

# Environmental Report 2006



*Hong Kong Observatory*

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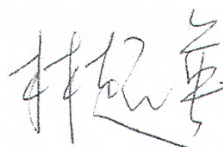
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## 1. Director's Message

I am pleased to present the eighth Environmental Report of the Hong Kong Observatory (HKO). This report sets out the environmental policy and performance of HKO in the year 2006.

HKO is committed to supporting Government's policies on environmental protection and sustainable development. In 2006, apart from the established environmental protection activities, we have organised a series of promotional programmes, public lectures and school visits on global warming and climate change to enhance the knowledge and awareness of the general public and younger generation on our environment. The results of the studies on the projection of the future temperature and rainfall change in Hong Kong were publicized widely to arouse the public concern on our environmental problem. Internally, we set up the Working Group on Energy and Environment, which comprises staff members from different branches in the Department, to steer the implementation of the Observatory's environmental protection measures and commitments under the Clean Air Charter.

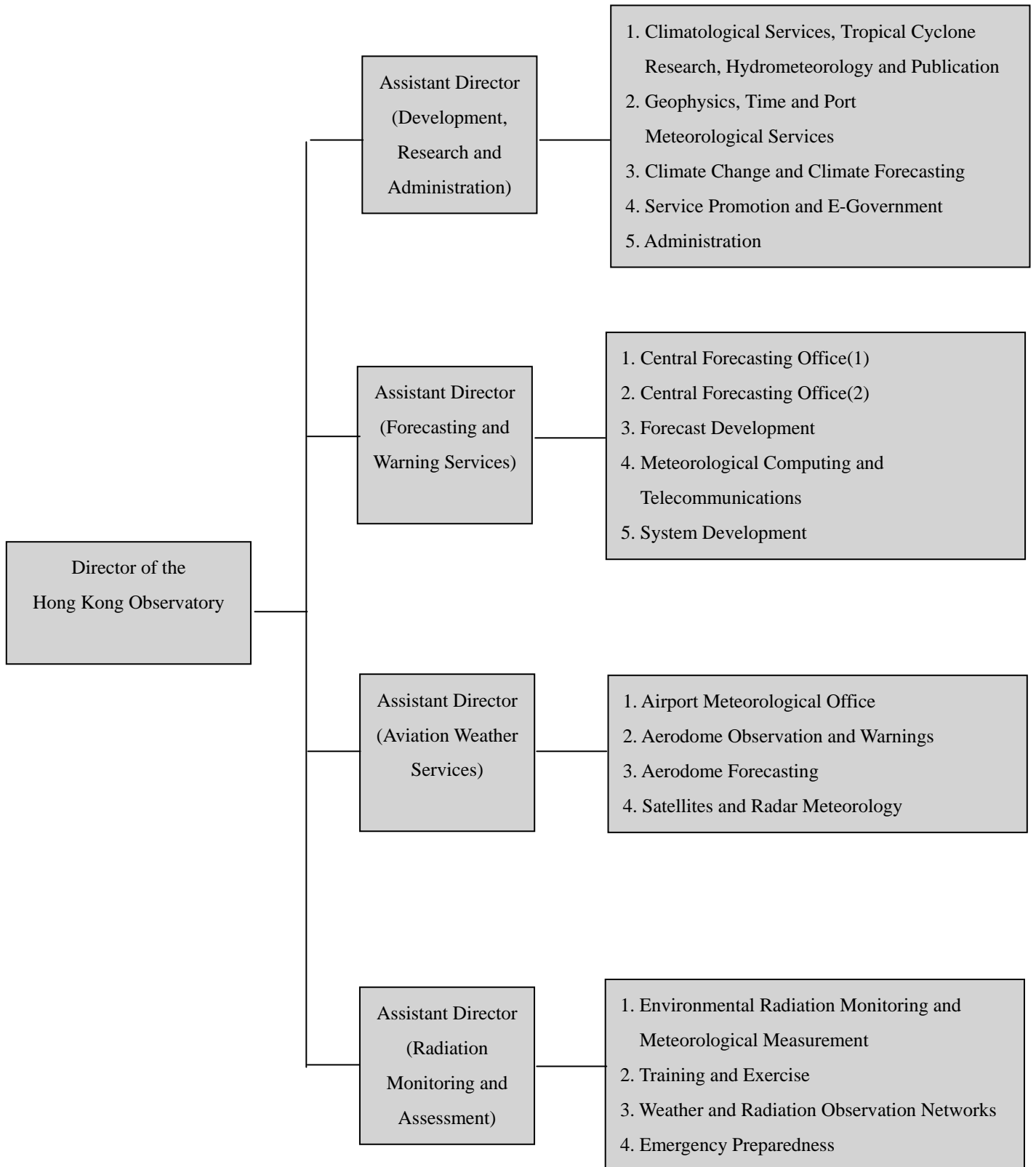
We shall continue to enhance our environmental performance and provide our services in an environmentally responsible manner. Readers are invited to give us their feedback to help us improve further.



CYLAM

Director of the Hong Kong Observatory

## 2. Organization Chart



### 3. Staff Establishment

HKO had an approved establishment of 287 as at 31 December 2006. Details are shown in Figure 1 below :

<b>Grade</b>	<b>Establishment</b>
Directorate	5
Scientific Officer Grade	51
Experimental Officer Grade	46
Radar Specialist Mechanic Grade	22
Scientific Assistant Grade	94
Common Grades	27
General Grades	42
<b>Total</b>	<b>287</b>

**Figure 1 : HKO Establishment as at 31 December 2006**

### 4. Financial Provision

The financial provision of the Hong Kong Observatory in 2006-07 was \$197.374 million, with \$195.474 million voted for operational expenses, and \$1.9 million for capital expenditure.

## 5. Office Location

In 2006, 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.

The Territory was served by 82 automatic weather stations as shown in Figure 2 below:

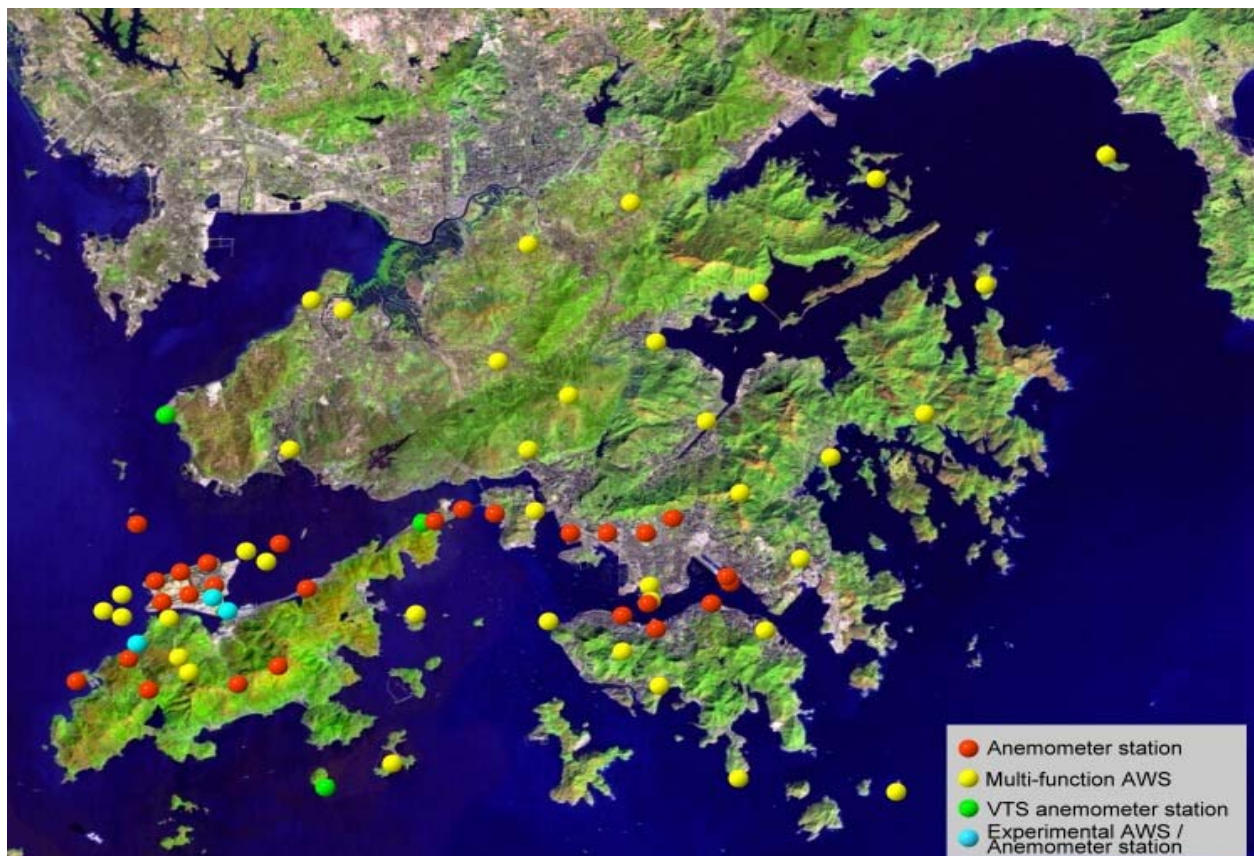


Figure 2 : Locations of automatic weather stations

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

## **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 HKOHQ 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 measures to implement our environmental policy. These measures are highlighted below in 8 categories :

### **(a) Conservation of biodiversity**

The woodland at the Hong Kong Observatory Headquarters (HKOHQ) at Tsim Sha Tsui is one of the few remaining semi-natural woodlands in urban Kowloon (see Figure 3 and Figure 4 below). 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 2006, we continued with our efforts to conserve the biodiversity and preserve the natural habitat within the grounds of the HKO. We solicited the assistance of the Leisure and Cultural Services Department and engaged private contractors to upkeep the healthy growth of the native plant species and add to the greenery of our grounds. We organised a Tree Planting Day in April 2006 and mobilized our staff to plant seedlings provided by the Agriculture, Fisheries and Conservation Department. This is an on-going programme and tree planting at HKOHQ is a major initiative under the department's environmental programme.



**Figure 3 : The greenery of the HKOHQ**

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 Hong Kong Observatory Headquarters**

