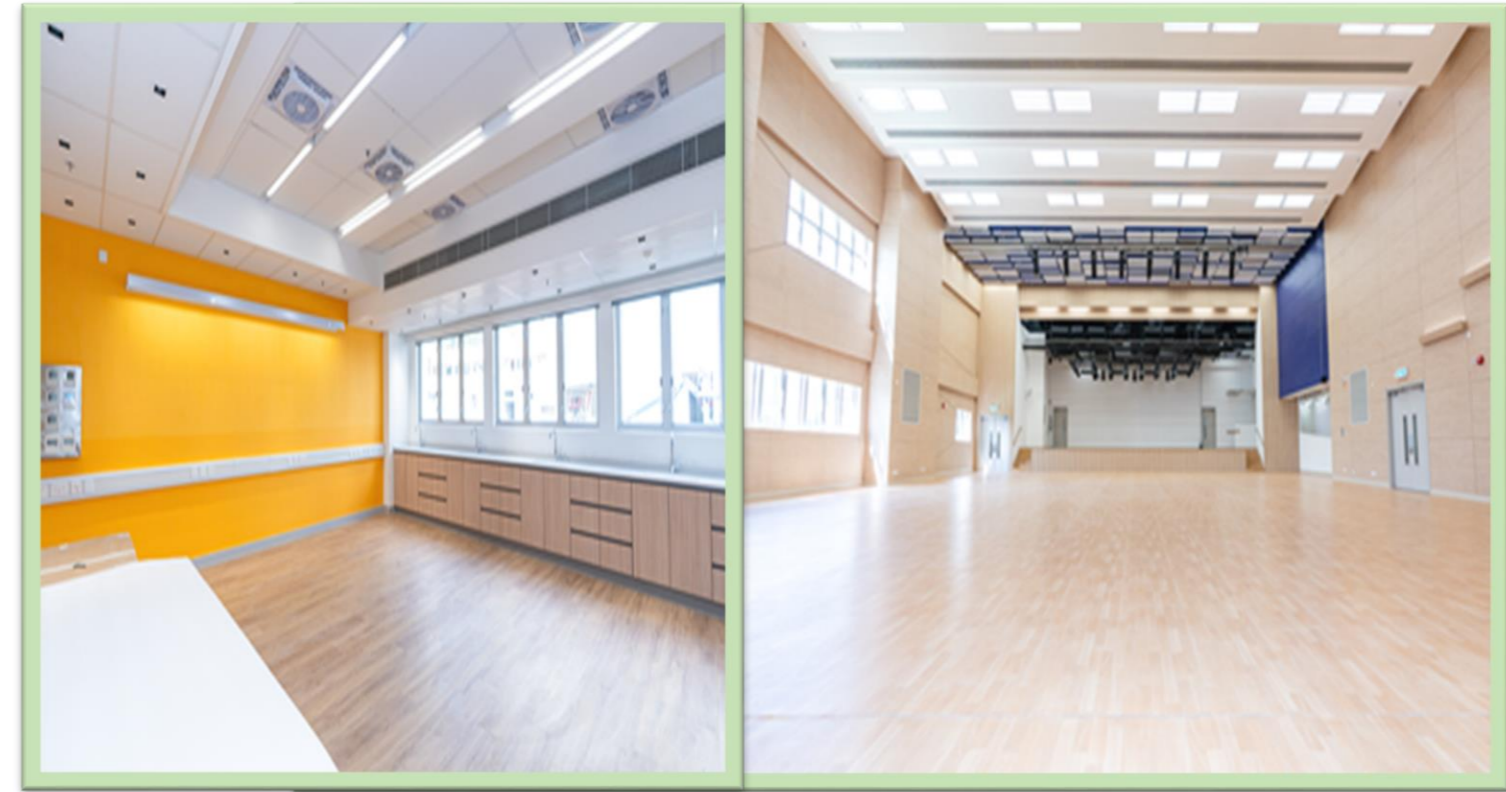
Design of New School Premises using Building Information Modelling

- (vi) reduction in noise, air and water pollution during construction through implementing mitigation measures, such as **provision of noise barrier to noise sensitive area, spraying water on the surface of dusty materials and provision of traps and sediment basins to remove sand/silt particles**;
- (vii) reduction in construction waste by using **Modular Integrated Construction, Multi-trade Integrated Mechanical, Electrical and Plumbing**, and more precast and prefabricated building elements; and
- (viii) use of **Building Information Modelling** (BIM) to enhance the design, construction, and project management as well as reducing the construction waste.

