# Environmental Report 2008



Education Bureau

# Environmental Report 2008

## **Contents**

#### Page

Foreword	1
<b>Controlling Officer's Profile of Key Responsibilities</b>	2
<b>Environmental Policy</b>	3
Requirements under the Clean Air Charter	4
(A) Institutional Change: Bureau Green Management	4
(B) Follow-up actions to the Clean Air Charter	6
<b>Key Environmental Performance in 2008</b>	9
(A) Environmental Education	9
(B) In-house Housekeeping Measures	17
Way Forward	26
Contact Us	29



## FOREWORD

Maintaining an environmentally friendly surrounding is crucial to the development of our future generations. As our 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 for the environment. In supporting Government policies on environmental protection and sustainable development in Hong Kong, we will keep on pursuing our environmental goals and striving for continual improvement in our environmental performance.

The objective of this report is to outline our policies and management measures with respect to environmental issues, our past performance in 2008 and our direction for the coming year. A separate chapter on our efforts made in support of the Clean Air Charter has also been incorporated in the report.



## CONTROLLING OFFICER'S PROFILE OF KEY RESPONSIBILITIES

We, the Education Bureau, are responsible for formulating and reviewing education policy, and overseeing the effective implementation of education programmes. 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 5,771 permanent posts as at 31 December 2008. Apart from 71 Government primary and secondary schools, 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 as well as implement in-house green measures in offices and schools.



## REQUIREMENTS UNDER 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 the air quality in Hong Kong.



In tandem with a public appeal for energy conservation, he also directed that the Hong Kong Special Administrative Region Government 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 Hong Kong Special Administrative Region Government, signed the Clean Air Charter in November

2006. Accordingly, all government departments and bureaux 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 Green Manager of the Bureau to oversee the environmental protection issues. Under his 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 emphases on energy conservation and

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>

air quality improvement.

14 Energy Managers have been nominated 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 44 Assistant Energy Managers and 37 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 keeping in view the energy consumption situation closely. They take on the role of Energy and Emission Management Teams to co-ordinate measures to reduce energy and paper consumption.

Furthermore, electricity consumption of all office venues has been 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 work closely with Electrical and Mechanical Services Department (EMSD) to identify more energy saving opportunities. EMSD completed an energy audit in the Bureau Headquarters in Wu Chung House, our largest office venue, in 2007. Another energy audit in the Kowloon Tong Education Services Centre was also 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, 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. Most of our vehicles are environment-friendly petrol saloon cars with lower emissions and more fuel-efficient engines.



The issue of "Environment-friendly Private Car Certificate" to the Bureau manifests that our vehicles emit about 50% less hydrocarbons and nitrogen oxides and consume about 40% less fuel than the conventional petrol Euro IV private cars. Owing to their higher fuel efficiency, our saloon cars also emit about 40% less carbon dioxide, the



major contributor to global warming. In 2008, we have replaced three saloon cars with new ones equipped with a "hybrid system", which combines a gasoline engine and electric motor power to improve fuel economy and minimize emission of polluting particles. We have also been using unleaded gasoline in our vehicle fleet since 1991.

#### (b) Promotion of Green Driving

We have been following the "Environmental Friendly" Guidelines issued by the Government Logistics Department and promoting eco-driving practice widely. In particular, our drivers observe the running-in speed as recommended for that particular type of vehicle, take care not to labour the vehicle, avoid high engine revolutions in low gear and perform frequent checks for overheating or any other defects developing in order to maintain the vehicles at their best environmental friendly condition as well as with optimal fuel efficiency all the time. To reduce idling emissions and achieve fuel saving, our drivers are regularly reminded to switch off engines while waiting. Frequent surprise inspections have been conducted to ensure the compliance of our drivers in this regard.

#### (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 several separate trips. Whenever circumstances permit, "car pool" orders from different users would be arranged to adjust transport demand and reduce the use of vehicles.



#### 3. <u>Issue of Circulars to Schools</u>

To help alleviate problem of global warming, we issued circulars to remind all schools to maintain air conditioning temperature at 25.5 degrees Celsius 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 so as to help improving air quality. In addition, we have also encouraged schools to support the green campaign through the circular memorandum no. 148/2008 on "Greening for the Chest" Campaign 2008-2009.







## KEY ENVIRONMENTAL PERFORMANCE IN 2008

#### (A) ENVIRONMENTAL EDUCATION

Our mission is to enhance students' environmental awareness through education, and to 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 fulfil the goal of promoting environmental education, various initiatives have been undertaken, which include:-

- issuance of curriculum guides and other reference materials to promote environmental education in schools;
- ♣ production of multimedia packages and education television programmes on environmental education;
- organisation of school events on environmental education together with various government departments and green groups;
- incorporation of appropriate environmental education elements in school syllabuses at all levels and updating curriculum guides and exemplars to assist schools in planning environmental education programmes;



- production of a reference handbook on "Education for Sustainable Development for Primary Teachers"; and
- support for the "Greening for the Chest" Campaign organized by the Community Chest of Hong Kong.

#### 1. Interaction with Schools

#### (a) School inspections and visits

We conducted 21 school inspections and visits in 2008 giving advice on the implementation of environmental education.

4 Advice was given on various environmental issues including improving air quality and energy conservation. Schools were also encouraged to formulate an environmental school policy and implement measures on energy saving.

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

♣ A booklet on Global Warming (in Chinese) produced by the Hong Kong Japanese Chamber of Commerce & Industry was distributed to all primary and secondary schools in October 2008. Schools could make use of the booklet to step up their environmental education.



- ♣ In 2008, a Professional Development Programme was organized for teachers on "Inquiry-based Learning in General Studies Series" and "People and Environment".
- A professional development programme for teachers on "Climate and Air Pollution in Hong Kong" was organized in June 2008 and the second series will be held in mid 2009 on "Energy Technology and the Environment".
- Reference and teaching materials on "energy sources" have been uploaded to the Web-based Resource Platform for Liberal Studies. Other reference materials on "energy usage" and "conservation" will also be uploaded in mid 2009.
- An educational package on Climate Change has been developed in collaboration with the Hong Kong Observatory for distribution to all secondary schools.

- A total of 8 seminars training programmes in the form of seminars/workshops/field trips on Education for Sustainable Development were organized. The content of energy conservation was specially highlighted in the Seminar on Renewable Energy for Sustainable Development in HK held in May 2008. Expertise from EMSD, CLP Power and Hong Kong Electric Company were invited to give talks on the development and use of renewable energy in HK.
- ♣ A Web-based Environmental Educational Learning Package on "Education for Sustainable Development in Schools in Hong Kong" has been developed. Clean Air was the major topic in the package.



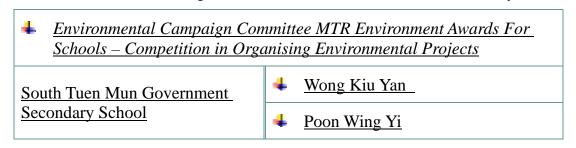
#### (c) School Activities to Promote Environmental Awareness

- Funding was provided for 400 school visits to the Mai Po Nature Reserve and other visits to Wetland Park conducted on school basis through life-wide learning activities.
- Student Environmental Protection Ambassador Scheme (SEPAS) 2007/08
  - SEPAS was organized in collaboration with the Environmental Protection Department (EPD) and the Environmental Campaign Committee to promote environmental protection in schools. The major theme in 2008 was climate change. The Student Environmental Protection Ambassadors (SEPAs), their schools and families are encouraged to acquire green lifestyle and conserve energy.



- A total of 910 primary and secondary schools participated in the Scheme and 18,121 SEPAs were appointed.
- All SEPAs have also been appointed as the Blue Sky Ambassadors to assist teachers in organising environmental education activities related to air quality improvement.

Winner List of Outstanding SEPAs 2007-08: (Government Schools only)



- ♣ Seventh Hong Kong Green School Award (7<sup>th</sup> HKGSA)
  - This award was organized in collaboration with the EPD and the Environmental Campaign Committee to promote environmental protection in schools and the major theme was Green Lifestyle.
  - A total of 189 pre-schools, primary and secondary schools participated in the Award.

#### Secondary School Category

Green School Merit	+	Homantin Government Secondary School
	4	Queen's College
Green School	4	Belilios Public School
	+	Sir Ellis Kadoorie Secondary School (West Kowloon)
	4	N. T. Heung Yee Kuk Tai Po District Secondary School



#### **Primary School Category**

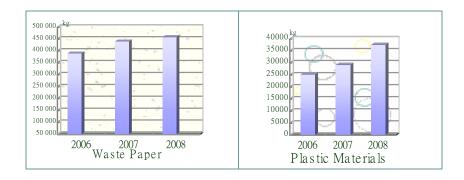
Green School Merit Farm Road Government
Primary School



**♣** Waste Separation and Recycling Scheme in Schools



We worked together with the Environmental Campaign Committee to organize the Scheme to promote the concept of "4Rs", i.e. reusing, reducing, recycling and replacing disposable products. As at the end of 2008, the participating schools collected 452,911 kilograms of waste paper and 37,518 kilograms of plastic materials.



In addition, 2,490 kilograms of metal was collected.

### 2. Building Partnerships

We also collaborated with various government departments and relevant green groups to promote environmental protection. We participated in the following working groups and committees in 2008 to provide advice on the organisation of school activities and

Clean Hong Kong: Publicity and Public Education Group



**♣** Community Involvement Committee on Greening

production of resource materials to schools -

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



for a living planet°

- ♣ Environmental Campaign Committee Education Working Group
- Hong Kong Environmental Education Group
- **♣** WWF Hong Kong Education Committee



♣ Hong Chi Association Roof-greening Competition for Primary and Secondary Schools in Hong Kong In response to the Clean Air Charter, we encouraged the above Working Groups and organisations to cover air quality improvement and energy saving in their work plans, such as projects, competitions and resource materials for schools.

附件 2

#### 世界自然基金會可持續發展教育項目 (二零零八至二零零九學年)

#### 宗旨/目標

上述活動旨在增加學生對自然環境的認識和關注,並了解其與社會及經濟發展的關係。

#### 詳情

- 2. 於二零零二年在約翰尼斯堡舉行的世界首腦會議,同意在二零零五年開展「聯合國可持續發展教育十年」活動,其目的是透過教育—— 個達致「可持續發展」的有效方法,幫助解決二十一世紀所面臨的環境、社會及經濟問題。 大會期望透過全球各地的努力和教育,共同推廣「可持續發展」,以求達致改善人民生活、保育地球資源及鼓勵全球經濟發展的目標。
- 3. 世界自然基金會香港分會在二零零八至二零零九學年將會舉辦四項可 持續發展教育項目給小學生參與。
- 有關可持續發展教育項目的詳情,請細閱附錄的世界自然基金會香港分 會的邀請函。
- 5. 如欲參加上述可持續發展教育項目,請填妥附錄的申請表,交回世界自然基金會香港分會。申請以先到先得方式處理。有關米埔小學教育項目的截止申請日期爲2008年6月30日。

#### 聯絡人

6. 如有查詢,請與世界自然基金會香港分會劉慧娟小姐(電話: 2652 3301) 或與課程發展處德育及公民教育組陸宗勳先生(電話: 2153 7487)聯絡。

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

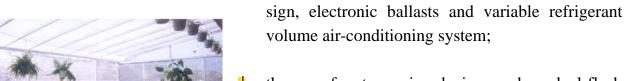
#### 1. Design and Construction Works for New Schools

We introduce 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;
- the use of renewable energy (e.g. photovoltaic system) and alternative source of water (e.g. treated rain water) as far as practicable;



- improvements to indoor air quality by installing fresh air pre-conditioners in classrooms and using low volatile organic compound-emitting building materials;
- the use of environmentally friendly refrigerant for air-conditioners;
- the use of energy-saving devices such as sun shading on external elevations, occupancy sensors, photo-sensor controlled lighting, T5 fluorescent lamps, LED exit



- the use of water-saving devices such as dual-flush toilet system 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;



- the use of shared facilities among schools in a school cluster which has enabled a greener, more spacious environment in these schools; and
- introduction of hygiene improvement measures to schools, including toilet provision without main entrance doors and hand-washing facilities in playgrounds.

Regarding works under the School Improvement Programmes, we have implemented the following environmentally friendly design measures with green elements –



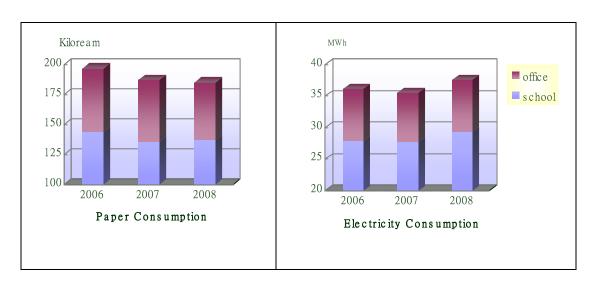
- ♣ for all new school improvement projects with air conditioning installation, the Overall Thermal Transmission Value (OTTV) calculations were capped at 23 W/m², lower than the statutory requirement of 30 W/m². The OTTV calculations were below 18 W/m² for 63.6% of all school improvements projects;
- occupancy sensors were used to control lighting and ventilation/air-conditioning in disabled toilets and some infrequently-used rooms (e.g. conference rooms, interview rooms, etc.);
- efficiency of driving motors for lift and escalator installations was 85% or higher, better than the acceptable industrial level of not smaller than 60%;
- ♣ less toxic Ni-MH battery was used in Fire Services panels and emergency lighting when battery capacity required was less than 15 Ah. Alternative structural solutions such as metal hoarding and other structural means were used to reduce the use of timber; and
- the use of diesel hammers was not allowed as specified in all piling contracts.

#### 2. Consumption of Resources



#### (a) Saving Paper and Electricity

We are making continuous efforts in economizing the use of paper and reducing electricity consumption. While we achieved a reduction of about 1.1% on paper consumption in 2008, we had an increase in electricity consumption mainly due to longer office working hours of staff arising from increased workload relating to implementation of the Education Reform, increases in activities and consultation on new education initiatives, and more school activities including seminars, and training organized for students and teachers. We shall continue to explore other effective measures to achieve further savings in electricity and paper consumption in 2009.



#### (b) Conserving Energy

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

Installation of energy saving fluorescent tubes with electronic ballasts and light bulbs at the HQs will be completed in the first Quarter of 2009. The new lighting system is about 30 to 40% more energy efficient than the conventional system.



- We have been strictly following Government policy to maintain the ambient office temperature at 25.5°℃.
- In 2008, we attended experience sharing workshops of The Second Hong Kong Energy Efficiency Awards, briefing sessions for "The New Annual Energy Consumption Reporting Mechanism", Seminar on EMSTF's Energy Saving Solutions and Hong Kong Fuel Economy Run for Private Cars. Electricity consumption reports were compiled on a quarterly basis, while internal energy audits were conducted periodically.



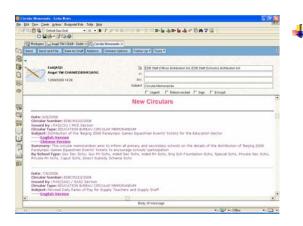


## 3. Highlights of Others Green Measures in 2008

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

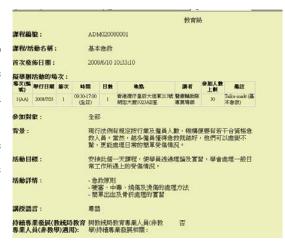
#### (a) Minimizing and Reducing Wastes

#### Using Electronic Means of Communication



With a view to promoting paperless operation in our daily work and reducing the use of paper, all 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.

All EDB staff are provided with Intranet accounts. The Intranet platform has been widely used to disseminate Bureau information including telephone directory, training activities, newsletters, etc. and process administrative and personnel matters, e.g. booking conference rooms and processing leave applications. We encourage staff to exchange documents through electronic means to save paper.



#### (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 1,716 used cartridges were returned to the suppliers concerned for recycling or public auction in 2008, representing an increase of about 3.7% as compared with 2007. Furthermore, we collected a total of 3,530 pieces of computer waste for



- recycling either by contractors under the disposal contracts or through public auction, representing an increase of 27.9% as compared with 2007.
- **T**enders were required to use recycled plastic bags and approved cleansing chemical and materials in the service schedule of the quotation document.

#### **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 125,846 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 used 30,206 reams of recycled papers in the Bureau in 2008.
- ♣ 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 the HQs have been awarded a "Good Class" IAQ Certificate. We will continue monitoring the indoor air quality regularly to ensure the IAQ meets the standard promulgated by the EPD.

#### **Promotional Green Activities**

♣ We organized a series of activities to promote green management in the Bureau in 2008, including –

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

We organized the ninth Paper Saving Competition to encourage colleagues working in government schools and the offices to save paper in their daily operations.



#### **Prize**

Best Performance Award in Paper Saving

Best Progress Award in Paper Saving

#### **Winning Teams**

- Curriculum Development Institute
- Ho Tung Secondary School
- Information Technology Management
  Division
- Sha Tin Government Primary School

#### (ii) Green Christmas

- Donation of Clothing, Small Electrical Appliances and Toys.
- We collected 12 packs of clothing, small electrical appliances and toys for donation to the Salvation Army during Christmas in 2008.





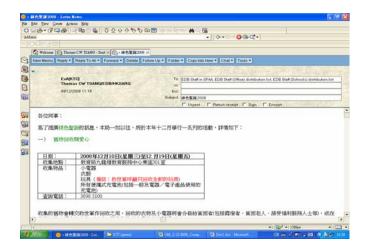
#### (iii) Electronic Christmas Cards

As one of our paper- reducing measures, we designed and sent e-cards during Christmas and New Year to our working partners. Also, we have made use of the GovHK Internal e-Card Platform for staff to distribute e-cards.



#### Promotional Messages on Newsletter and Bureau Intranet

To invite direct participation of staff in protecting the environment, and appeal for their support and contribution in this aspect, we disseminated green messages and notices on the Bureau newsletter "EDB Pulse" and EDB Intranet's pop-up window to promote green management. We also disseminate green management useful tips through intranet and internal publications.



## WAY FORWARD

We fully recognize 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 environmentally 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, teaching guidelines and learning resources.

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



#### **TARGETS FOR 2009**



Our targets for promotion of environmental education in the 2008/09 school year are as follows:

#### **Key Action Area**

#### Targets for 2008/09 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
- Organizing school
   activities to enhance
   students' awareness on
   environmental protection
  - To fund 400 school visits to the Mai Po Nature Reserve
  - To organize activities in collaboration with various government departments and non-government organizations to promote green living



- Providing advice on organization of school activities and production of resource materials to schools to promote environmental education
- To enrich the web-based learning and teaching resources, such as the life event exemplars, relating to environmental education

In conducting our business, we will continue to economize use of resources and minimize waste. In the coming year, we will continue to –



- initiate and promote environmentally friendly housekeeping practices;
- conduct indoor air quality check and devise more effective measures to strive for improving air quality;
- **♣** conduct energy audits to help identify room for further energy conservation;
- ♣ promote the use of electronic means of communication within the Bureau; and
- ♣ organize activities and training to promote staff's awareness and participation in green management.





## CONTACT US

We value very much your feedback on the Environmental Report 2008, which would be most useful for improving our report in the coming year. If you have any comments/suggestions, please complete this form and send it back to 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:edb.gov.hk">edb.gov.hk</a>. Thank you.

#### Feedback 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 improvement measures would you recommend?
5.	What is your overall view of the Report?  Excellent Good Adequate Poor
Nar	me :
Tele	ephone :
Ado	dress :