

Environmental Report 2011



香港天文台
HONG KONG OBSERVATORY

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1. Director's Message


I am pleased to present the thirteenth Environmental Report of the Hong Kong Observatory (HKO). This report sets out the environmental policy in HKO and provides an overview of our performance and achievement in 2011.

HKO attaches great importance to environmental conservation and we are fully committed to supporting government's policies on environmental protection and sustainable development. Apart from conforming to the government's green regulations and guidelines, we also strive to foster a green culture and promote an environmentally responsible attitude among our stakeholders.

In 2011, we continued to exert great efforts in organizing various green activities within HKO, such as the Light-off Day, Car-free Day and Tree Planting Day, to arouse colleagues' awareness on environmental protection. In addition, we outreached to the community to promote knowledge in climate change by conducting public talks, school visits and exhibitions and by publicizing articles on climate change throughout the year.

We achieved significant normalised reduction in electricity consumption in 2011 when compared to the figure in the baseline year of FY2007/08. The indoor air quality of buildings in our Headquarters was also categorized as "Good Class" under the Indoor Air Quality Certification Scheme for offices and public places in 2011. Moreover, our efforts in green management once again got recognition as we were awarded the Certificate of Merit in the 2011 Hong Kong Awards for Environmental Excellence (HKAEE) - Sectoral Awards (Public Organisations and Utilities). This is the fourth consecutive year that HKO's efforts were awarded under this scheme.

Looking into the future, we shall make every endeavour to enhance our environmental performance in the years ahead. Readers are welcome to give us their comments and feedback to help us identify ways for further improvement.



C M SHUN

Director of the Hong Kong Observatory

2. Organisation Chart



3. Staff Establishment

HKO had an approved establishment of 292 as at 31 December 2011. Details are shown in Table 1 below :

Grade	Establishment
Directorate	5
Scientific Officer Grade	53
Experimental Officer Grade	47
Radar Specialist Mechanic Grade	23
Scientific Assistant Grade	95
Common Grades	24
General Grades	45
Total	292

Table 1 : HKO Establishment as at 31 December 2011

4. Financial Provision

The financial provision of HKO in FY2011-12 was \$220.7 million, which was wholly voted for operational expenses in the financial year.

5. Office Locations

In 2011, HKO operated 4 offices. Their locations were as follows:

- Hong Kong Observatory Headquarters (HKOHQ) at 134A, Nathan Road, Tsim Sha Tsui;
- Miramar Tower Office at Units 2304-09, 23/F, Miramar Tower at Tsim Sha Tsui;
- King's Park Meteorological Station at Yaumatei; and
- Airport Meteorological Office at Chek Lap Kok.

HKO also operated 3 radar stations at Tai Mo Shan, Tate's Cairn and Tai Lam Chung.

As at 31 December 2011, HKO operated a total of 90 weather stations including automatic weather stations, rain-gauges, anemometers and tide stations (see Figure 1 below):



Figure 1 : Locations of Weather Stations, Rainfall Stations and Tide Gauge Stations as at 31 December 2011

6. Key Responsibilities

The Observatory is responsible for three main programme areas:

- (a) Weather Services
 - To provide weather services to meet the public's demand for short to medium range forecasts and warnings of hazardous weather and to provide forecasts for international aviation and shipping in accordance with the standards of international organisations.
- (b) Radiation Monitoring and Assessment
 - To provide information on local environmental radiation levels and effects and to advise the Government on countermeasures that may be necessary during nuclear emergencies.
- (c) Time Standard and Geophysical Services
 - To maintain the Hong Kong time standard and to provide geophysical, oceanographic, astronomical and climatological information and consultative services to the public and private sectors.

7. Stakeholders

This report is prepared annually to meet the needs of:

- (a) the general public receiving HKO information via the media, telephone, mobile devices or by browsing our website;
- (b) all Government bureaux and departments;
- (c) visitors to HKO; and
- (d) other users of HKO services including those from the aviation, shipping, business, industry, education, engineering, public utility and tourism sectors.

8. Environmental Policy

We adhere to the departmental environmental policy and meet the guidelines issued by Environmental Protection Department and other government departments, such as EMSD and ArchSD. Moreover, we are committed to the Clean Air Charter, which aims at making sustained improvements to the air quality by introducing clean and energy-efficient measures in daily operation. We strive to improve the environment by:

- (a) conserving the bio-diversity and preserving the natural habitat within HKO HQ and outstations;
- (b) developing a culture of environmental protection among staff members;
- (c) employing the best practices in green housekeeping;
- (d) complying with the requirements of relevant environmental protection ordinances; and
- (e) promoting public awareness of environmental sustainability issues.

9. Green Management System

We have established two committees to formulate and implement environmental policy for HKO:

- (a) The Building, Grounds and Accommodation Committee

The Building, Grounds and Accommodation Committee chaired by the Assistant Director (Development, Research and Administration), evaluates all major civil and building services works carried out on HKO premises and grounds to minimize the impact on the environment. Members include the Departmental Secretary (Green Manager) and four Senior Scientific Officers from each of the four branches.

(b) HKO Working Group on Energy and Environment

The HKO Working Group on Energy and Environment was established in 2006. The Green Manager acts as the convenor with staff from different grades/ranks and branches as members. The Working Group aims to collect green ideas from staff and promote green awareness among all levels in HKO. It also serves as the Energy and Emission Management (EEM) Team for implementing the commitments under the Clean Air Charter. Regular meetings will be held to formulate new green initiatives and review the existing environmental protection measures.

10. Environmental Measures Taken

We have adopted multi-pronged environmental measures to echo with government's green initiatives and to implement our environmental policy. These measures are highlighted below:

(a) Preservation of biodiversity

HKO continues to conserve the biodiversity and preserve the natural habitat within the area of HKO, especially at HKO HQ in Tsim Sha Tsui.

HKO values the trees and vegetations inside HKO HQ. By commissioning different private contractors to conduct inspections and maintenance, HKO strives to preserve their health conditions. Over 500 trees of different species can be found within the HKO HQ, for instance the Hong Kong Orchid Tree, Longan, Chinese Banyan and many other common trees in Hong Kong.

Tree planting at HKO is one of the major initiatives under the department's environmental programme. In April 2011, a Tree Planting Day was organized to arouse staff's environmental awareness by growing plant seedlings.

The woodland at HKO HQ serves as a natural shelter for the local birds. It is known as one of the few remaining semi-natural woodlands in urban Kowloon (see Figure 2 and Table 2 below).

Avian like Spotted Dove, Chinese Bulbul, Crested Bulbul, Magpie Robin, Black-necked Starling and White-eye are prevalent in our woodland. The woodland is of paramount importance in providing stopover for migrating birds like Flycatchers and Thrushes. Some birds, namely Brown Flycatcher, Blackbird and Grey-backed Thrush, even stay for the whole winter.





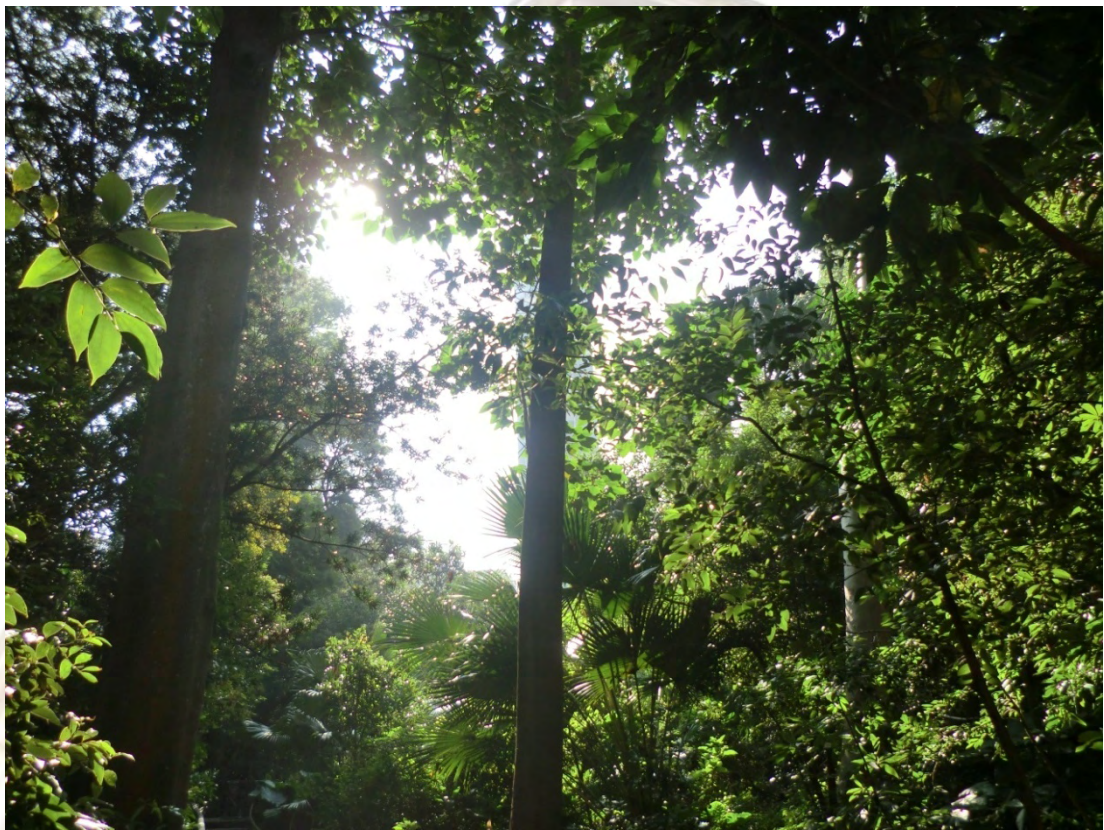


Figure 2 : The greenery of HKO HQ

English Name	Chinese Name	Scientific Name
Lebbek Tree	大葉合歡	<i>Albizia lebeck</i> (L.) Benth
Alexandra Palm	假檳榔	<i>Archontophoenix alexandrae</i> (F. Muell.)
Hong Kong Orchid Tree	洋紫荊	<i>Bauhinia blakeana</i> Dunn
Camel Foot Tree	宮粉羊蹄甲	<i>Bauhinia variegata</i> L.
Tall Bottle-brush	串錢柳	<i>Callistemon viminalis</i> G. Don
Horsetail Tree	木麻黃	<i>Casuarina equisetifolia</i> L.
Batavia Cinnamon	陰香	<i>Cinnamomum burmanni</i> (Nees) Blume
Yellow Cow Wood	黃牛木	<i>Cratoxylum cochinchinense</i> (Lour.) Blume
Flame Tree	鳳凰木	<i>Delonix regia</i> (Boj. ex Hook.) Raf.
Longan	龍眼	<i>Dimocarpus longan</i> Lour.
Lemon-scented Gum	檸檬桉	<i>Eucalyptus citriodora</i> Hook. f.
Chinese Banyan	細葉榕	<i>Ficus microcarpa</i> L. f.
Common Red-stem	青果榕	<i>Ficus variegata</i> var. <i>chlorocarpa</i> (Benth.) King
Big-leaved Fig	大葉榕	<i>Ficus virens</i> var. <i>sublanceolata</i> (Miq.) Corner
Pond Spice	潺槁	<i>Litsea glutinosa</i>
White Champak	白蘭	<i>Michelia alba</i>
Chinese Red Pine	馬尾松 (山松)	<i>Pinus massoniana</i> Lamb.
Frangipani	雞蛋花	<i>Plumeria rubra</i> L.
Buddhist Pine , Kusamaki	羅漢松	<i>Podocarpus macrophyllus</i> (Thunb.) D. Don
Wood-oil Tree	木油樹	<i>Vernicia montana</i> Lour.

Table 2 : Common Plant Species at HKO HQ

(b) Minimisation of paper consumption

HKO has made the following efforts in reducing paper usage :

- Appealing to our staff to use recycled paper instead of virgin paper.
- Adopting duplex printing practices and minimizing photocopies, encouraging staff to reuse envelopes, file jackets whenever possible.
- Replacing printed version of newsletters and circulars by using electronic means and uploading publications on HKO website.
- Urging use of electronic channels, such as email and e-Memo, for external and internal communications.

(c) Waste Reduction and Recovery

HKO promotes waste reduction and recovery and have taken the following measures :

- Recycling is always the preferred option for disposal. In addition, all disposal proposals have to be vetted by Departmental Disposal Committee.
- Collecting all empty toners and inkjet cartridges of computer printers for recycling
- Allowing paper wastes, plastic bottles and aluminum cans to be collected separately at source by placing recycle bins at HKOHQ.
- Encouraging staff to use reusable stationery such as refillable ball pens.
- Participating in and cooperating with NGOs in their local green activities, such as the “Order less, Waste less” scheme hosted by Friends of the Earth.

(d) Energy conservation

To minimize energy consumption, we have taken various energy saving measures in our offices. Some examples are:

- Using sustainable power, such as solar power or wind power, to support operations of certain automatic weather stations and radiation monitoring stations (see Figure 3).



Figure 3 : Using solar power for our equipment

- Employing automatic circuit-break timers to switch off unnecessary electrical appliances after office hours.
- Employing energy-saving T5 fluorescent tubes in all HKO premises to reduce energy consumption and mounting motion sensors to reduce energy wastage.
- Segregating hot and cold air flow by setting plastic screens in the high-performance computer room to enhance cooling efficiency of the air-conditioning system. (see Figure 4).



Figure 4 : Plastic screens segregating hot and cold air flow in high-performance computer room

- Switching off lights, air conditioners, photocopiers, computers and other electrical appliances when they are not in use.
- Conducting regular inspections to ensure lights, computers and other electrical appliances in offices, conference rooms and common corridors were switched off during lunch breaks and after office hours.
- Organising HKO Light-off Day every month (see Figure 5).

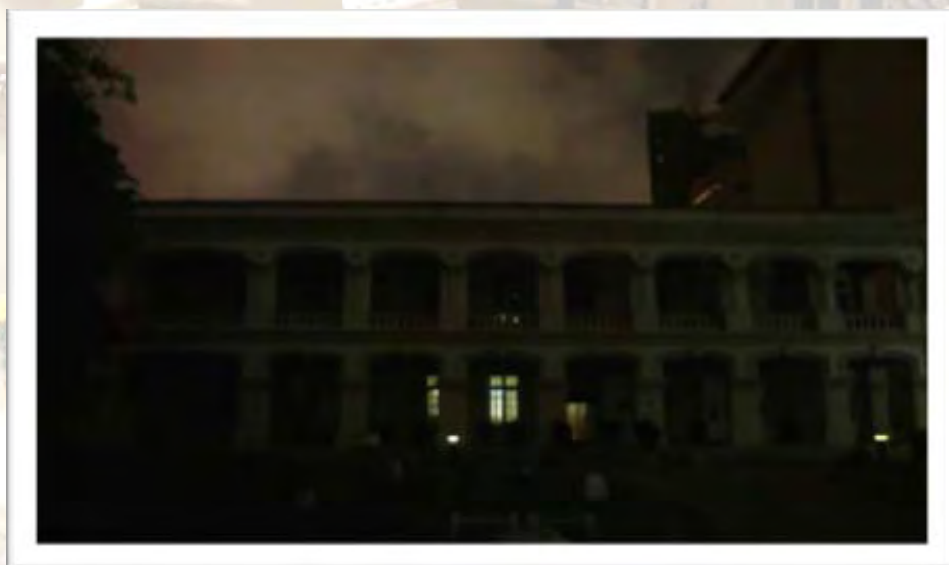


Figure 5 : Photos of Light-off Day

- Minimizing the number of operating lifts after normal office hours.
- Setting the ambient office temperature to 25.5°C in the summer months and switching off air-conditioning system in winter wherever and whenever appropriate by using electronic control panel.
- Calling for staff to dress down to reduce air-conditioning consumption.
- Conducting regular checks and maintenance on the air-conditioning systems.

(e) Air Quality Improvement

HKO cares about the air quality in our premises. The following measures are adopted to enhance our air quality:

- Joining the IAQ Certification Scheme with “Good” class awarded in 2011.
- Maintaining a non-smoking environment in the office premises and prohibiting smoking in the majority of outdoor areas of HKO HQ.
- Consigning EMSD to conduct regular indoor air quality checks, and carry out regular cleaning and repairing for the air-conditioning systems.
- Organising HKO Car-free Day every month.

(f) Procurement Management

To further support environmental protection, we have adopted green procurement measures as follows:

- Complying with government’s regulations and guidelines regarding green procurement.
- Encouraging our suppliers to provide us with environmental friendly products and stipulating green procurement specifications in tender documents, wherever appropriate.
- Utilizing environmentally friendly products, such as
 - ✓ Photocopiers and printers capable of double-side printing
 - ✓ Automatic sensor installed in water dispensers
 - ✓ Water-saving type flush cisterns
 - ✓ High efficiency water purifiers
 - ✓ High pressure water gun for car-washing

(g) Promoting Staff Awareness

HKO attaches great importance in arousing staff awareness in environmental issues. Various methods are adopted to promote environmentally responsible attitude:

- Establishing the “Hong Kong Observatory Working Group on Energy and Environment”.
- Encouraging staff to contribute ideas on environmentally friendly measures by launching the “Environmental Protection Suggestion Scheme” with cash incentives.
- Promulgating resource saving tips regularly via emails, staff notices, circulars and posters
- Organising staff activities, such as Tree Planting Day, Car-free Days and Light-off Days, to enhance environmental awareness and encourage staff participation.
- Compiling monthly reports on energy, paper and envelop consumption and alerting staff to reduce unnecessary usage.

(h) Enhancing Public Awareness on Environmental Sustainability Issues

I. The HKO Open Day

HKO organises an Open Day for public every year. Information on climate change and other meteorological knowledge are conveyed to visitors through multifarious displays and exhibits.



Figure 6 : Group photo outside 1883 building on the Open Day



Figure 7 : Photos taken on the Open Day

II. Training on environmental related topics

HKO offers a variety of training for both colleagues and members of the public. These include:

➤ Internal for colleagues

- Talk by Dr. Walter Dabberdt on Climate Changes
- Talk by Dr Christian Reuten on Impact of Climate Change on Ozone Pollution in the Lower Fraser Valley, Canada
- Lecture on Urban Climate by Prof Robert Bornstein

➤ External for members of the public

- Distinguished Lecture on "Latest Findings and Policies in China on Climate Change - Challenges and Opportunities"
- The 6th to 8th Public Seminar cum Exhibition of Global Warming and Climate Variation Seminar Series jointly presented by external speakers and HKO colleagues.

III. Co-operation with Green Partners

HKO fosters good relationship with various green partners, such as World Wide Fund for Nature (WWF), Friends of the Earth (FoE), Green Sense and The Conservancy Association (長春社), by engaging in their green activities.



Figure 8 : Our Green partners

In this year, HKO joined “Order less, Waste less” scheme and the “Riverwalk 2011” organised by FoE, the One-hour-long lights out event “Earth Hours 2011” by WWF and “Car-Free Day” by Greenpeace. HKO also supported “Green Festival 2011” organised by FoE in the form of sponsorship and “CAPITAL Outstanding Green Excellence Awards 2011” by sending representatives in the panel of judges and acting as one of the award presenter. In parallel, HKO worked closely with and responded positively to the appeals of different departments, for example EMSD and EPD, when implementing our green policies.

IV. Research and Public Awareness Promotion on Global Warming and Climate Change

HKO took an active role in arousing and promoting public awareness on climate change and global warming. Talks, school visits, seminars and lectures were launched for students and the public to achieve this goal.



Figure 9 : School visit

HKO published a number of articles on intriguing climate-related topics. Various kinds of education resources are also readily available at HKO's website with a view to enhancing public's knowledge and awareness in respect of climate change issues.



Figure 10 : Publications

V. Guided Tour of the Hong Kong Observatory

A guided tour of HKO HQ, dubbed as “天文台全方位遊”, is held regularly on Saturdays to provide members of the public with the opportunity to visit HKO Headquarters. They could learn more about the century-old historical building and appreciate the ecology of a mini-forest in the heart of the city.

11. Environmental Performance

(a) Envelope Consumption



Target 2.5% reduction achieved

Under the concerted effort of all staff, the total envelope consumption in HKO in Fiscal Year (FY) 2011/12 decreased by 8,483 or 41.2% as compared to FY2007/08 (see Figure 11 below). The target of 2.5% reduction was achieved.

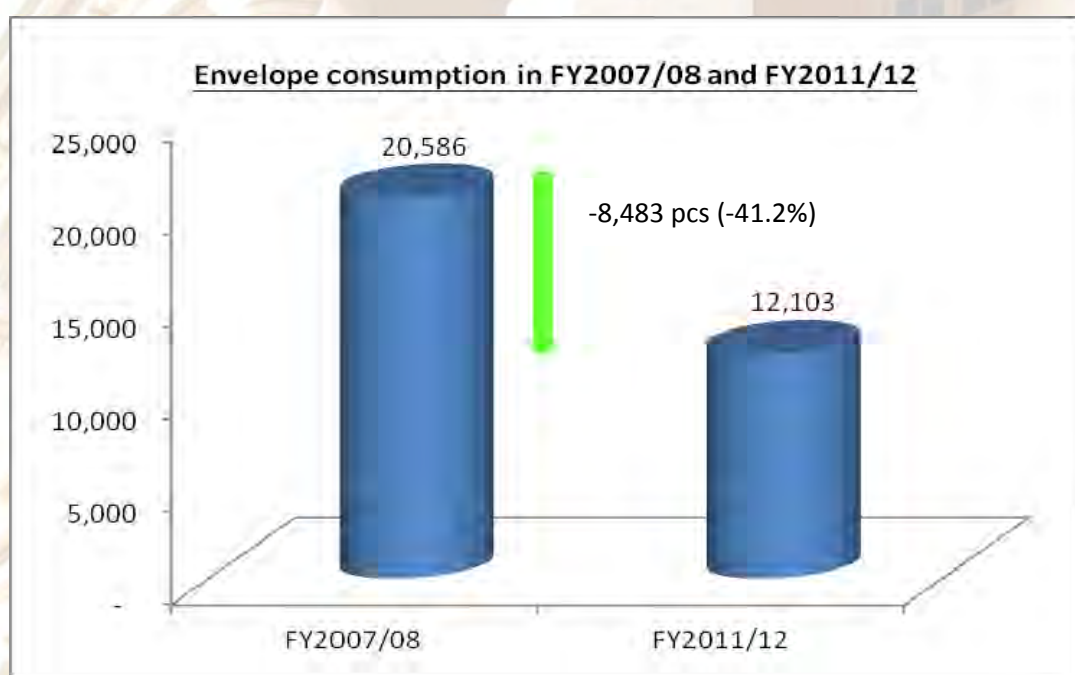


Figure 11: Envelope consumption in FY2007/08 and FY2011/12

(b) Paper Consumption



Target 2.5% reduction not achieved

While various approaches were adopted to reduce paper consumption in HKO, the paper consumption in HKO in FY2011/12 increased by 505 reams or 29.3% compared with FY2007/08 (see Figure 12 below). The increase might be attributed to the depletion of the stock of recycled papers and the broadening of HKO services. However, we will take heed of this situation to avoid further increase in this regard.

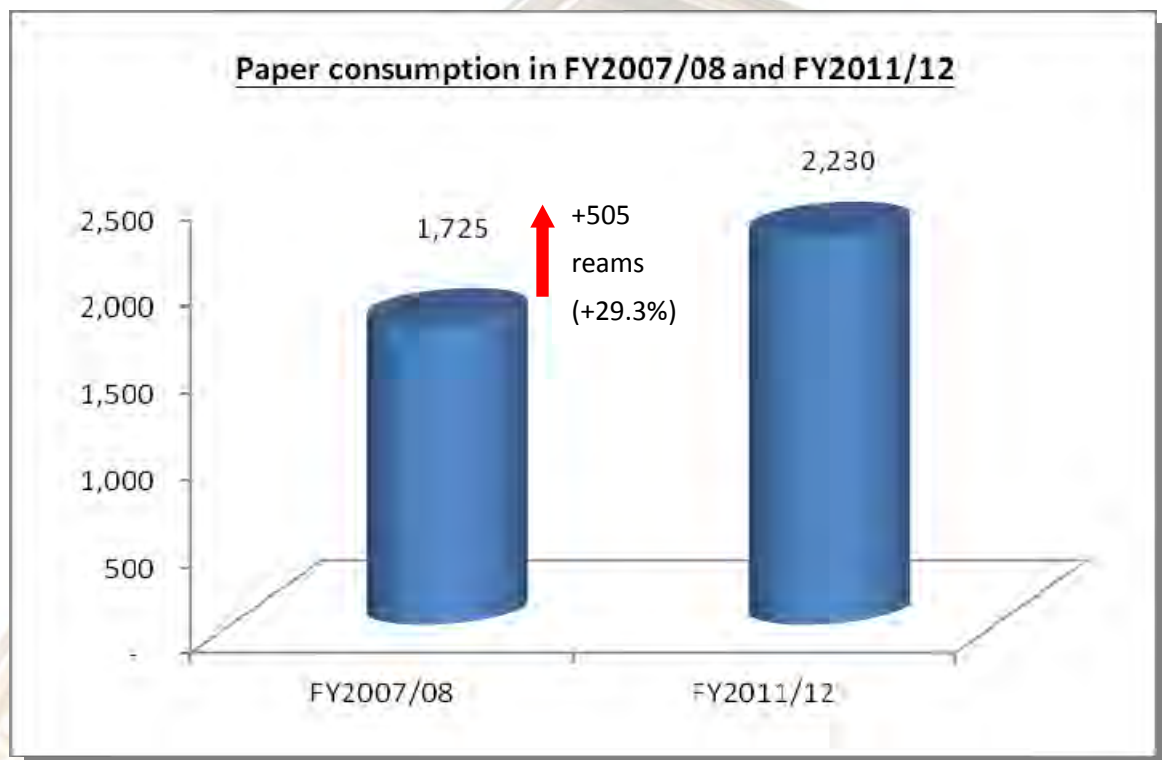


Figure 12 : Paper consumption in FY2007/08 and FY2011/12

(c) Electricity Consumption



Target 5% reduction after discounting activity changes achieved

HKO attaches great importance in reducing electricity consumption and various departmental measures are employed to conserve energy. Although the gross electricity consumption in HKO in FY2011/12 increased by 596,801 kWh or 17.7% as compared to FY2007/08 (see Figure 13), the actual electricity consumption in HKO after discounting the activity changes in these years demonstrated a reduction of 6.92% as compared to FY2007/08 (see Figure 14). Extra effort will be made in the years ahead to further bring down our electricity consumption. The target of 5% reduction after discounting the activity changes could be considered as achieved.

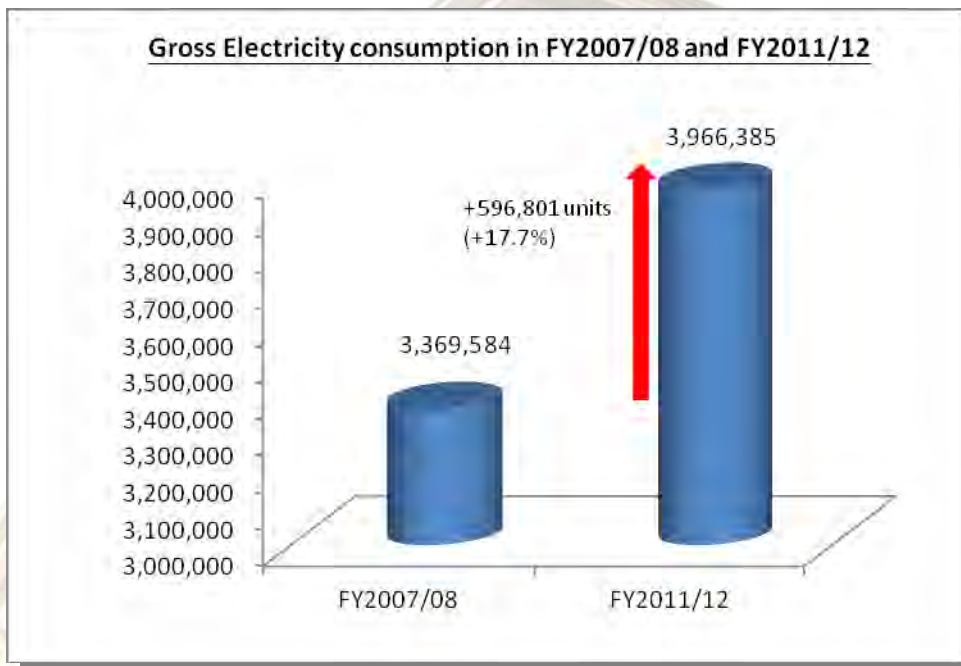


Figure 13 : Gross electricity consumption in FY2007/08 and FY2011/12

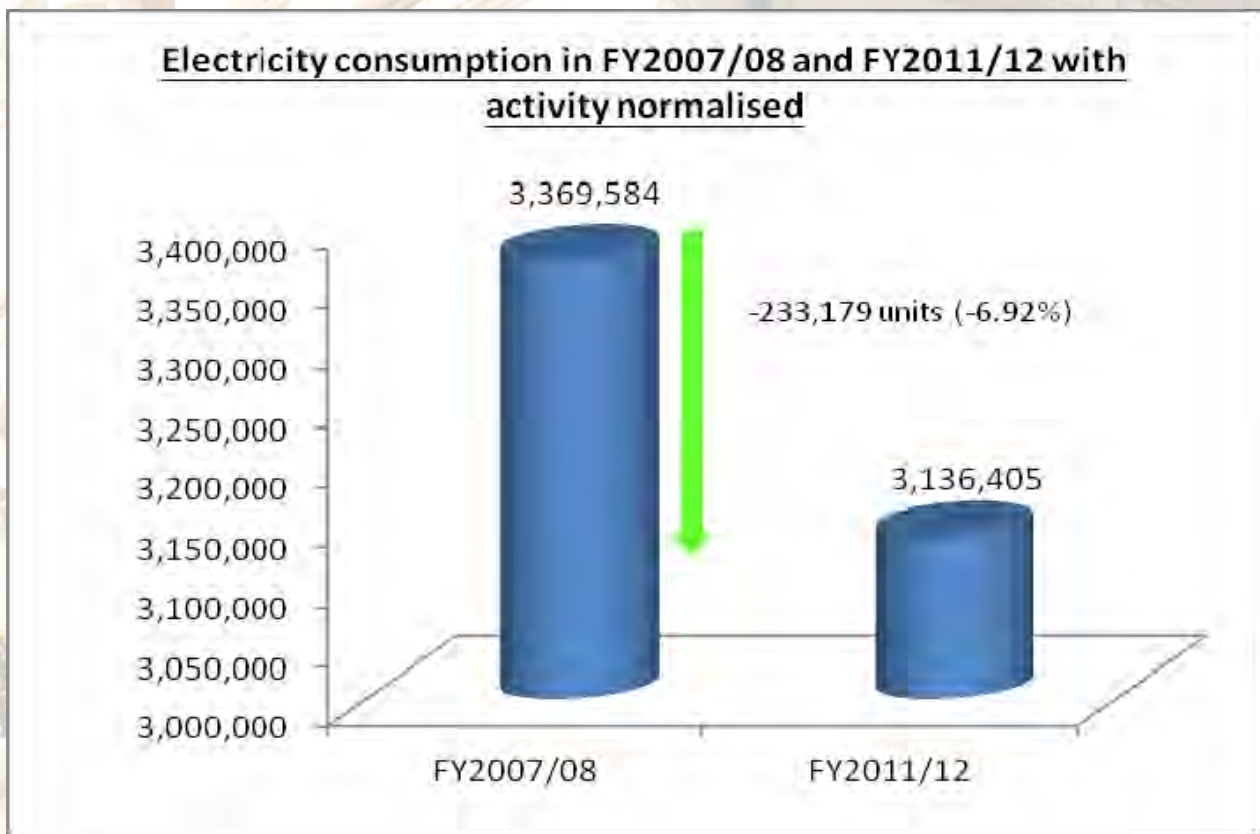


Figure 14 : Electricity consumption in FY2007/08 and FY2011/12 with activities normalized

(d) Conservation of biodiversity



Target to plant 150 seedlings achieved

HKO organised the annual Tree Planting Day in April 2011 at the King's Park Meteorological Station (see Figure 15 below). Around 30 colleagues and their family members joined the event. More than 100 seedlings were planted on that day.



Figure 15 : Photo taken at the King's Park Meteorological Station

12. Recognition on Environmental Protection

A Certificate of Merit in the Public Sector of the 2011 Hong Kong Awards for Environmental Excellence (HKAEE) Sectoral Awards is awarded again to HKO (see Figure 16 below). The HKAEE is one of the most prestigious and reputable award schemes in environmental protection in Hong Kong. Aiming to spur organizations to adopt green management, it presents them with a unique opportunity to benchmark their commitment towards environmental protection.



Figure 16 : the Certificate of Merit in the Public Sector of the 2011 HKAEE Sectoral Awards

13. Targets for Fiscal Year 2012/13

We aim at achieving the following targets in FY2012/13:

- *2.5% reduction in envelope consumption compared to FY2007/08*
- *2.5% reduction in paper consumption compared to FY2007/08*
- *5.0% reduction in electricity consumption compared to FY2007/08 after discounting the activities changes*
- *To carry out activity for conversation of biodiversity*

14. Verification Statement

I have verified the information and data of the Environmental Report 2011. I confirm that the data presented in the Environmental Report 2011 are authentic and the methodology for the collection and analysis of data is appropriate. The report represents an accurate account of HKO's environmental actions and performance in the year of 2011.



Miss Letty NG
Green Manager
Hong Kong Observatory

15. Information and Suggestions

This report is available on our homepage at the following link :

http://www.weather.gov.hk/environmental/Environmental_Report_E.pdf

and at our Resource Centre at the following address:

Units 2304-2309, 23rd floor, Miramar Tower,
132 Nathan Road, Tsim Sha Tsui, Kowloon
Tel. : 2926 8250

If you wish to obtain further information or raise any suggestions about this report, please contact our Green Manager at telephone 2926 8207 or email to dsec@hko.gov.hk.

16. Feedback Form

Please complete this form and send it back to the Green Manager, Hong Kong Observatory, 134A, Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong, or fax it to 2311 9448, or by email to dsec@hko.gov.hk.

1. Do you find the Report informative? Yes No

2. Do you find the content of the Report easy to understand? Yes No

3. Which other green issues would you like to be included in the Report?

4. What improvement to the Report would you recommend?

5. What is your overall view of the Report?

Name:

Telephone:

Email: