## **Environmental Report 2012**



**Education Bureau** 

## **Environmental Report 2012**

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### **Foreword**

Maintaining an environmentally friendly surrounding is crucial to the development of our future generations. As a standing policy, we are committed to conserving our environment through various means and delivering our services in an environmentally responsible manner. To take this forward, we undertake to promote environmental education in schools, fully comply with environmental legislation, and initiate housekeeping measures to preserve common resources and nurture civic responsibility as well as environmentally responsible attitude among our young generation. In supporting Government policies on environmental protection and sustainable development in Hong Kong, we will keep on pursuing our environmental goals and striving for the continual improvement of our environmental performance.

The objective of this report is to outline our policies and management measures with respect to environmental issues, our performance in 2012 and our direction for the coming year.



## Controlling Officer's Profile of Key Responsibilities

We in the Education Bureau are responsible for formulating and reviewing education policy, and overseeing the effective implementation of education programmes. The Permanent Secretary for Education is responsible for the Policy Area 16: Education.

Our Bureau seeks to provide quality school education for our students, to develop their potential to the full and to prepare them for the challenges in life. One of our missions is to deliver professional services and ensure effective use of resources.

The Bureau had an establishment of 5,428 permanent posts as at 31 December 2012. Apart from 66 Government primary/secondary schools and education centre, our offices are located in 21 venues throughout Hong Kong.



## **Environmental Policy**

Our environmental policy is to promote environmental education in schools, to enhance our staff's environmental awareness by encouraging them to participate in environmental protection activities, to maintain a management system to improve the environmental quality of our activities, to fully commit to implementing the Clean Air Charter, to adopt responsible environmental housekeeping practices and to comply with relevant legislation and codes of practice.

We devote our green efforts in two main areas: to promote environmental education in schools and to implement in-house green measures in offices and schools.







# Requirements under the Clean Air Charter



The Chief Executive kicked off the Action Blue Sky in July 2006 as a massive publicity campaign to raise the community's awareness of improving air quality in Hong Kong. In tandem with a public appeal for energy conservation, he also directed that the Government of the Hong Kong Special Administrative Region should take the lead in reducing energy consumption.

To show our strong commitment to environmental protection and concern about the well-being of our future generations, the Chief Executive, on behalf of the Government of the Hong Kong Special Administrative Region, signed the Clean Air Charter in November 2006. All government bureaux and departments are required to follow the principles and spirit of the Charter when designing and implementing measures having regard to the specific nature and need of their operation and activities.





#### (A) INSTITUTIONAL CHANGE: BUREAU GREEN MANAGEMENT

To put in place an effective management framework, Principal Assistant Secretary (Administration) has been appointed as the Green Manager of the Bureau to oversee environmental protection issues. Under her chairmanship, a cross-divisional Bureau Green Management Working Group with representatives from all divisions set up since 1999 has been developing the Bureau's environmental objectives and overseeing the implementation of green housekeeping programmes. Apart from serving as the focal point



for directing and addressing energy and environmental management issues and strengthening green efforts in the Bureau, the Working Group also initiates and monitors the progress of green measures and reviews the overall strategy for green management in the Bureau.

To respond to the Clean Air Charter, we have further strengthened the function of the Green Management Working Group with particular emphasis on energy conservation and air quality improvement.

A two-tier Energy Manager Scheme has been introduced to promote and monitor green measures in the Bureau:

#### 1. <u>Green Managers at Divisional Level</u>

14 Energy Managers have been appointed at Divisional level to oversee the implementation of energy-saving and green measures.

#### 2. Assistant Energy Managers and Green Executives at Sectional Level

Environmental audit and inspection teams with 41 Assistant Energy Managers and 42 Green Executives have been set up at Sectional level to perform energy conservation duties and implement green measures, such as conducting regular checks, tendering advice to staff concerned and monitoring energy consumption. They function as Energy and Emission Management Teams to co-ordinate measures to reduce energy and paper consumption.

Furthermore, electricity consumption of all offices is critically reviewed and closely monitored at the Green Management Working Group meetings conducted on a bi-monthly basis.

#### (B) FOLLOW-UPACTIONS TO THE CLEAN AIR CHARTER

#### 1. Energy Audit

We worked closely with Electrical and Mechanical Services Department (EMSD) to identify new energy saving opportunities. EMSD completed an energy audit in the Bureau offices in Wu Chung House in 2007. Another energy audit in the Kowloon Tong Education Services Centre was completed in early 2008. We have taken various measures,



including removing part of the fluorescent lamps in over-lit areas, switching off some of the passenger lifts during non-peak period and adding occupancy sensor control in toilets, to implement the recommended energy saving proposals.

#### 2. Reduction of Air Pollution

#### (a) Use of Fuel Efficient Types of Vehicles

Vehicular emissions are the major local source of air pollution and reducing emissions from vehicles is an effective way to improve air quality. We have been using unleaded gasoline for our vehicle fleet since 1991.





We have gradually replaced all of our six vehicles by environment-friendly petrol saloon cars with lower emissions and more fuel-efficient engines over the past years. Among those, four are equipped with a 'hybrid system' which combines a gasoline engine and electric motor power to improve fuel economy and minimise emission of polluting particles.

#### (b) Promotion of Green Driving

To reduce idling emissions and achieve fuel saving, our drivers are regularly reminded to strictly comply with the requirements set out in the Motor Vehicle Idling (Fixed Penalty) Ordinance against idling of motor vehicle engines while the vehicles are stationary. Frequent surprise inspections have been conducted to ensure compliance.





#### (c) Economical Pool Car Resources

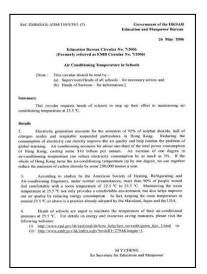
Furthermore, we have been practising car pooling and task combination, i.e. to achieve multiple objectives in one journey instead of arranging separate trips. Whenever circumstances permit, "car pool" orders from different users would be arranged to adjust transport demands and reduce the use of vehicles.

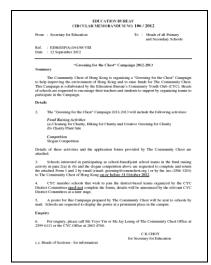


#### 3. Issue of Circulars to Schools

To help alleviate the problem of global warming, we issued circulars to remind all schools to maintain air conditioning temperature at 25.5°C with a view to reducing the emission of carbon dioxide in Hong Kong. We required all schools through circulars to formulate a school-based environmental policy and implement effective measures for energy saving to help improve air quality. Under the 'Greening for the Chest' Campaign collaborated by our Community Youth Club, we encouraged schools to support the green campaign of 2012-2013 through EDB Circular Memorandum .No. 106/2012. A circular on green lunch in school was also issued in September 2009 to promote an environmentally friendly lifestyle among students.









# Key Environmental Performance in 2012

#### (A) ENVIRONMENTAL EDUCATION

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.

To fulfill the goal of promoting environmental education, various initiatives have been undertaken. They include:

- issuing curriculum guides and other reference materials to promote environmental education in schools;
- ♣ producing multimedia packages and education television programmes on environmental education;
- organising school events on environmental education together with various government departments and green groups;
- incorporating appropriate environmental education elements in school syllabuses at all levels and updating curriculum guides and exemplars to assist schools in planning environmental education programmes;
- ♣ producing a reference handbook on "Education for Sustainable Development for Primary Teachers"; and
- supporting the "Greening for the Chest" Campaign organised by the Community Chest of Hong Kong.





#### 1. <u>Interaction with Schools</u>

#### (a) School Inspections and Visits

We conducted 7 school visits in 2012 giving advice on the implementation of environmental education.

4 Advice was given on various environmental issues including implementation of environmental education whenever appropriate. Schools were also encouraged to formulate an environmental school policy and implement measures on energy saving.

#### (b) Provision of Resources to Schools

Reference and teaching materials on "Issues of Science, Technology and the Environment in Perspective (English Version)" were provided for Liberal Studies teachers.



- A total of 4 training programmes in the form of seminars/visits on Education for Sustainable Development were organised. Waste management was one of the topics discussed.
- ♣ A Web-based Environmental Education Learning Package on "Education for Sustainable Development in Schools in Hong Kong" was developed. Clean Air was one of the topics in the package.
- We supported schools in organising Outdoor Education Camp Scheme (OECS) in which enhancing students' awareness of environmental protection was one of the elements. Related themes or activities include "Nature and I", "Science and Ecology Trips", "Climatology, Geography and Ecology Study Camps", etc. Some schools also adopted environmental protection as the main theme of OECS such as "Enhancing Communication Skills and Environmental Awareness".
- ♣ A total of 82,750 students, including 26,980 secondary and 55,770 primary students from 826 schools (312 secondary and 514 primary schools), participated in the OECS in the 2011/12 school year.



- ♣ The Education Television (ETV) Unit produced two ETV programmes about environmental protection in 2012, namely "Marine Conservation in Hong Kong" and "Ocean Adventure"
- ♣ A Web-based Learning Course on Earth Science was organized for gifted students from senior primary to junior secondary. The course was divided into three levels for students to progress from one level to another, with elements of air quality, pollution and water resources etc. being covered. Three enrichment courses held at the Fung Hon Chu Gifted Education Centre on environmental education were conducted for senior primary and junior secondary students, with energy conservation being one of the topics discussed.

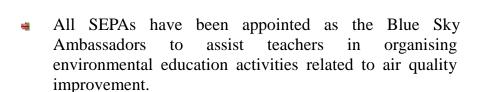
#### (c) School Activities to Promote Environmental Awareness

- Funding was provided for 400 school visits to the Mai Po Nature Reserve. Other visits to Wetland Park were also conducted on a school basis through life-wide learning activities.
- ♣ Student Environmental Protection Ambassador Scheme (SEPAS) 2012/13

SEPAS was organised in collaboration with the Environmental Protection Department (EPD) and the Environmental Campaign Committee to promote environmental protection in schools. The main theme in 2012/13 was "Go Green on Waste Management". The Student Environmental Protection Ambassadors (SEPAs), schools and families were encouraged to adopt a greener lifestyle through waste reduction and recycling.



A total of 656 primary and secondary schools participated in the Scheme and 16,277 SEPAs were appointed.





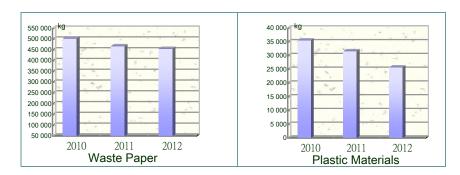
- **♣** Eleventh Hong Kong Green School Award Scheme (11<sup>th</sup> HKGSAS)
  - This award was organised in collaboration with the EPD and the Environmental Campaign Committee to promote environmental protection in schools and the main theme was "Go Green with Waste Management".
  - A total of 186 pre-schools, primary and secondary schools participated in the Scheme.
  - The following government schools were awarded the title of "Hong Kong Green School":

Hong Kong Green
School 
Wong Tai Sin Government Primary School

Homantin Government Secondary
SchoolTsuen Wan Government Secondary
School

- **♣** 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. reusing, reducing, recycling and replacing disposable products. As at the end of 2012, the participating schools collected about 455,314 kilograms of waste paper and 25,765 kilograms of plastic materials.





■ In addition, about 3,778 kilograms of metal was collected.

#### 2. Building Partnerships

We collaborated with various government departments and relevant green groups to promote environmental protection. We participated in the following working groups and committees in 2012 to provide advice on the organisation of school activities and production of resource materials to schools:

- Clean Hong Kong: Publicity and Public Education Group
- Community Involvement Committee on Greening
- Environmental and Conservation Fund Committee



- ♣ Environmental Education & Community Action Projects Vetting Committee (Environment and Conservation Fund)
- **♣** Environmental Campaign Committee



- Environmental Campaign Committee Education Working Group
- Hong Kong Environmental Education Group
- ♣ Management Committee for Lung Fu Shan Environmental Education Centre
- Working Group for the Community Organic Farming Campaign for Primary and Secondary Schools in Hong Kong
- Working Group for the Green Building Competition for Schools 2012
- Working Group for the Hong Kong Green School Guide by the Hong Kong Green Building Council



#### (B) IN-HOUSE HOUSEKEEPING MEASURES

#### 1. Design and Construction Works for New Schools

We introduced various environmentally friendly initiatives in design and construction works of new school buildings, including:

- reduction in noise and air pollution during construction through implementation of mitigation measures;
- use of renewable energy (e.g. photovoltaic system) and alternative source of water (e.g. treated rain water) as far as practicable;



- reduction in construction waste by using more precast and prefabricated building elements;
- increased application of re-usable materials, in particular metal framework, site hoarding and recycled products;
- improvement to indoor air quality by installing fresh air pre-conditioners in classrooms and using low volatile organic compound-emitting building materials;



- use of environmentally friendly refrigerant for air-conditioners;
- use of energy-saving devices such as sun shading on external elevations, occupancy sensors, photo-sensor controlled lighting, T5 fluorescent tubes with electronic ballasts, LED exit signs, and variable refrigerant volume air-conditioning system;







• use of water-saving devices such as dual-flush cisterns and sensor-taps for wash basins;





 increased landscaping in school playgrounds and upper levels and roof floor of school (including vertical greening) for a greener environment in schools and campuses;



• 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;



- provision of adequate space and waste separation bins to facilitate separation,
   collection and storage of recyclable materials for recycling;
- use of shared facilities among schools which has enabled a greener and more spacious environment in these schools;
- introduction of hygiene improvement measures to schools, including toilet provision without main entrance doors and hand-washing facilities in playgrounds; and
- provision of Central Food Portioning Area to facilitate the use of re-usable cutlery and food containers and to reduce food wastage.



Water cooled VRV system



Hybrid type solar energy collector



Hybrid type lamp pole



Sunlight collector



Mono-crystalline PV panels



Mono-crystalline PV panels with sun tracking



Small scale wind turbine



Semi-transparent amorphous PV panels



Solar powered LED bollard light

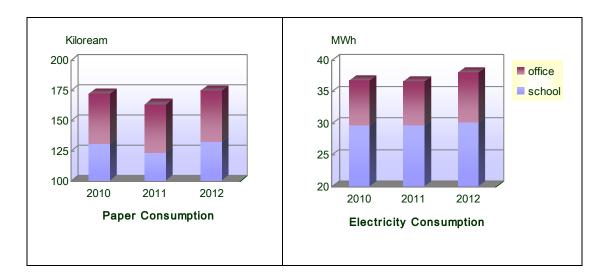


LED accent lighting

#### 2. Consumption of Resources

#### (a) Saving Paper and Electricity

We are making continuous efforts in economising the use of paper and reducing electricity consumption. We shall continue to maintain our efforts to achieve further savings in electricity and paper consumption in 2013.



#### (b) Conserving Energy

We shall continue to adopt energy-efficient measures and sustain our efforts in reducing energy consumption.

• Energy saving fluorescent tubes with electronic ballasts and light bulbs are used in our offices as far as possible.



• We have been strictly following the Government's policy to maintain the ambient office temperature at  $25.5^{\circ}$ C.



- In 2012, we attended a briefing session on "Government Energy Consumption Reporting and Monitoring". Electricity consumption reports were compiled on a quarterly basis, while internal energy audits were conducted periodically.
- Moreover, our ITM Division has deployed server virtualisation technology to reduce energy consumption. Server virtualisation also reduces the need to procure new physical servers.
- The number of virtual servers has increased from 178 in end 2011 to 257 in end 2012 including those newly added and migrated from old physical servers. Our plan is to increase the number of virtual servers to more than 300 in 2013.

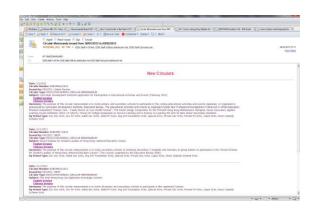


#### 3. Highlights of Other Green Measures in 2012

We have all along adhered to the 4Rs principles of "Reduce, Re-use, Re-cycle and Replace disposable products" and focused on minimising waste and implementing various green measures on an on-going basis.

#### (a) Minimising and Reducing Wastes

#### Using Electronic Means of Communication



With a view to promoting paperless operation in our daily work and reducing the use of paper, staff in the Bureau are provided with email accounts and use of electronic mails has become the most popular means of communication in the Bureau.

Staff in the Bureau are provided with Intranet accounts. The Intranet platform has been widely used to disseminate Bureau information including telephone directory, updates on grade management statistics, training activities, newsletters, etc. and administrative process and personnel matters, e.g. booking conference rooms, processing leave applications and processing applications for training courses. encourage staff to exchange documents through electronic means.



#### (b) Re-use and Waste Recycling

As an integral part of our green strategy, we have put in place the following recycling program:

#### **Green Purchasing**



- In procurement of products, we took into account environmental factors such as recyclability and energy efficiency as far as applicable. We also purchased green products like re-cycled ink and toner cartridges.
- We supported procurement of green products for use in the Bureau. In arranging tenders, we included common environmentally friendly terms such as trade-in clauses, recycling arrangements, etc. as far as practicable. Trade-in arrangements for the supply of ink and toner printer cartridges were arranged. In this connection, a total of 354 used cartridges were returned to the suppliers concerned for recycling or public auction in 2012. Furthermore, we collected a total of 1,651 pieces of computer waste for recycling either by contractors under the disposal contracts or through public auction.



• When inviting tenders for new cleansing contracts for our offices and schools, we required tenderers to include use of recycled plastic bags and approved cleansing chemical and materials in the service schedule.

#### **Collecting Waste**



- We joined the EPD's "Programme on Source Separation of Commercial and Industrial Waste" and provided green boxes in offices and schools for collection of papers, plastic and aluminium wastes for recycling.
- We collected a total of 204,610 kilograms of waste paper for recycling throughout the year.

#### **Use of Recycled Paper**

• Following the EPD's recommendation of wider use of recycled paper, we consumed 30,338 reams of recycled papers in 2012.



 We continue with our efforts in reducing paper consumption and measures such as printing on both sides of paper and reusing envelopes.

#### Improvement in Indoor Air Quality

• Under the EPD's Indoor Air Quality (IAQ) Certification Scheme, offices of Wu Chung House and the Kowloon Tong Education Services Centre have obtained the "Good Class" IAQ Certificate in 2012. We will continue to monitor the indoor air quality regularly to ensure the IAQ meets the standard promulgated by the EPD.





#### **Promotional Green Activities**

• We organised a series of activities to promote green management in the Bureau in 2012, including:

#### (i) The Thirteenth Paper Saving Competition

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



#### **Prize**

Best Performance Award in Paper Saving

Best Progress Award in Paper Saving

#### **Winning Teams**

- Education Commission and Planning Division
- Yuen Long Public Secondary School.
- Professional Development and Training Division
- Tong Mei Road Government Primary School.

#### (ii) Green Christmas

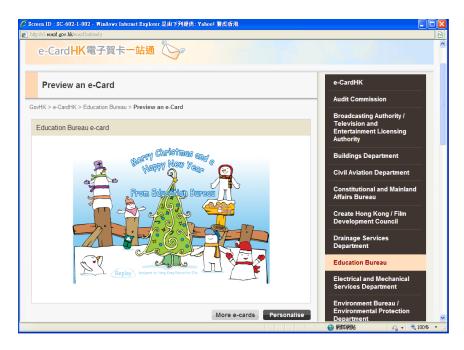
• In the exercise of "Donation of Clothing, Small Electrical Appliances and Toys" launched during Christmas 2012, we collected 11 packs of clothing, small electrical appliances and toys for donation to the Salvation Army.





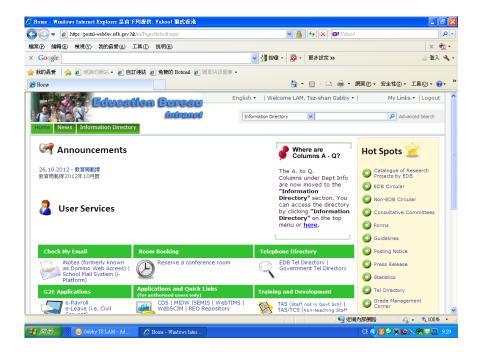
#### (iii) Electronic Christmas Cards

 As one of our paper-saving measures, we used e-cards to send Christmas and New Year greetings to our working partners. Staff was also encouraged to use the GovHK Internal e-Card Platform to distribute e-cards.



#### Promotional Messages on Newsletter and Bureau Intranet

 To encourage direct participation by colleagues and appeal for their support and contribution in protecting the environment, we disseminated green messages and notices on the Bureau's newsletter "EDB Pulse" and EDB Intranet's pop-up window. We also disseminated useful tips on green management through Intranet and internal publications.



## **Way Forward**

We fully recognise the importance of environmental protection and green management. The Bureau will continue to devote efforts and resources to maintaining a high level of green management practice and setting a good example to the community.



In terms of education, we will continue to encourage schools to develop a green culture, and to equip students with the knowledge, skills and attitude to become environmental-friendly citizens. 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.

Within the Bureau, we will strive to reduce electricity consumption having regard to actual operational requirements. With the completion of energy audits and review of enhanced green management measures, we shall be in a better position to work out more concrete energy saving targets in the future.



#### **TARGETS FOR 2013**

Our targets for promotion of environmental education in the 2012/13 school year are as follows:

#### Key Action Area

#### Targets for 2012/13 School Year

- Conducting school inspections and visits to give advice on environmental education
- To advise schools on environmental education during school visits and other learning experience activities
- Organising school activities to enhance students' awareness of environmental protection
- To fund 400 school visits to the Mai Po Nature Reserve
- To organise activities in collaboration with various government departments and non-government organisations to promote green living
- To strengthen the support to environmental education in General Studies for primary schools, development professional programme titled "Strengthening Environmental Conservation to Promote Education for Sustainable Development" to be held in January 2013 is under planning for purpose of deepening teachers' understanding of sustainable development education



- Providing advice on organisation of school activities and production of resource materials for schools to promote environmental education
- To enrich the web-based learning and teaching resources, such as the life event exemplars, relating to environmental education
- To produce two ETV programmes about environmental protection, namely "Polar Adventure" and "Climate Change" to alert students of the impact of human behaviours on natural environment and climate as well as to encourage them to protect the environment in their daily life

In conducting our business, we will continue to economise on the use of resources and minimise waste. In the coming year, we will continue to:

- 1. initiate and promote environmental-friendly housekeeping practices;
- 2. conduct indoor air quality check and devise more effective measures to improve air quality;
- 3. conduct energy audits to help identify room for further energy conservation;
- 4. promote the use of electronic means of communication within the Bureau; and
- 5. organise activities and training to promote staff's awareness and participation in green management.





### **Contact Us**

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We value your feedback on the Environmental Report 2012, which would be useful to us for improving our report in the coming year. If you have any comments/suggestions, please complete this form and send it back to the Centre Manager, Room E301, East Block, Kowloon Tong Education Services Centre, 19 Suffolk Road, Kowloon Tong, Hong Kong or fax it to 2117 0081. You may also send any comments by email to <a href="mailto:edbinfo@edb.gov.hk">edbinfo@edb.gov.hk</a>. Thank you.

Fe	eedback Form
1.	Do you find the Report informative?  Yes  No
2.	Do you find the content of the Report easy to Yes No understand?
3.	Which other topics would you like the Report to cover?
4.	What green improvement measures would you recommend?
5.	What is your overall view of the Report?
	Excellent Good Adequate Poor
Na	me :
Tel	lephone :
Em	pail address :