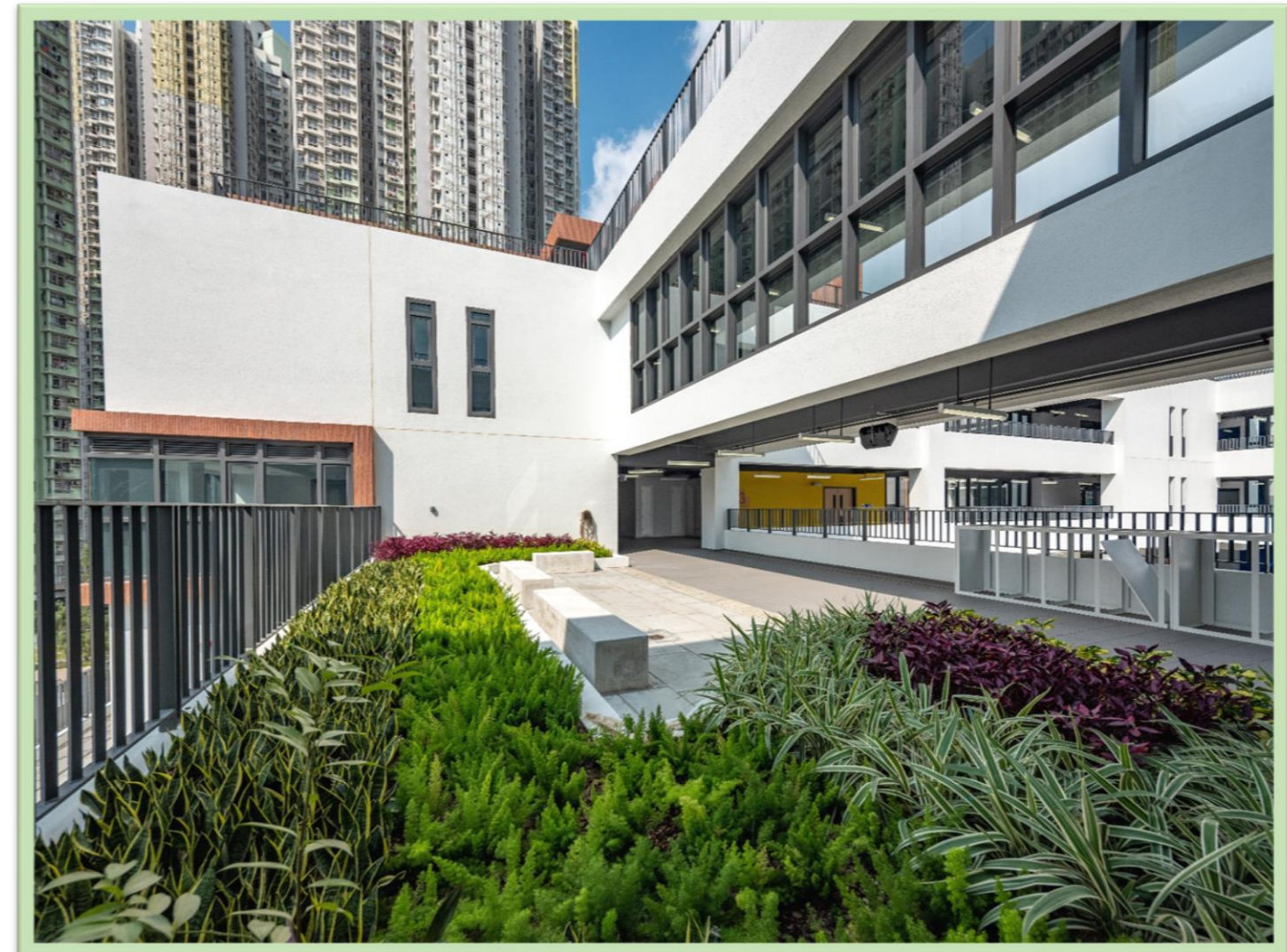


Green Technologies, Materials and Devices

- (i) use of **renewable energy** (e.g. photovoltaic system, solar hot water system, light tubes) and alternative source of water (e.g. rainwater harvesting system);
- (ii) increased application of **re-usable materials**, in particular metal framework, site hoarding and recycled products;
- (iii) improvement to indoor air quality by installing central primary air handling units with **high efficiency filter** and ultra-violet lamp and using low volatile organic compound-emitting building materials;
- (iv) use of **environmentally friendly refrigerant** for air-conditioners and chlorofluorocarbon free thermal insulating materials;
- (v) use of **energy saving devices** (e.g. sun shading on external elevations, occupancy sensors, photo-sensor controlled lighting, LED general light fittings, LED exit signs, variable refrigerant volume air-conditioning system, direct current motor ceiling fans, demand control system for fresh air system, smart lighting control and variable speed drive system for lifts / pumps / air handling units); and
- (vi) use of **water saving devices** such as dual-flush cisterns and sensor-taps for wash basins.



*Smart Classroom and Smart Lighting Control
in new school buildings*



Greener and Spacious Environment for new school buildings

(C) ENVIRONMENTAL HOUSEKEEPING MEASURES

Green Management Framework

2.5 A cross-divisional Bureau Green Management Working Group chaired by our Bureau Green Manager at directorate level (i.e. Principal Assistant Secretary (Administration)) with representatives from all divisions has been set up since 1999. It has been overseeing the implementation of green housekeeping programmes; initiating and monitoring the progress of green measures; reviewing the overall strategy for green management in the Bureau; and monitoring energy and paper consumption.

Energy and Carbon Audit

2.6 EDB works with the Electrical and Mechanical Services Department to identify new energy saving opportunities. Since 2017, we have been carrying out carbon audits for our offices and government schools each year. In 2023, carbon audits were carried out for 15 government schools and EDB Kowloon Tong Education Services Centre. The total carbon emission for these 16 premises (with total floor area of 160,634 m² and 2,039 employees) was **4,826 tonnes of carbon dioxide equivalent (CO₂-e)**.



Shortening of operation hours of lifts at EDB Kowloon Tong Education Services Centre



Installation of Solar Panels on the Rooftop of Kowloon Technical School



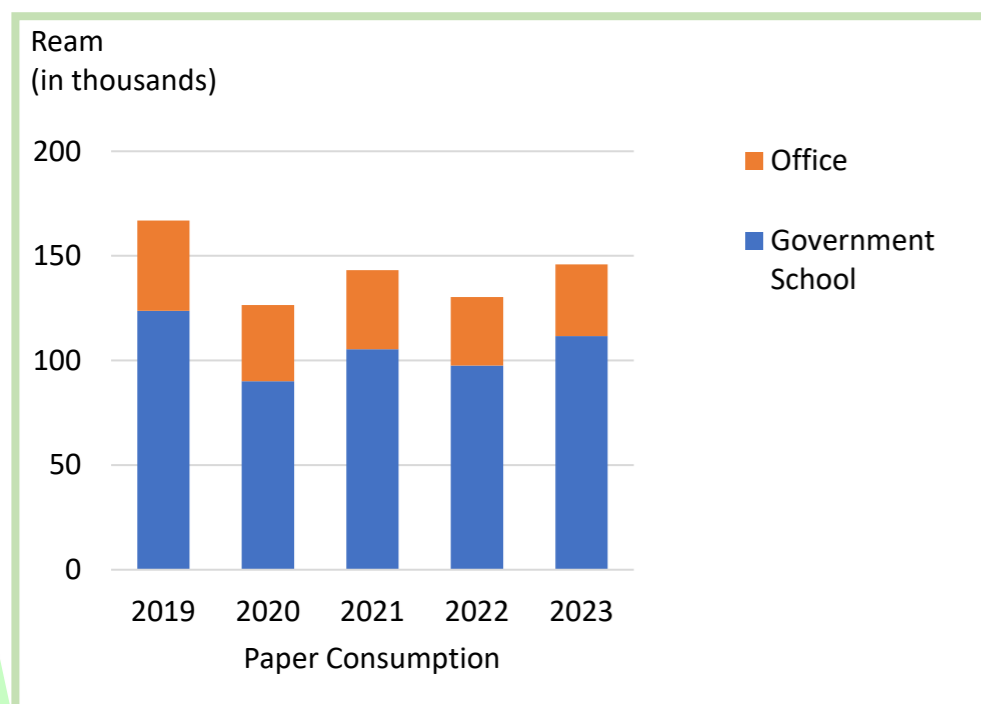
We have carried out energy saving projects (such as upgrading of lighting to LED tubes, setting up of printing quota, shortening of operation hours of lifts, etc.) and taken various measures to take forward the recommendations of the audits.

Economical Consumption of Resources

2.7 We have been striving for economy in the use of resources for environmental protection.

Saving Paper

EDB consumed about 146,000 reams of paper in 2023. The paper consumption has reduced by 12.6% compared with 2019, the year before the outbreak of the COVID-19 epidemic. We continued to adopt various paper-saving measures such as dissemination of documents / publications / reports through electronic means (e.g. website, hyperlink and QR codes), promotion of paperless meetings, implementation of electronic classroom arrangements, and digitising existing forms/returns through IT-enabled solutions, etc.

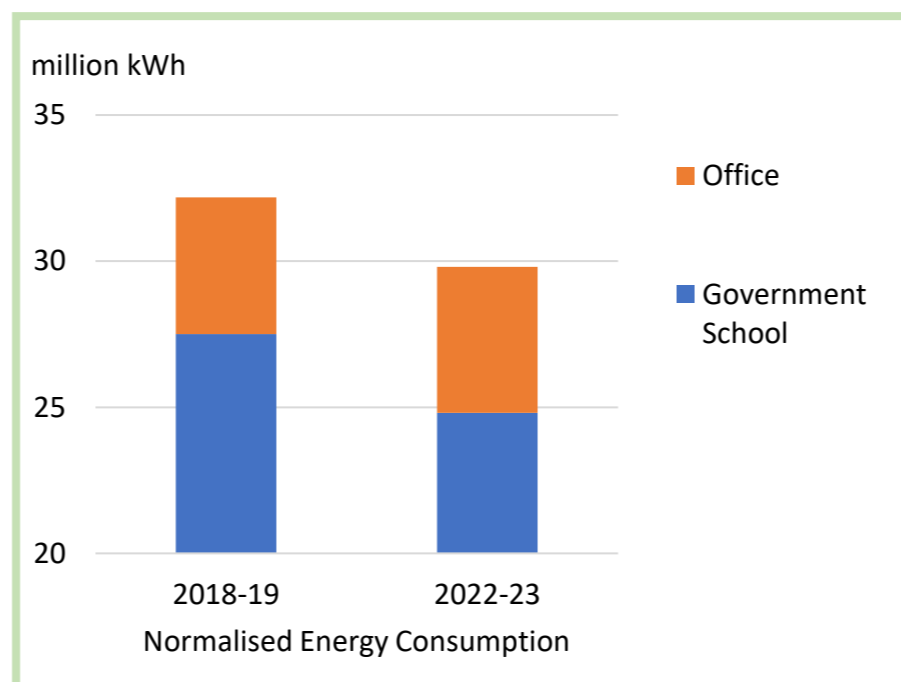


Paper Consumption of EDB

Energy Conservation

EDB constantly monitors energy consumption and seeks to achieve savings in electricity consumption. As set out in **Table 1** below, **energy consumption** of office premises and government schools in financial year (FY) ^{Note 1} 2022-23 **reduced by 3.5%** compared to the baseline year FY 2018-19. Under comparable operating conditions in FY 2018-19, **EDB achieved the Green Energy Target of 6% in FY 2022-23, discounting factors relating to class suspension and work-from-home arrangements.**

(in million kWh)	Energy consumption Before normalisation	Energy consumption After normalisation ^{Note 2}	Renewable Energy generation
FY 2022-23	31.131	29.858	0.104
Net change from FY 2018-19 ^{Note 3}	-1.138 (3.5% saving)	-1.824 (5.8% saving)	0.104 (0.3% contribution)



Energy Consumption of EDB

Note 1: A financial year starts from 1 April of a year and ends on 31 March of the following year.

Note 2: Normalisation processes are conducted to adjust the energy consumption by using the operating conditions in FY 2018-19 to facilitate comparison under comparable operating conditions.

Note 3: The net change in energy consumption is computed by comparing with the energy consumption in FY2018-19 (baseline year) (i.e. 32.269 million kWh before and 31.682 million kWh after normalisation). The renewable energy generation of 104,000 kWh in FY2022-23 accounted for 0.3% of the energy consumption in FY2018-19 (baseline year).

Energy Saving Measures

In 2023, we continued to reduced energy consumption by implementing the following housekeeping measures –

- ✓ shortening of operating time of the central air-conditioning systems;
- ✓ shortening operation hours of lifts and escalators;
- ✓ switching off air-conditioning and providing only fresh air supply in corridors and common areas;
- ✓ switching off air-conditioning in facilities / meeting rooms right after use;
- ✓ using more LED energy-saving tubes in our premises as far as possible;
- ✓ strictly following the Government’s policy to maintain the ambient office temperature at 25.5°C;
- ✓ monitoring energy consumption by regular checking and compiling electricity consumption reports; and
- ✓ deploying server virtualisation technology and cloud services to replace traditional servers for further reductions in energy consumption and heat emissions.

Waste Reduction

2.8 EDB has all along adhered to the concept of 4Rs, i.e. reducing, re-using, recycling and replacing, to minimise waste and implement various green measures.

Waste Collection and Recycling

To encourage waste recycling, we continued to provide green boxes to offices and schools for collection of papers, plastic and aluminum wastes for recycling in 2023. EDB's Offices in Wu Chung House (WCH) also participated in EPD's "Commendation Scheme on Source Separation of Commercial and Industrial Waste 2022/2023" and a Certificate of Merit was awarded to the government offices in WCH including EDB.

Performance in 2023:

- We collected **150 164 kilogrammes of waste paper** for recycling.
- We consumed **119 479 reams of recycled papers**.
- A total of **690 used cartridges were returned to the suppliers** concerned for recycling.
- We collected a total of **1 142 pieces of computer waste for recycling** by contractors.



Certificate of Merit in "Commendation Scheme on Source Separation of Commercial and Industrial Waste 2022/2023" obtained by government offices in Wu Chung House

Electronic Communication

We encourage staff to communicate through electronic means, and use the intranet and internet and QR codes to disseminate the Bureau's information (statistics, training activities, newsletters, etc), and process administrative and personnel matters (e.g. leave applications, bookings of conference rooms and applications for training courses electronically).

Green Purchasing

- In products procurement, we continue to take into account environmental factors such as recyclability and energy efficiency. We also continue to purchase green products such as computer monitors and photocopiers in

compliance with EPD's green specifications.

- Trade-in arrangement for supply of toner printer cartridges was arranged.
- Measures have been put in place to require the cleansing contractors for our offices and schools to use recycled / degradable plastic bags and approved cleansing chemical and materials.

Improvement in Air Quality

2.9 On improving air quality, we have deployed different strategies –

Improvement in Indoor Air Quality

Under the EPD's Indoor Air Quality (IAQ) Certification Scheme, offices in Central Government Offices in Tamar have obtained the "Excellent Class" IAQ Certificate while offices in WCH and EDB Kowloon Tong Education Services Centre have obtained the "Good Class" IAQ Certificate in 2023.

Economical Pool Car Resources

We have been practising car pooling and task combination, i.e. to achieve multiple objectives in one journey instead of arranging separate trips. Whenever circumstances permit, car pooling arrangement would be made to reduce the use

of vehicles and meet transport demands of different users at the same time.

Promotion of Green Driving

To reduce idling emissions and achieve fuel saving, we regularly remind our drivers to strictly comply with the requirements set out in the Motor Vehicle Idling (Fixed Penalty) Ordinance against idling of vehicle engines. Surprise inspections are conducted regularly to ensure compliance.

Use of Fuel-efficient Types of Vehicles

Reducing vehicular emissions is an effective way to improve air quality. In accordance with the relevant guidelines on Green Procurement in the Government, one of our six vehicles has been replaced with an electric vehicle in 2023, and the remaining five vehicles have been replaced with environmentally friendly petrol saloon cars with lower emissions and more fuel-efficient engines over the past years. Among these five vehicles, one is equipped with a "hybrid system" combining a gasoline engine and electric motor power to improve fuel economy and minimise emission of polluting particles. We will continue to replace our vehicles with electric models upon expiry of their life span.

(D) PROMOTIONAL GREEN ACTIVITIES

2.10 We organised a series of activities in 2023 to raise awareness and compliance with green practices amongst colleagues –

Green Christmas 2023

In “Green Christmas 2023”, we encouraged colleagues to donate second-hand items, including clothing, small electrical appliances and toys. Items collected were donated to Salvation Army for recycling and distribution to people in need (including street sleepers, deprived elderly, etc.). We also encouraged staff to use e-Christmas cards to share their Christmas blessings with a view to promoting paper saving.



Items donated by EDB staff in Green Christmas 2023



2023 EDB e-Christmas card

The 24th Paper Saving Competition

We organised the 24th Paper Saving Competition to promote paper saving in daily operation among colleagues working in government schools and offices.



Prize Presentation for 24th Paper Saving Competition

Table 2: Result of the 24th Paper Saving Competition

Group	Prize	Winning Teams
School	Best Performance Award in Paper Saving	Sham Shui Po Government Primary School
	Best Progress Award in Paper Saving	South Yuen Long Government Primary School
Office	Best Performance Award in Paper Saving	School Development Division
	Best Progress Award in Paper Saving	Infrastructure, International School and Statistics Division

Promotional Messages on Newsletter and Intranet

We disseminated green messages, notices and tips through the Bureau’s quarterly newsletter “EDB Pulse” and other internal publications on our intranet.



“EDB Pulse” (April 2023 Issue)

Green Events joined by EDB Volunteer Team

In 2023, the EDB Volunteer Team joined the Tai Long Wan Shoreline Cleanup Event with a view to protecting the shoreline environment.



Participation in the Tai Long Wan Shoreline Cleanup Event by the EDB Volunteer Team in March 2023



III. Looking Forward

Garden at Shau Kei Wan Government Secondary School

Embracing the Green Era

Learn Green, Act Green, Go Green

3.1 We fully recognise the importance of environmental protection and green management. EDB will step up efforts and devote resources to maintaining a high level of green management and setting a good example to the community.

Environmental Education

3.2 To support schools in environmental education, we will continue to provide a broad range of services including school visits, teacher education programmes, territory-wide green activities, and learning and teaching resources.

Planned Activities in 2024

- ✓ EDB will continue to provide subsidies to students and eligible teachers to participate in education camps under the **Outdoor Education Camp Scheme** in the 2024/25 school year;
- ✓ EDB will develop **life event exemplar(s)** to cultivate students' responsibility in environmental protection, cherish resources, and practice waste reduction at source; and
- ✓ A **photography competition** for primary and secondary schools is planned to be organised in 2024 to raise students' awareness of nature conservation and practising green living.



Visit to Lai Chi Chong by Yuen Long Public Secondary School in April 2023

Green Projects

3.3 We will strive to reduce electricity consumption as far as possible and implement green designs / proposals / projects based on the recommendations of energy / carbon audits.

Green Projects in the Pipeline

- ✓ Installation of **water-tap sensors** in government schools to reduce water consumption;
- ✓ Installation of **time switches** in government schools to achieve energy saving; and
- ✓ Installation of **toilet flush sensors** in Kowloon Tong Education Services Centre to reduce flushing water consumption.

Stepping Up Green Promotion

3.4 We will continue to economise by introducing more effective measures to promote the use of renewable energy, paper saving and staff's awareness and participation in green practices in 2024.

Contact Us

If you have any comments / suggestions, please contact our Bureau Green Manager through any of the following means –

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