**(b) Minimization 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.
- Minimizing 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 on 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.

**(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 HKOHQ for the 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 inspection 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.
- Replacing the dust filters for air conditioners regularly.
- Encouraging staff to dress down to reduce the air-conditioning demand.

**(e) Air Quality Improvement**

- Banning smoking in all indoor areas of HKO offices and the majority of outdoor areas of HKOHQ.
- 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) Staff Awareness Promotion**

- 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 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 Public Awareness Promotion on Global Warming and Climate Change**

The Observatory conducted a series of public awareness promotion programmes and researches on global warming and climate change in 2006. HKO delivered public lectures and talks (Figure 5), and arranged school visits to enhance the public understanding and consciousness on the topics. Research findings on the projection of temperature and rainfall changes in Hong Kong to the end of the 21<sup>st</sup> Century were widely publicized.\* A set of displays on the topics were produced and made available on loan to schools.

\* The researches on projection of temperature and rainfall changes were completed in 2004 and 2005 respectively.



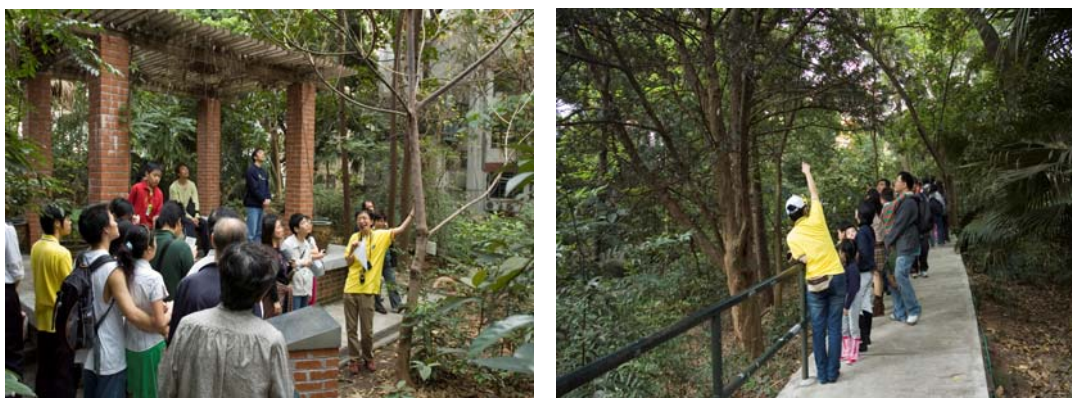
**Figure 5 : HKO staff delivering talks to the public on climate change**

## II. Earth Partner Programme

By participating in the Earth Partner programme, the Hong Kong Observatory joined hands with the Friends of the Earth (FoE) to protect the natural environment. The Earth Partner programme is a community-wide charitable environmental awareness-building programme organized by FoE. Its purpose is to educate and arouse the interest of the general public by spreading the green message that everyone can make a difference in creating a better living environment.

## III. Guided Tour of the Hong Kong Observatory

The guided tour of the Hong Kong Observatory (Figure 6) is intended to provide a chance for the members of public to see some elegant historical buildings and appreciate the ecology of a mini-forest in the heart of the city. The tour is arranged in two to three Saturdays every month and in the HKO Open Day. Visitors are guided by voluntary docents of the interest group “The Friends of the Observatory”, who provide explanations to the visitors.



**Figure 6 : The visitors explore the special ecological environment of HKOHQ**

## 11. Environmental Performance

### (a) Paper Consumption - Target 2.5% reduction achieved

With increased awareness in paper conservation, the total paper consumption in 2006 decreased by 830 reams (25.5%) compared with 2005 (Figure 7). We also significantly reduced the consumption of non-recycled paper by promoting the use of recycled paper. In 2006, the use of recycled paper accounted for 99.6% of the total paper consumed, compared to 60.9% in 2005.

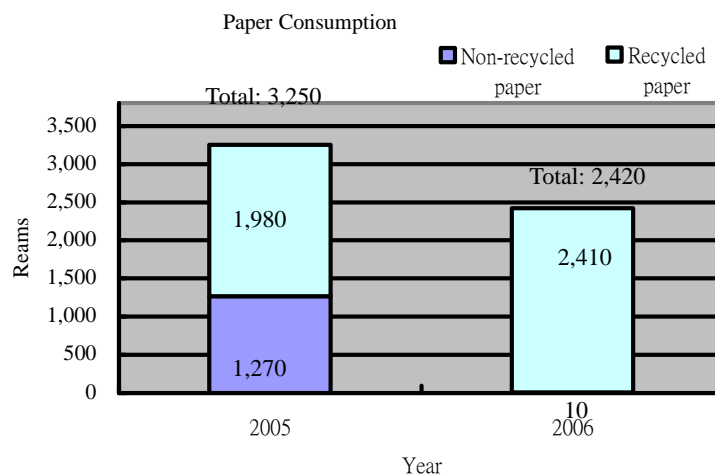
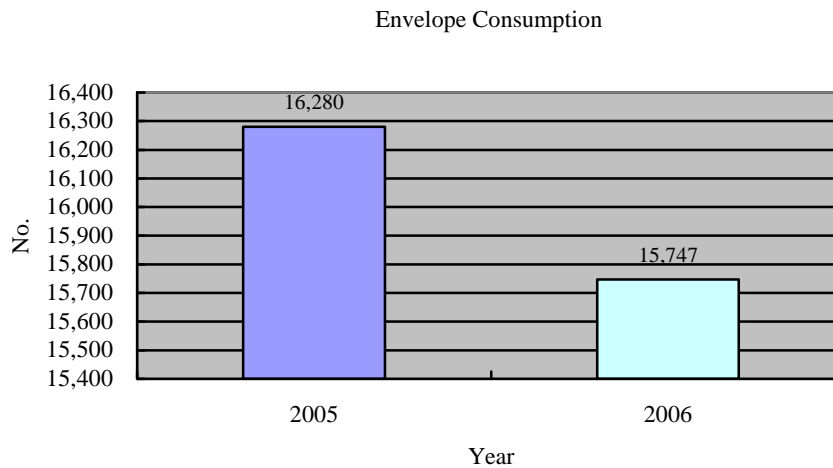


Figure 7 : Paper consumption in 2005 and 2006

### (b) Envelope Consumption - Target 2.5% reduction achieved

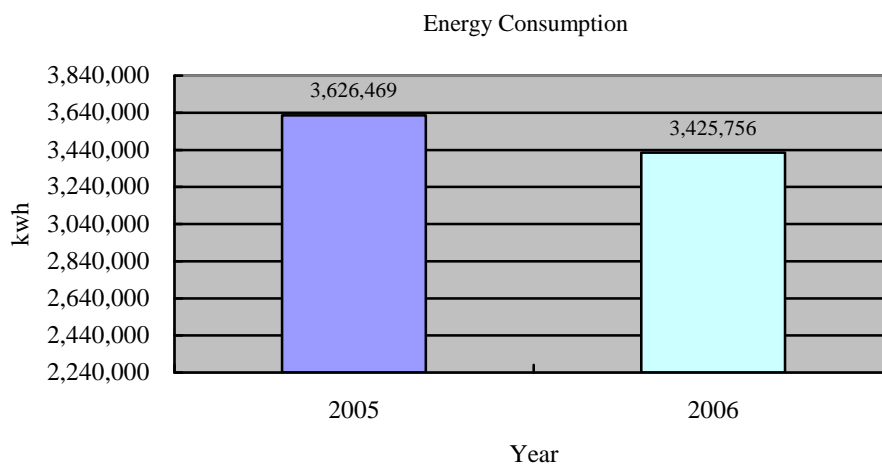
The set up of collection box for reusable envelopes in each office and other green measures bolstered the use of recycled envelopes. Compared with 2005, the total envelope consumption dropped by 533 (3.3%), achieving the target of 2.5% reduction in envelope consumption (Figure 8).



**Figure 8 : Envelope consumption in 2005 and 2006**

**(c) Electricity Consumption – Target 1.5% reduction achieved**

Through a series of campaign and with the concerted efforts in energy saving, the total electricity consumption decreased by 200,713 kwh (5.5%) compared with 2005. The reduction target was achieved. In the coming year, HKO will continue to strive for energy saving (Figure 9).

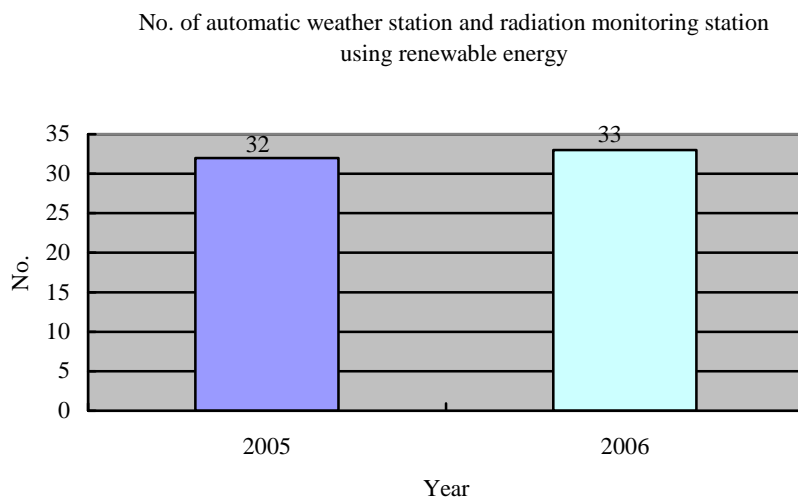


**Figure 9 : Electricity consumption in 2005 and 2006**



**(d) No. of automatic weather station and radiation monitoring station using renewable energy**

HKO continues to extend the use of renewable energy to more automatic weather stations and radiation monitoring stations. The number of stations using solar/wind energy increased by 1 (3.1%) compared with 2005 (Figure 10).



**Figure 10 : No. of automatic weather station and radiation monitoring station using renewable energy in 2005 and 2006**

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

We organized the 7<sup>th</sup> Tree Planting Day in April 2006 at the Hong Kong Observatory Headquarters (Figure 11). One hundred trees were planted on that day. This is a continuous programme and will be organized annually.



**Figure 11 : Tree Planting Day at HKOHQ**

## 12. Targets for 2007

We aim at achieving the following targets in 2007:

- 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 2006. I confirm that the data presented in the Environmental Report 2006 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 2006

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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  
23<sup>rd</sup> 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](mailto:dsec@hko.gov.hk).

## 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?

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4. What improvement would you recommend?

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5. What is your overall view of the Report?

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Name:

Telephone:

Email: