

Environmental Report 2010



香港天文台
HONG KONG OBSERVATORY

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1. Director's Message

I am pleased to present the twelfth Environmental Report of the Hong Kong Observatory (HKO). This report sets out the environmental policy and performance of HKO in the year 2010.

HKO is fully committed to supporting Government's policies on environmental protection and sustainable development. In 2010, we continued to organise different environmental protection activities, such as the HKO Planting Day, Light-off Day and Car-free Day, to increase the awareness of colleagues on this subject. We also participated in the Earth Hours and the "Order less, drink less" event organised by our green partners. I am glad that our efforts in green management got recognition from obtaining the Certificate of Merit in the 2010 Hong Kong Awards for Environmental Excellence (HKAEE) Sectoral Awards Scheme (Public Organisations and Utilities Sector). The major buildings of the Hong Kong Observatory Headquarters were also awarded the "Good Class" Indoor Air Quality certification.

During the year, HKO continued to monitor the climate and carry out research on climate change. We have actively engaged the public in promoting knowledge on climate change by delivering lectures and talks to schools and various organisations. In addition, we have promulgated papers and educational materials on climate change through the HKO website.

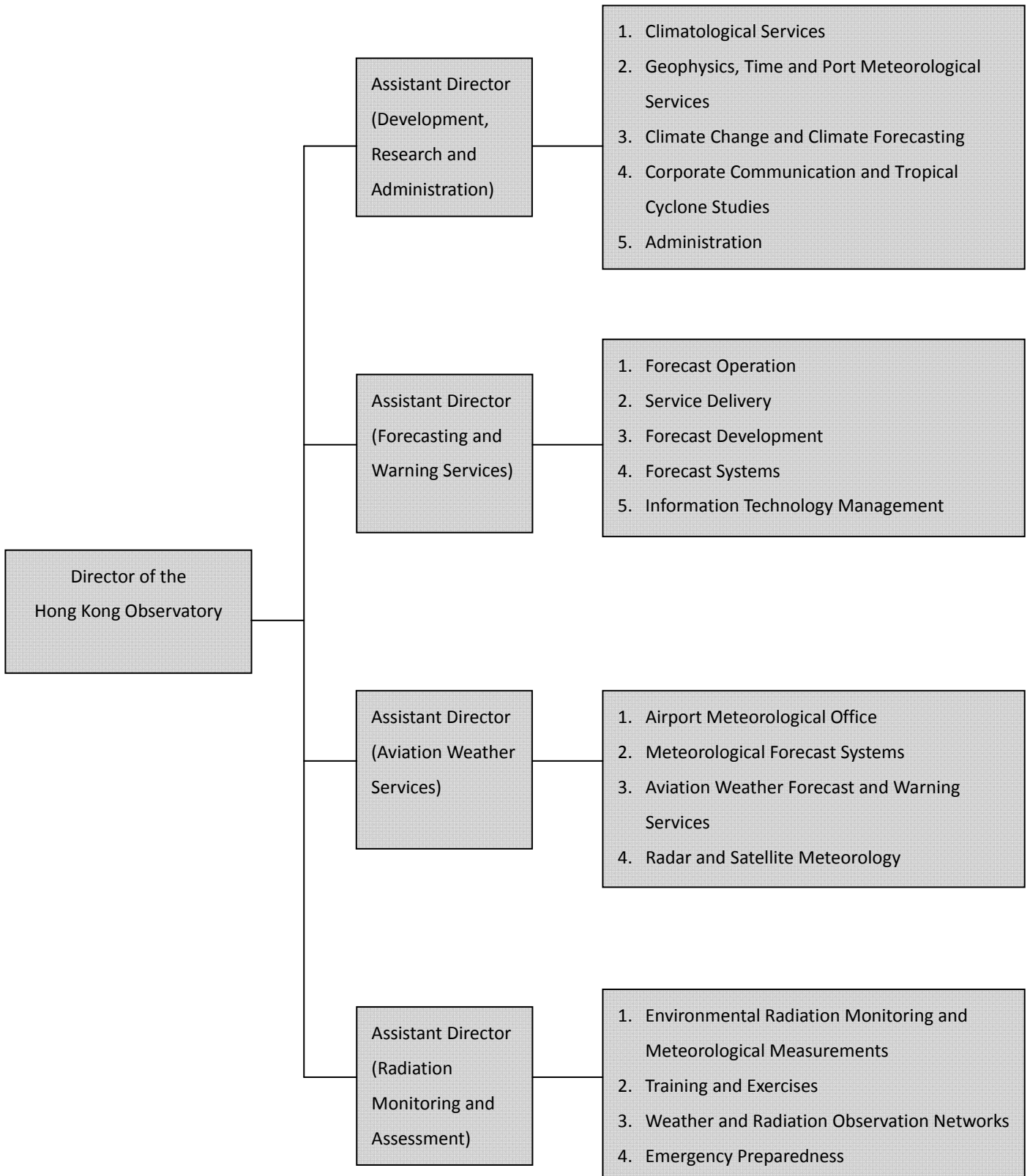
We shall continue to enhance our environmental performance and provide our services in an environmentally responsible manner. Readers are invited to give us their feedback to help us improve further.



C M SHUN

Director of the Hong Kong Observatory

2. Organisation Chart



3. Staff Establishment

HKO had an approved establishment of 290 as at 31 December 2010. 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	43
Total	290

Table 1 : HKO Establishment as at 31 December 2010

4. Financial Provision

The financial provision of HKO in 2010-11 was \$215.9 million, with \$215.3 million voted for operational expenses, and \$0.6 million for capital expenditure.

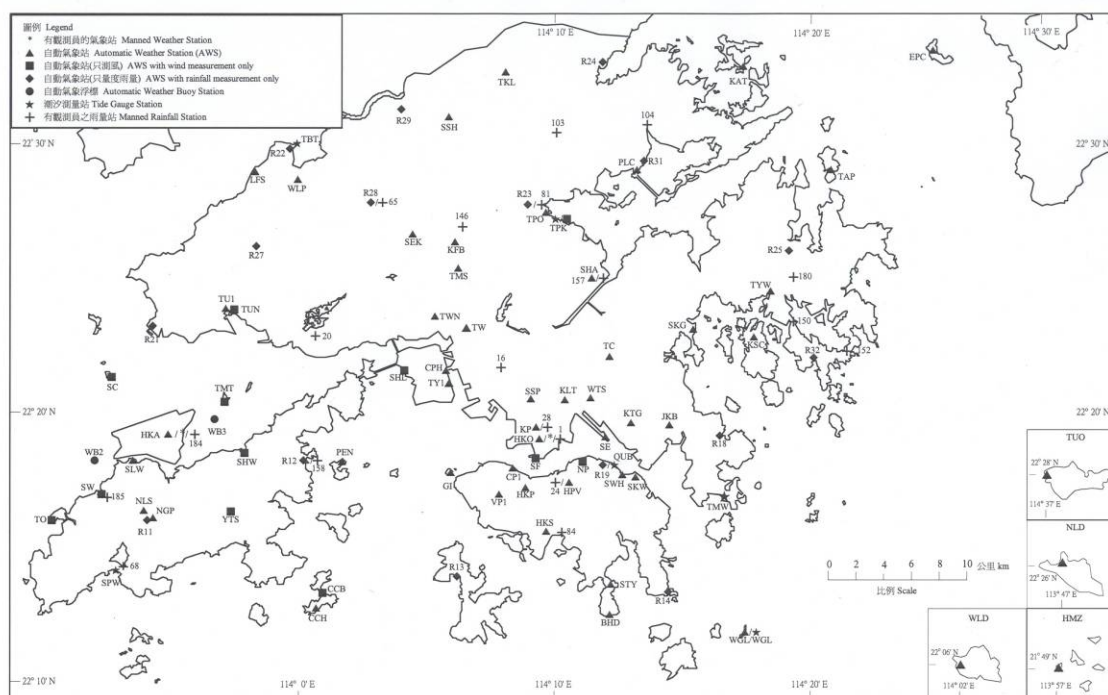
5. Office Location

In 2010, 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 2010, HKO operated a total of 81 weather stations including automatic weather stations, rain-gauges, anemometers and tide stations (see Figure 1 below):



台站編碼/編號: 有觀測員之氣象站請參閱第8頁之列表; 自動氣象站及自動氣象浮標請參閱第34及35頁之表C; 潮汐測量站請參閱第9頁之列表; 有觀測員之雨量站請參閱第91頁之表19。
Station Code/No.: Please see table in page 23 for manned weather stations, Table C in pages 34 and 35 for automatic weather stations and automatic weather buoy stations, table in page 24 for tide gauge stations and Table 19 in page 91 for Manned Rainfall stations.

圖 1 氣象站、雨量站及潮汐測量站的位置圖(二零一零年十二月三十一日)
Figure 1 Locations of Weather Stations, Rainfall Stations and Tide Gauge Stations as at 31 December 2010

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, 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 minimise the impact on the environment. Members include the Departmental Secretary (Green Manager) and four Senior Scientific Officers from different branches.

- (b) 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. In 2010, among other initiatives, the Working Group decided to install a water purification system to replace supply of the distilled water as the production process of distilled water is very energy consuming. The new measure, has not only received positive response from staff, but also fulfilled our environmental policy.

10. Environmental Measures Taken

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

(a) Conservation of biodiversity

In 2010, we continued to devote our efforts to conserve the biodiversity and preserve the natural habitat within the grounds of HKO, especially at HKO HQ in Tsimshatsui. We engaged different private contractors to conduct inspections and maintenance to our trees and vegetation to preserve their health condition. We have over 500 trees of different species within the HKO HQ, such as the Hong Kong Orchid Tree, Longan, Chinese Banyan and other common trees in Hongkong. In March 2010, we organised a Tree Planting Day to mobilise our staff to plant seedlings of trees and flowers. This is an on-going programme and tree planting at HKO is one of the major initiatives under the department's environmental programme.

The woodland at HKOHQ is one of the few remaining semi-natural woodlands in urban Kowloon (see Figure 2 and Table 2 below). It serves as a shelter for the local wildlife, especially the avifauna, in the urban area.

There are common birds like Spotted Dove, Chinese Bulbul, Crested Bulbul, Magpie Robin, Black-necked Starling and White-eye inhabited within our woodland. Every year in spring and autumn, the woodland serves as an important stopover for migrating birds like Flycatchers and Thrushes. Some migrants, such as 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
Burmese Rosewood	紫檀	<i>Pterocarpus indicus</i> Willd
Wood-oil Tree	木油樹	<i>Vernicia montana</i> Lour.

Table 2 : Common Plant Species at HKO HQ

(b) Minimisation of paper consumption

- Reusing single-sided papers and other paper materials, such as envelopes and file jackets, whenever possible. Recycling those used papers and encouraging recycling by placing green boxes in offices for collection of envelopes and papers used on one side for reuse.
- Photocopying limited to the absolute minimum and should be duplex photocopying and printing.
- Encouraging use of electronic channels, such as email and e-Memo, for external and internal communications.
- Reducing printing of newsletters and circulars by using electronic media or by uploading publications on the HKO website.
- Distributing simple internal staff notices in non-printable electronics format.

(c) Waste recovery

- Encouraging staff to use reusable stationery items such as refillable ball pens.
- Placing recycle bins at HKOHQ for separate collection of recyclable wastes, such as aluminum cans, plastic and papers.
- Returning the used laser printer toners and ink-jet cartridges to Post Office for recycling.
- Vetting the disposal proposals by the Departmental Disposal Committee and recycling should always be the first priority.
- Participating and cooperating with local charities in recycling activities, such as the "Order less, Waste less" scheme organised by Friends of the Earth.

(d) Energy conservation

HKO is committed to reduce the energy consumption to the minimum and many measures have been carried out to enhance the energy efficiency. These measures included:

- Using energy-saving T5 fluorescent tubes in all HKO premises to reduce energy consumption and installing motion sensors to reduce energy wastage.
- Organising a monthly Light-off Day.
- Switching off computers and other office equipment not in use.
- Using automatic circuit-break timers to help turn off unnecessary electrical appliances after 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 break and after office hours.
- Reducing use of lifts to the minimum after normal office hours.
- Using sustainable power, such as solar power or wind power, to support the operation of some automatic weather stations and radiation monitoring stations.
- Maintaining the room temperature at 25.5°C in summer by new electronic control panel, and switching off air-conditioning system in winter wherever and whenever appropriate.
- Encouraging staff to dress down to reduce the air-conditioning consumption.
- Performing regular maintenance on the air-conditioning system.
- Conducting internal energy audit to monitor our performance in energy conservation.

(e) Air Quality Improvement

- Prohibiting smoking in all indoor areas of HKO HQ and outstations, and the majority of outdoor areas of HKO HQ.
- Commissioning EMSD to conduct regular indoor air quality checking, and carry out regular cleaning and repairing for the air-conditioning systems.
- Organising a monthly Car-free Day.
- Joining the IAQ Certification Scheme with “Good” class awarded in 2010.

(f) Procurement Management

- Following Government’s regulations and guidelines regarding green procurement. For example, clauses were added in cleansing contract requiring the contractor to use degradable plastic bags and environmental friendly detergents.
- Encouraging our suppliers to provide environmental friendly products.
- 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.
- Installing water purifying system in all pantries to provide filtered and disinfected water.

(g) Promoting Staff Awareness

- Forming the Hong Kong Observatory Working Group on Energy and Environment.
- Launching the “Environmental Protection Suggestion Scheme” with cash incentives.
- Promulgating resource saving tips to our colleagues regularly by emails, staff notices, circulars and posters.
- Organising staff activities, such as Tree Planting Day, Car-free Day and Light-off Day, to promote environmental awareness and to encourage staff participation.
- Compiling a monthly report on energy, paper and envelope consumption and disseminating to all colleagues.

(h) Promoting Public Awareness on Environmental Sustainability Issues

I. The HKO Open Day

HKO organises an Open Day for public every year. Through displays and exhibits, information on climate change and other meteorological knowledge are conveyed to visitors (Figures 3 below).



Figure 3 : Visitors at the Open Day 2010

II. Co-operation with Green Partners

HKO maintained good relationship with various green partners, such as Friends of the Earth (FoE), World Wide Fund for Nature (WWF) and Greenpeace, by participating in their green activities.

In 2010, HKO joined “Order less, Waste less” organised by FoE, the Earth Hours by WWF (see Figure 4 below) and Car-Free Day by Greenpeace. Moreover, HKO worked closely with different departments, in particular EMSD and EPD, to implement our green measures.



Figure 4 : Mr C M Shun, the then Acting Director of the Hong Kong Observatory (second from the right at back row), officiating at the WWF Earth Hour 2010 Kick-off Ceremony

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

HKO was very active in promoting public awareness on global warming and climate change in 2010. Talks, school visits, seminars and lectures were organised for students and public. HKO also participated in the development programmes for teachers on the topic of Climate Change (see Figure 5 below).

In 2010, HKO published a number of articles on some interesting climate-related topic with a view to enhance public’s knowledge and awareness in respect of climate change issues. Those articles are available on our website.



Figure 5 : Teachers attending seminar on climate change

IV. Guided Tour of the Hong Kong Observatory

The guided tour of HKO HQ (see Figure 6 below), which is held regularly on Saturdays, provides an opportunity for different organisations to visit the HKO HQ. The public can know more about the historical buildings and appreciate the ecology of a mini-forest in the heart of the city. The tour, named as “天文台全方位遊”, is guided by our voluntary docents from the Friends of the Observatory.



Figure 6 : Visitors exploring the ecological environment of HKO HQ

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) 2010/11 decreased by 8,226 or 39.96% as compared to FY2007/08 (see Figure 7 below). The target of 2.5% reduction was achieved.

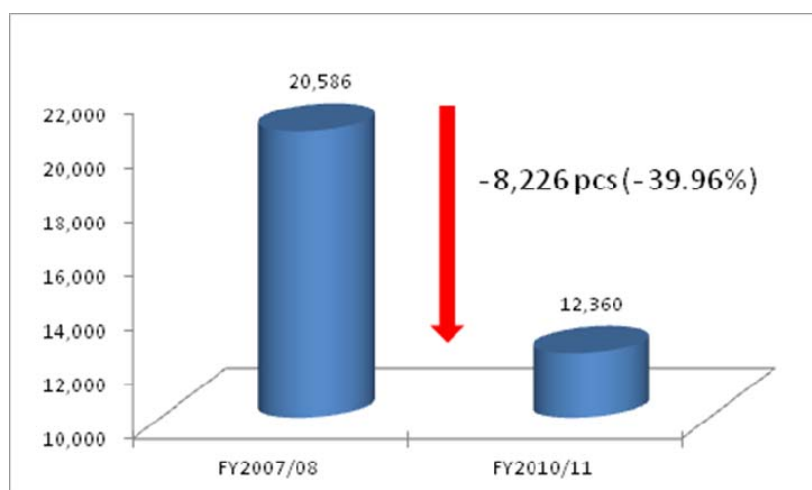


Figure 7 : Envelope consumption in FY2007/08 and FY2010/11

(b) Paper Consumption - Target 2.5% reduction achieved

The paper consumption in HKO in FY2010/11 decreased by 45 reams or 2.6% compared with FY2007/08 (see Figure 8 below). With our effort in launching different measures to reduce the paper consumption, the target of 2.5% reduction was achieved.

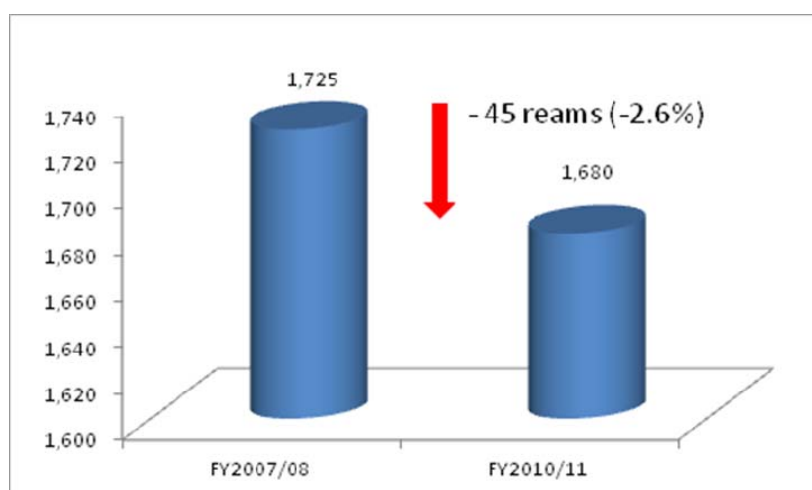


Figure 8 : Paper consumption in FY2007/08 and FY2010/11

(c) Electricity Consumption – Target 2% reduction not achieved

Despite the various departmental measures to save energy, the gross electricity consumption in HKO in FY2010/11 increased by 650,962 kWh or 19.3% as compared to FY2007/08 (see Figure 9 below). The increase in energy consumption was mainly due to the full operation of the high performance computers in 2010.

However, the net electricity consumption in HKO after discounting the activity changes demonstrated a reduction of 5.88% as compared to FY2007/08 (see Figure 10 below). In the coming years, HKO will continue to strive for enhancing the energy efficiency.

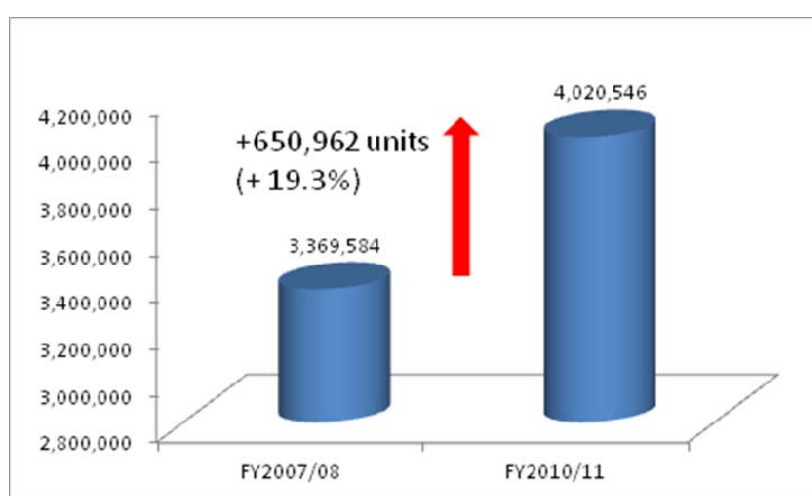


Figure 9 : Gross electricity consumption in FY2007/08 and FY2010/11

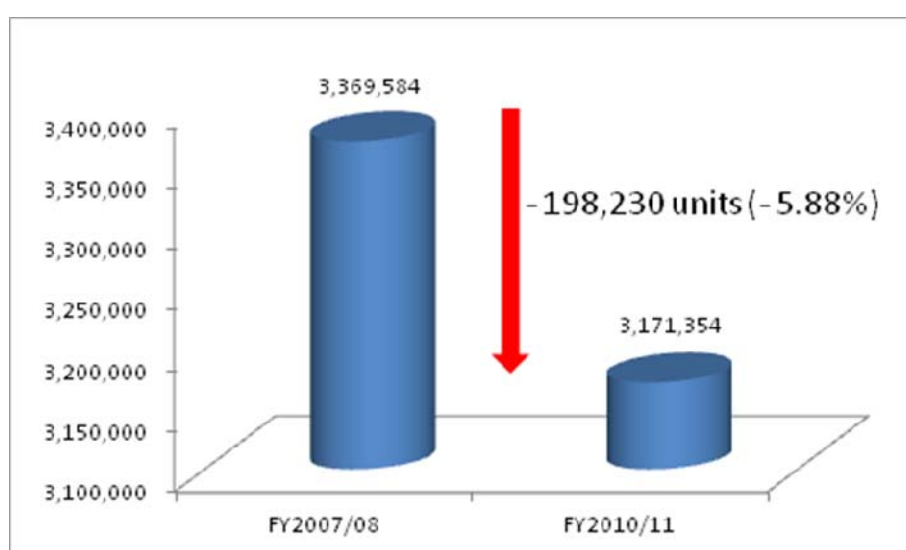


Figure 10 : Electricity consumption in FY2007/08 and FY2010/11 with activity normalised

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

HKO organised the annual Tree Planting Day in March 2010 at the King's Park Meteorological Station (see Figure 11 below). Around 30 colleagues and their family members joined the event. More than one hundred trees and flowers were planted on that day.

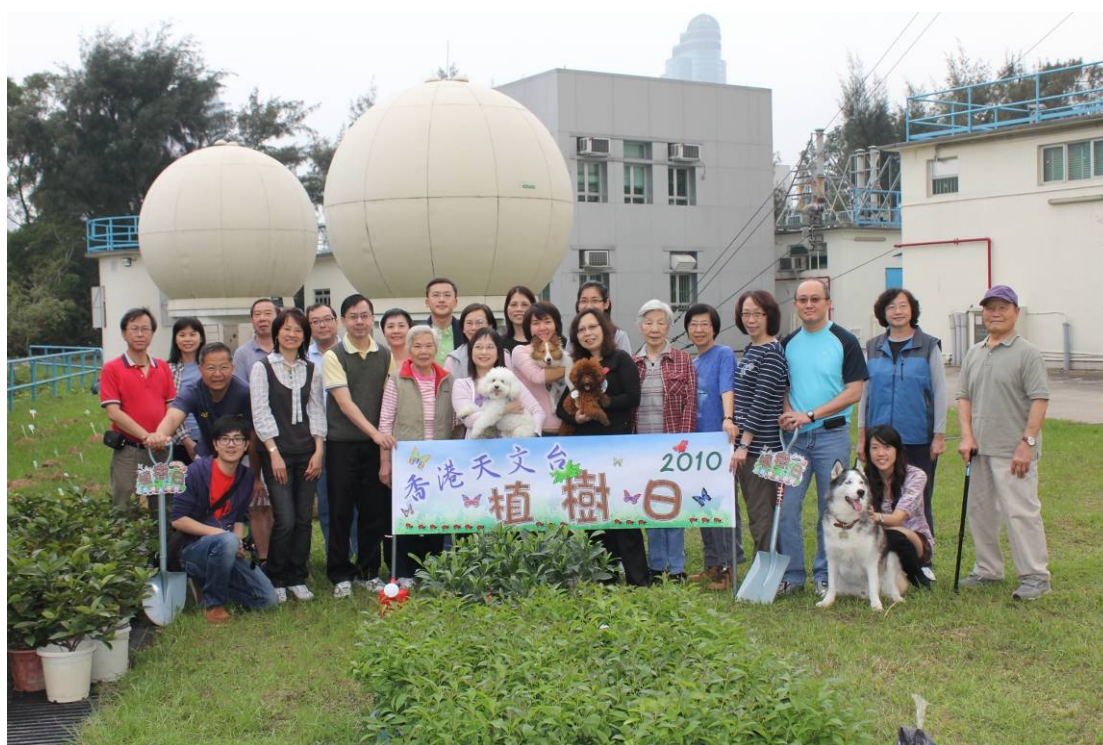


Figure 11 : Tree Planting Day at King's Park Meteorological Station

12. Recognition on Environmental Protection

HKO has received a Certificate of Merit in the Public Sector of the 2010 Hong Kong Awards for Environmental Excellence (HKAEE) Sectoral Awards (see Figure 12 below). The HKAEE is recognised as one of the most prestigious and reputable award schemes in environmental protection in Hong Kong. It aims to encourage organisations to adopt green management and present them with a unique opportunity to benchmark their commitment towards environmental protection.



Figure 12 : the Certificate of Merit in the Public Sector of the 2010 HKAEE Sectoral Awards

In October 2010, Environmental Protection Department in recognition of our good Indoor Air Quality (IAQ) management practices awarded the “Good Class” IAQ certification to the 1883 Building and Centenary Building of HKO HQ.

13. Targets for Fiscal Year 2011/12

We aim at achieving the following targets in FY2011/12:

- 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 plant 150 seedlings

14. Verification Statement

I have verified the information and data of the Environmental Report 2010. I confirm that the data presented in the Environmental Report 2010 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 2010.



Miss Letty NG
Green Manager
Hong Kong Observatory

15. 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 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.

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 other 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: