

Environmental Report 2007



Hong Kong Observatory

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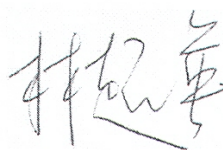
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1. Director's Message

I am pleased to present the ninth Environmental Report of the Hong Kong Observatory (HKO). This report sets out the environmental policy and performance of HKO in the year 2007.

HKO is committed to supporting Government's policies on environmental protection and sustainable development. Through various environmental protection activities and green campaigns, HKO strives to become a more environmental-friendly department. In recent years, the world is increasingly concerned about climate change. In 2007, the Nobel Peace Prize was awarded to the Intergovernmental Panel of Climate Change (IPCC) and Mr. Albert Gore, for their efforts in building up and disseminating greater knowledge about man-made climate change. HKO supports the efforts of IPCC, through serving directly as a contributing author and expert reviewer, and by conducting local researches and seminars, as well as disseminating climate change information to the Hong Kong citizens.

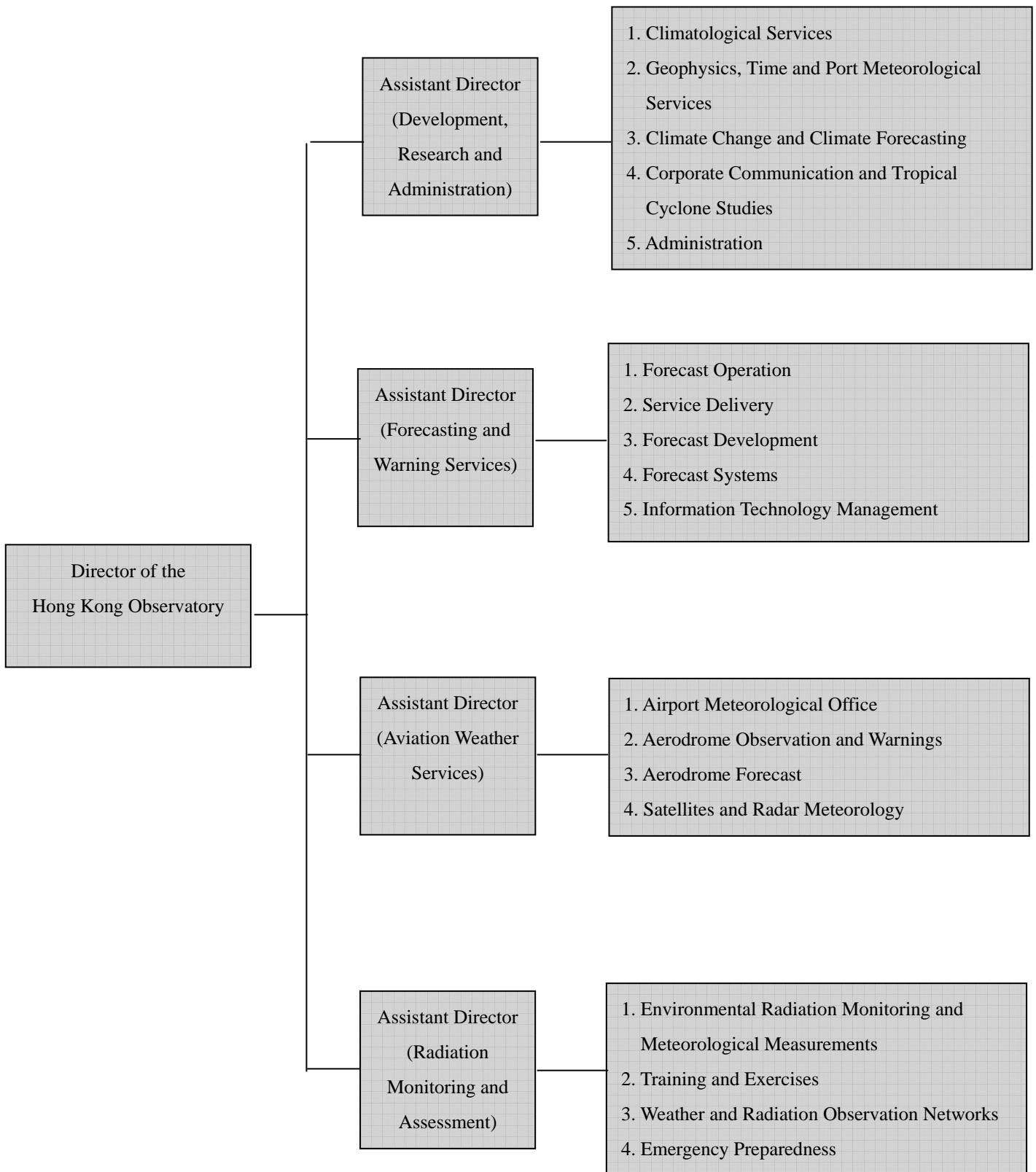
We shall continue to enhance our environmental performance and provide our services in an environmentally responsible manner. Readers are invited to give us their feedback to help us improve further.



CY LAM

Director of the Hong Kong Observatory

2. Organization Chart



3. Staff Establishment

HKO had an approved establishment of 288 as at 31 December 2007. Details are shown in Figure 1 below :

Grade	Establishment
Directorate	5
Scientific Officer Grade	51
Experimental Officer Grade	46
Radar Specialist Mechanic Grade	22
Scientific Assistant Grade	94
Common Grades	27
General Grades	43
Total	288

Figure 1 : HKO Establishment as at 31 December 2007

4. Financial Provision

The financial provision of the Hong Kong Observatory in 2007-08 was \$195.2 million, with \$193 million voted for operational expenses, and \$2.2 million for capital expenditure.

5. Office Location

In 2007, HKO had 4 offices. Their locations are as follows :

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

HKO also had three radar stations at Tai Mo Shan, Tate's Cairn and Tai Lam Chung respectively.

HKO had 72 automatic weather stations in operation (see Figure 2 below):

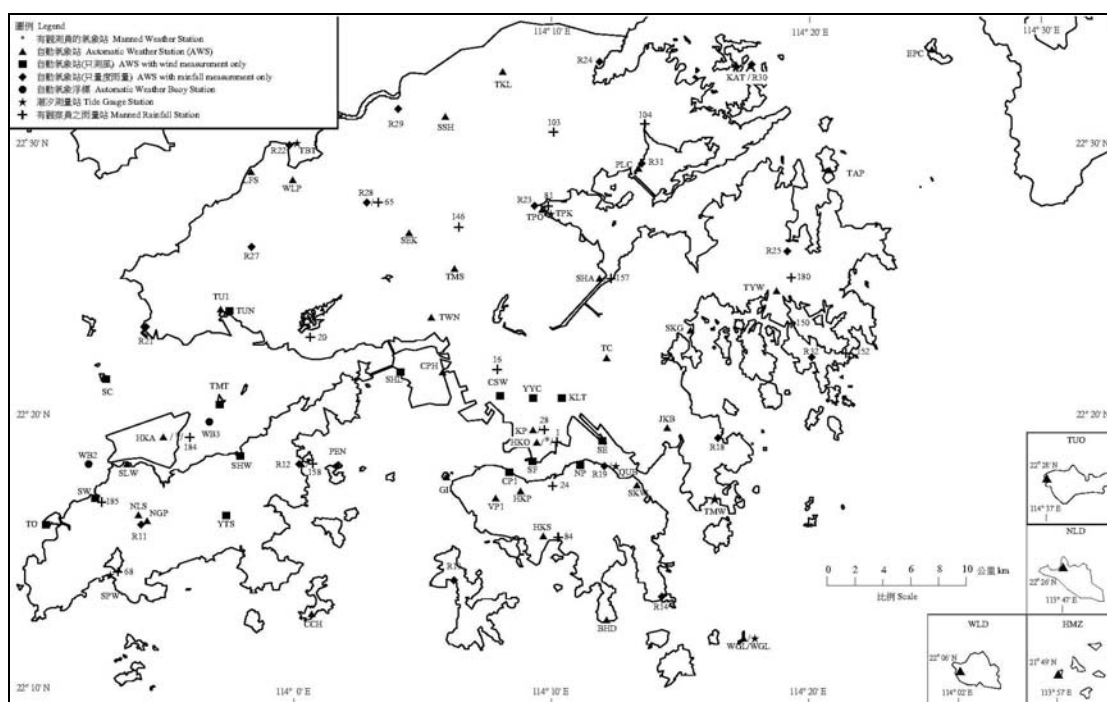


Figure 2 : Locations of automatic weather stations

6. Key Responsibilities

The Observatory is responsible for three main programmes of activities :

- (a) 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 safety standards of international organizations;
- (b) To provide information on local environmental radiation levels and effects and to advise the Government on counter-measures that may be necessary during nuclear emergencies; and
- (c) To maintain the Hong Kong time standard and to provide geophysical and oceanographic information and consultative services to the public and private sectors.

7. Stakeholders

This report is prepared annually to meet the needs of :

- (a) General public receiving HKO information via the media or by browsing our website;
- (b) Government bureaux and departments;
- (c) Visitors to Hong Kong Observatory Headquarters (HKO HQ) and Resource Centre; and
- (d) Other users of HKO services including aviation, shipping, industry, engineers, public utilities, tourism, etc.

8. Environmental Policy

We adhere to the departmental environmental policy and meet the commitments of the Clean Air Charter which aim at contributing towards a clean, healthy and sustainable environment in Hong Kong through sustained and innovative initiatives and programmes. We strive to improve the environment by :

- (a) Conserving the biodiversity 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

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

The Hong Kong Observatory Working Group on Energy and Environment (Working Group) was established in 2006. The Working Group, which comprises staff from different grades/ranks and offices with the Green Manager as convener, is to review the department's environmental protection measures and devise new initiatives with a view to achieving green targets and promoting green awareness among all levels in HKO. The Working Group also functions as the Energy and Emission Management (EEM) Team for implementing the commitments under the Clean Air Charter.

10. Environmental Measures Taken

We have adopted various environmental conservation measures to implement our environmental policy. These measures are highlighted below in 8 categories :

(a) Conservation of biodiversity

The woodland at HKO HQ at Tsim Sha Tsui is one of the few remaining semi-natural woodlands in urban Kowloon (see Figure 3 and Figure 4). It serves as a refuge for the local wildlife in the urban area, in particular, the avifauna. It is home to common birds like Spotted Dove, Chinese Bulbul, Crested Bulbul, Magpie Robin, Black-necked Starling and White-eye. A family of the spectacular Blue Magpie has also taken up residence. Even Kites have bred in the Observatory ground. In spring and autumn, the woodland serves as an important stopover point for migrating birds like Flycatchers and Thrushes. Indeed, some migrants regularly stay for the whole winter, such as Brown Flycatcher, Blackbird and Grey-backed Thrush.

In 2007, we continued with our efforts to conserve the biodiversity and preserve the natural habitat within the grounds of the HKO. We engaged private contractors to upkeep the health of our trees and add to the greenery of our grounds. We organised a Tree Planting Day in April 2007 to mobilise our staff to plant seedlings of trees and flowers. This is an on-going programme and planting at HKO HQ is a major initiative under the department's environmental programme.



Figure 3 : The greenery of HKO HQ

English Name	Chinese Name	Scientific Name
Lebbek Tree	大葉合歡	<i>Albizia lebbek</i> (L.) Benth
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
Chinese Banyan	細葉榕	<i>Ficus microcarpa</i> L. f.
Batavia Cinnamon	陰香	<i>Cinnamomum burmanni</i> (Nees) Blume
Flame Tree	鳳凰木	<i>Delonix regia</i> (Boj. ex Hook.) Raf.
Common Red-stem	青果榕	<i>Ficus variegata</i> var. <i>chlorocarpa</i> (Benth.) King
Buddhist Pine , Kusamaki	羅漢松	<i>Podocarpus macrophyllus</i> (Thunb.) D. Don
Chinese Red Pine	馬尾松(山松)	<i>Pinus massoniana</i> Lamb.
Longan	龍眼	<i>Dimocarpus longan</i> Lour.
Red Psychotria	山大刀	<i>Psychotria asiatica</i> L.
White Champak	白蘭	<i>Michelia alba</i>
Big-leaved Fig	大葉榕	<i>Ficus virens</i> var. <i>sublanceolata</i> (Miq.) Corner
Yellow Cow Wood	黃牛木	<i>Cratoxylum cochinchinense</i> (Lour.) Blume
Alexandra Palm	假檳榔	<i>Archontophoenix alexandrae</i> (F. Muell.) H. Wendl. & Drude
Bamboo Palm	散尾葵	<i>Chrysalidocarpus lutescens</i> H. Wendl.
Burmese Rosewood	紫檀	<i>Pterocarpus indicus</i> Willd
Lemon-scented Gum	檸檬桉	<i>Eucalyptus citriodora</i> Hook. f.
Wood-oil Tree	木油樹	<i>Vernicia montana</i> Lour.
Horsetail Tree	木麻黃	<i>Casuarina equisetifolia</i> L.
Frangipani	雞蛋花	<i>Plumeria rubra</i> L.

Figure 4 : Common Plant Species in HKO HQ

(b) Minimisation of paper consumption

- Using blank side of used papers for drafting or printing.
- Photocopying limited to the absolute minimum and on both sides of papers.
- Minimising the use of fax cover page.
- Reusing envelopes and loose minutes jackets.
- Increasing use of email in external and internal communications.
- Circulating documents instead of providing personal copies.
- Printing of reports/publications limited to the absolute minimum and uploading publications onto the HKO website.
- Distributing simple internal staff notices in non-printable electronics format.
- Placing green boxes in offices for collection of envelopes and papers used on one side for reuse.
- Removing recipient box as appropriate before printing emails.

(c) Waste recovery

- Using reusable stationery items such as refillable ball pens.
- Disposing waste paper/newspapers for recycling.
- Returning used laser printer toner and ink-jet cartridges for recycling.
- Giving depreciated computer equipment to charitable organizations.
- Placing recycle bins in HKO HQ for collection of recyclable wastes such as aluminum cans.
- Participating and coordinating with local charities in recycling programs.

(d) Energy conservation

- Using lighting fittings completed with electronic ballasts to reduce energy consumption.
- Using solar power or wind power to generate electricity for automatic weather stations/radiation monitoring stations.
- Switching off lights in unoccupied areas or whenever offices not in use.
- Switching off computers and other office equipment not in frequent use.
- Reducing servicing lifts to the minimum after normal office hours.
- Conducting regular inspections to ensure lights, office equipment and air-conditioners in offices, conference rooms and common corridors were switched off during lunch breaks and after office hours.
- Encouraging the use of fans and dehumidifiers in substitution of air-conditioning.
- Adjusting the air-conditioning system with a view to keeping the room temperature to 25.5°C in summer months.
- Installing thermometers in all offices to help monitor maintaining the room temperature at 25.5°C in summer months.
- Switching on air-conditioning units only shortly before users entering the venues.

- Cleaning air conditioning systems regularly.
- Encouraging staff to dress down to reduce the air-conditioning demand.
- Using Automatic Circuit-break Timer on a trial basis.
- Installing Window Solar Film at North Wing of Centenary Building on a trial basis to insulate heat.

(e) Air Quality Improvement

- Banning smoking in all indoor areas of HKO offices and the majority of outdoor areas of HKO HQ.
- Commissioning EMSD to conduct regular in-door air quality checking.

(f) Procurement Management

- Specifying environmentally sound products such as recycled paper and refillable ball pens.
- Specifying photocopiers and printers with double-sided copying/printing and automatic energy-saving functions.
- Specifying computer workstations with automatic energy saving function.
- Specifying plain paper fax machines instead of thermal paper ones.

(g) Promoting Staff Awareness

- Forming the Hong Kong Observatory Working Group on Energy and Environment.
- Launching the “Environmental Protection Suggestion Scheme” with cash incentives.
- Displaying and disseminating monthly reports on energy, paper and envelope consumption to HKO colleagues.
- Disseminating saving tips and putting up posters to promote economy in the use of resources.
- Issuing internal guidelines to set out the departmental green housekeeping measures for compliance and re-circulating such guidelines regularly.
- Organising staff activities such as Tree Planting Day and visits to promote environmental awareness and to encourage staff participation.

(h) Promoting Public Awareness on Environmental Sustainability Issues

I. Research and Outreaching Activities on Climate Change

The Hong Kong Observatory continued the efforts in building up and disseminating knowledge about climate change. Through research and outreaching activities, we aim at providing more information and increasing the awareness of the general public on the issue.

One of the two 2007 Nobel Peace Prize Laureate is the Intergovernmental Panel on Climate Change (IPCC). HKO has contributed to IPCC through serving as a contributing author and expert reviewer. In the 4th Report of IPCC (AR4), reference was made to the research paper written by HKO staff. In light of the findings of AR4, HKO updated the projections for the temperature in Hong Kong in the 21st Century. HKO informed the public on the projection updates, suggesting that the average temperature of Hong Kong would continue to increase in the 21st century emerging towards a “long summer, no winter” situation. In the International Conference on Climate Change held in Hong Kong, which HKO assisted in its organisation and the invitation of the Chairpersons of IPCC Working Group delivering keynote speeches, HKO presented a total of three research papers.

To disseminate the information on climate change, a team of professional meteorologists from HKO was formed to deliver talks for government officials, schools and the general public (Figure 5). Over 40 talks were delivered in 2007, including one held in the Science Museum which was attended by over 100 directorates and senior officers in government. A one-stop climate change webpage was also launched in August 2007 for public access, providing the public an easy access to useful information and resources on climate change globally and locally. The webpage is very popular, receiving nearly 100,000 page hits per month. With a view to assisting the younger generation to have a better understanding of climate change, HKO produced an educational package on climate change for free distribution in 2007. The package was well received by schools, libraries, non-governmental organizations (NGOs), with over 2,000 copies distributed.



Figure 5 : HKO’s Director and staff giving talks to the public on climate change

II. Co-operation with Green-partners

HKO joined hands with various green groups in promoting green issues. HKO continued to be the Earth Partner of the Friends of the Earth (FoE), and assisted in community-wide environmental awareness-building programmes organised by FoE to protect the natural environment. HKO also cooperated with WWF Hong Kong and HSBC Climate Partnership in promoting public awareness on climate change. HKO was also one of the supporting organisations of the “No Air-conditioning Day” campaign organised by Footprint, which encouraged students to reduce their carbon footprints by turning off air-conditioners.

III. Guided Tour of the Hong Kong Observatory

The guided tour of the Hong Kong Observatory (Figure 6) aims to provide a chance for the members of public to appreciate the ecology of HKO’s mini-forest in the heart of the city. The tour is arranged in two to three Saturdays every month and on the HKO Open Day. Visitors are guided by the volunteers of HKO’s support group “The Friends of the Observatory”, who provide explanations to the visitors.



Figure 6 : The visitors explore the special ecological environment of HKO HQ

IV. Renewable Energy Car Competition

HKO entered the 2007 Renewable Energy Car Competition with our HKO-designed renewable energy car, “Solar Wind 2”. The Competition was organised under the Hong Kong Technology & Renewable Energy Events 2007 (HKTREE2007), aiming at promoting public awareness and engineering applications of renewable energy. “Solar Wind 2” is a fully electrical-powered 4wd-vehicle with solar panels and mini-wind turbine. The smart yet green design won the hearts of the judge panel, and “Solar Wind 2” took Gold in the Open Group Best Car Decoration category (Figure 7).



Figure 7 : Renewable energy car “Solar Wind 2” strike Gold

11. Environmental Performance

(a) Paper Consumption - 2.5% reduction target achieved

The Hong Kong Observatory continued the drive in saving more paper in 2007. With increased awareness in paper conservation, the total paper consumption in 2007 decreased by 100 reams compared to 2006, or 4.15% (Figure 8). The target of 2.5% reduction was successfully achieved.

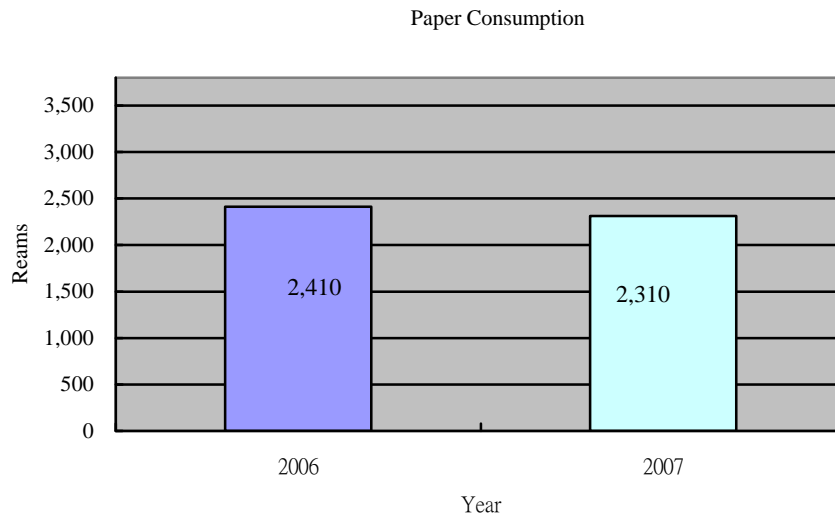


Figure 8 : Paper consumption in 2006 and 2007

(b) Envelope Consumption - 2.5% reduction target achieved

The provision of collection box for reusable envelopes in each office and other green measures helped bolster the use of recycled envelopes. Compared to 2006, the total envelope consumption dropped by 420 (2.7%), meeting the target of 2.5% reduction in envelope consumption (Figure 9).

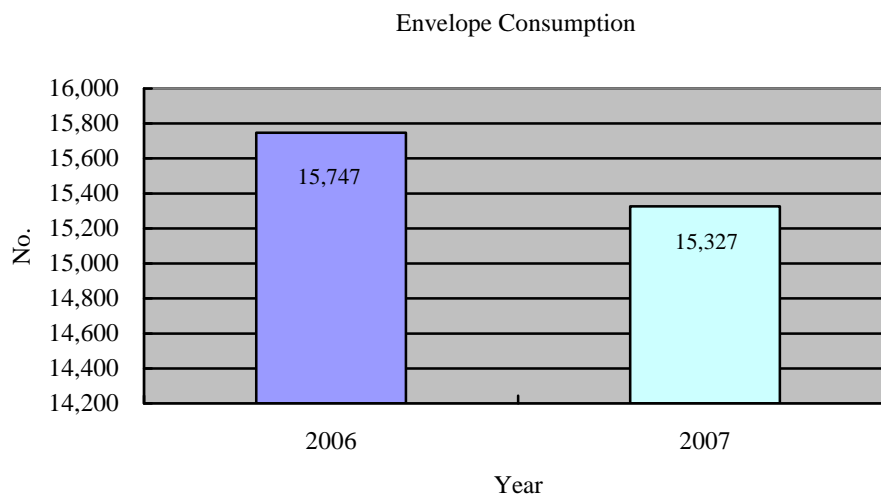


Figure 9 : Envelope consumption in 2006 and 2007

(c) Electricity Consumption – 1.5% reduction target marginally achieved

Through a series of energy saving campaign, the Hong Kong Observatory was able to achieve a reduction of electricity consumption by 48,234 kwh, which was 1.4% less when compared to 2006. The 1.5% reduction target was marginally achieved. (Figure 10).

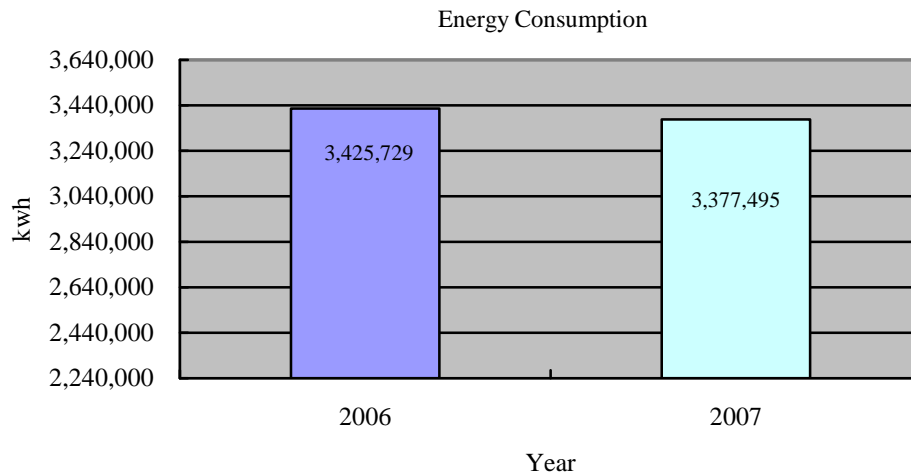


Figure 10 : Electricity consumption in 2006 and 2007

(d) Conservation of biodiversity – Target to plant 100 seedlings achieved

Through the Green Project of Hong Kong Observatory, we successfully achieved the target of planting 100 seedlings. In April 2007, many of our colleagues and their families took part in our 8th Tree Planting Day at HKO HQ (Figure 11).



Figure 11 : Tree Planting Day at HKO HQ

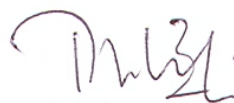
12. Targets for 2008

We aim at achieving the following targets in 2008:

- 2.5% reduction in paper consumption
- 2.5% reduction in envelope consumption
- 1.5% reduction in electricity consumption
- To plant 100 seedlings

13. Verification Statement

I have verified the information and data of the Environmental Report 2007. I confirm that the data presented in the Environmental Report 2007 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 2007.



Choi Siu-chuen
Green Manager
Hong Kong Observatory

14. Information and Suggestions

This report is available on our homepage at <http://www.weather.gov.hk> 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 by telephone at 2926 8207, email to dsec@hko.gov.hk, or returning the Feedback Form at Appendix I.

15. 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.

1. Do you find the Report informative? Yes No

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

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

4. What improvement would you recommend?

5. What is your overall view of the Report?

Name :

Telephone :

Email :