

Environmental Report 2009



Hong Kong Observatory

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1. Director's Message

I am pleased to present the eleventh Environmental Report of the Hong Kong Observatory (HKO). This report sets out the environmental policy and performance of HKO in the year 2009.

HKO is committed to supporting Government's policies on environmental protection and sustainable development. In 2009, apart from the established environmental protection activities and measures, we have retrofitted the lighting system in HKO Headquarters (HQ) to reduce electricity consumption. Most of the T8 fluorescent tubes in HKO HQ have been replaced with energy-saving T5 fluorescent tubes. In addition, motion sensors have been installed in the Centenary Building of HKO HQ to further reduce electricity use.

During the year, HKO continued to monitor the climate and carry out research on climate change. We also actively engage the public in promoting knowledge on climate change and measures to combat the global phenomenon. This included sending 22 professional speakers to schools and organizations to deliver about 70 lectures and talks on climate change, production of pamphlet on climate change, appearances on roadshows, seminars and conferences, and development of educational material on the HKO website for public consumption.

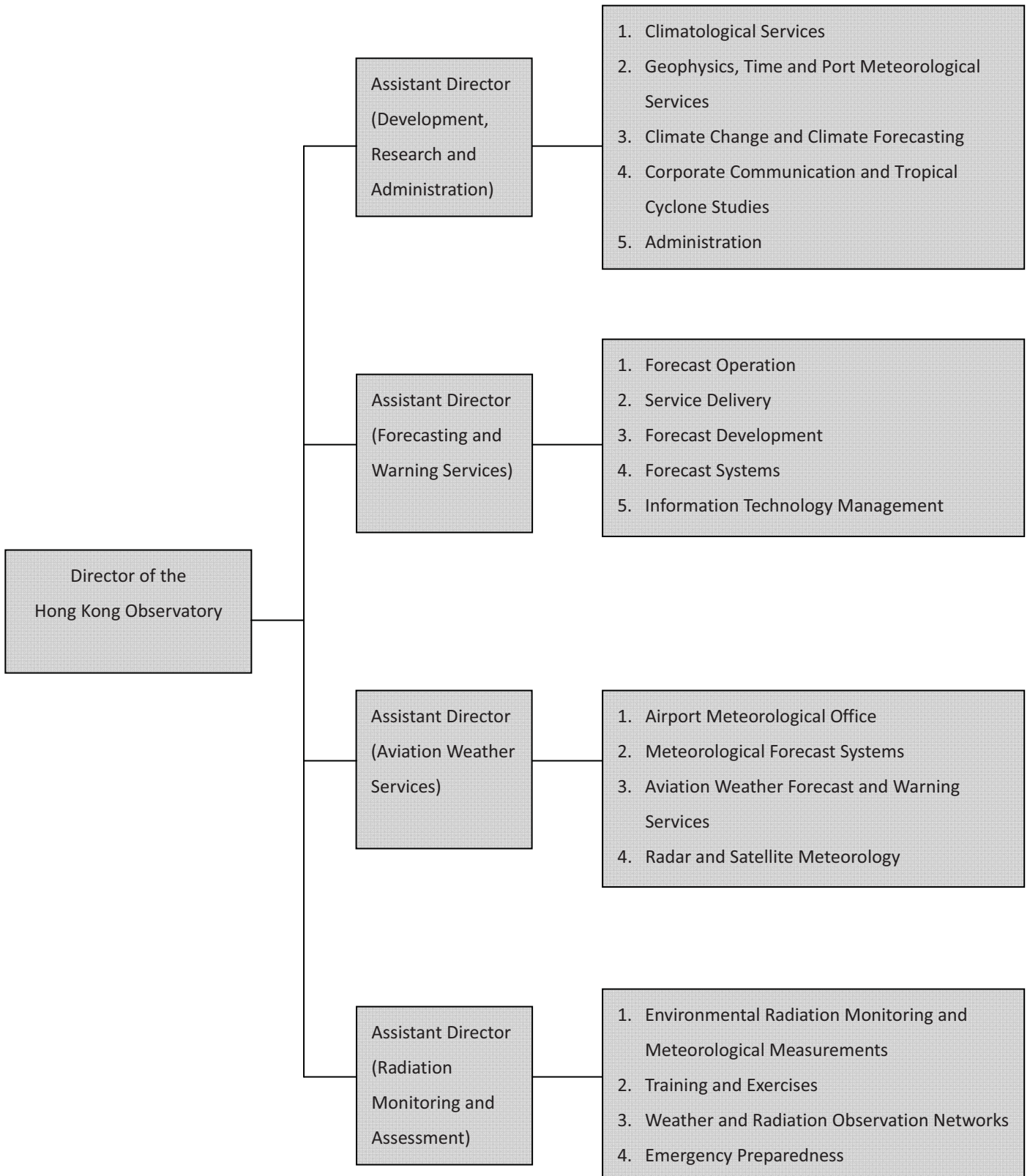
We shall continue to enhance our environmental performance and provide our services in an environmentally responsible manner. Readers are invited to give us their feedback to help us improve further.



B Y LEE

Director of the Hong Kong Observatory

2. Organization Chart



3. Staff Establishment

HKO had an approved establishment of 289 as at 31 December 2009. Details are shown in Table 1 below :

Grade	Establishment
Directorate	5
Scientific Officer Grade	53
Experimental Officer Grade	46
Radar Specialist Mechanic Grade	23
Scientific Assistant Grade	95
Common Grades	24
General Grades	43
Total	289

Table 1 : HKO Establishment as at 31 December 2009

4. Financial Provision

The financial provision of HKO in 2009-10 was \$220.5 million, with \$215.6 million voted for operational expenses, and \$4.9 million for capital expenditure.

5. Office Location

In 2009, HKO had 4 offices. Their locations were as follows:

- (a) Hong Kong Observatory Headquarters at 134A, Nathan Road, Tsim Sha Tsui;
- (b) Miramar Tower Office at 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.

As at 31 December 2009, HKO operated a total of 77 automatic weather stations (see Figure 1 below):

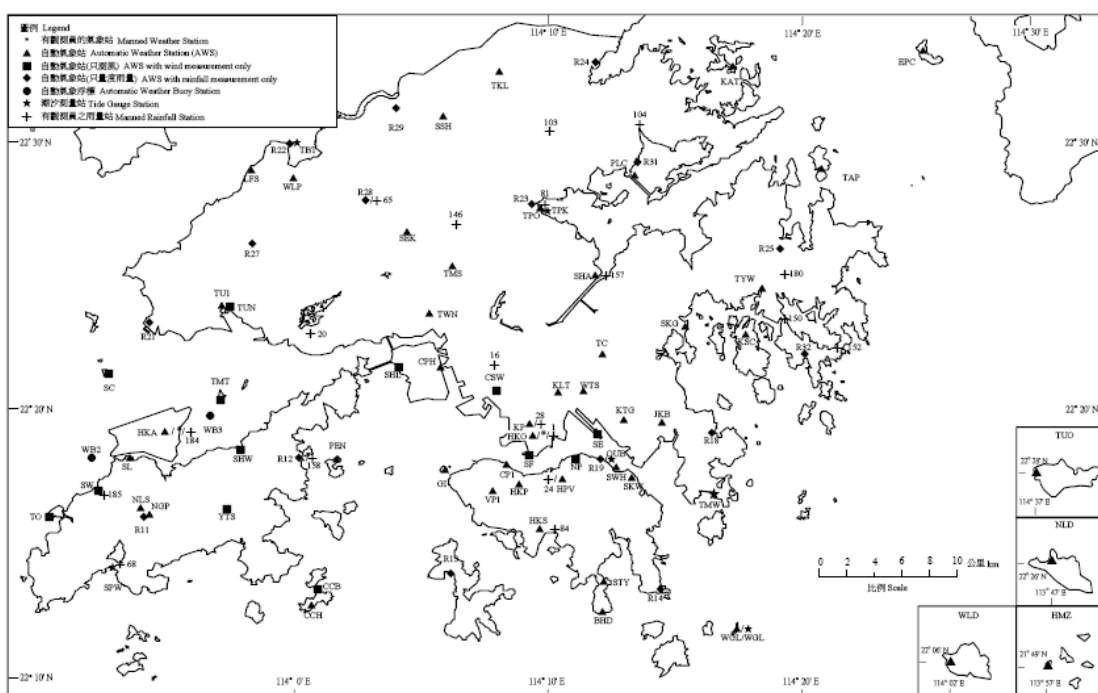


Figure 1 : Locations of automatic weather stations

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, 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) General public receiving HKO information via the media, telephone, mobile devices or by browsing our website;
- (b) Government bureaux and departments;
- (c) Visitors to Hong Kong Observatory; 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 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 with 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. It comprises staff from different grades/ranks and branches with the Green Manager as convener. 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. The Working Group meets regularly to formulate new green initiatives and review the environmental protection measures in force. In

2009, among other initiatives, the Working Group has decided to organize an old clothes recycling campaign and a “using the stairs” campaign to promote healthy worklife and save electricity. The campaigns were successfully held and received positive response from HKO staff.

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 HKO HQ in Tsim Sha Tsui is one of the few remaining semi-natural woodlands in urban Kowloon (see Figure 2 and Table 2 below). It serves as a refuge for the local wildlife in the urban area, in particular, the avifauna. It is home for 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 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 2009, we continued with our efforts to conserve the biodiversity and preserve the natural habitat within the grounds of 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 May 2009 to mobilise our staff to plant seedlings of trees and flowers. This is an on-going programme and tree planting at HKO is a major initiative under the department’s environmental programme.



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
Bignay Chinalaurel	五月茶	<i>Antidesma bunius</i>
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.
Bamboo Palm	散尾葵	<i>Chrysalidocarpus lutescens</i> H. Wendl.
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>
Indian gooseberry	餘甘子	<i>Phyllanthus emblica</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
Red Psychotria	山大刀	<i>Psychotria asiatica</i> L.
Burmese Rosewood	紫檀	<i>Pterocarpus indicus</i> Willd
Schima	木荷樹	<i>Schima superba</i>
Wood-oil Tree	木油樹	<i>Vernicia montana</i> Lour.

Table 2 : Common Plant Species in HKO HQ

(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.
- Stopping the use of fax cover page where appropriate.
- 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 HKO HQ for separate collection of recyclable wastes such as aluminum cans.
- Participating and coordinating with local charities in recycling programmes.

(d) Energy conservation

The lighting system in HKO HQ was retrofitted to reduce the energy consumption on lighting. In 2009, most of the T8 fluorescent tubes in HKO HQ were replaced with energy-saving T5 fluorescent tubes. In addition, motion sensors were installed in the common area of the Centenary Building, e.g. lift lobby and staircase. These measures effectively cut down the electricity consumption on lighting. Others included:

- 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 computers and other office equipment not in frequent use.
- Reducing use of lifts to the minimum after normal office hours.

- Adjusting the air-conditioning system with a view to keeping the room temperature to 25.5°C in summer months.
- Providing thermometers in all offices to facilitate maintaining the room temperature at 25.5°C in summer months.
- Switching on air-conditioning units only immediately before users entering the venues.
- Replacing the dust filters for air conditioners regularly.
- Fixing solar film to window glasses to insulate heat.
- 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.
- Encouraging the use of fans and dehumidifiers in substitution of air-conditioning.
- 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 HKO HQ.
- Commissioning EMSD to conduct regular indoor 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 report 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.
- Organizing 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. The "Climate and Our Environment" course

HKO, in collaboration with the Hong Kong Polytechnic University's Applied Physics Department, organized a general education course called "Climate and our Environment" for students of the university between September and November 2009. Besides introducing to the students the Observatory's work in weather monitoring and forecasting, HKO staff also delivered talks on topics related to climate change including greenhouse effect, global warming and urban heat island effect have been delivered to the students (Figure 3). The feedback and response to the course were very positive and encouraging.



Figure 3 : (Left) Students of the Hong Kong Polytechnic University visiting the HKO Headquarters. (Right) Dr. Lee Tsz-cheung, Senior Scientific Officer of HKO (1st right), explaining the work of the weather forecaster to students of the Hong Kong Polytechnic University

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 Friends of the Earth (FoE), and assisted in different environmental-awareness-building programmes to protect the natural environment, e.g. "Light out on the Summer Solstice"

and “Green Christmas e-Card 2009” by FoE; “Earth Hour” by World Wildlife Fund and “Carfree Day” by Greenpeace.

HKO took one step further in the “Carfree Day” on 22 September 2009. While the original goal of the event was to encourage the staff not to drive on that day, to show our support in the protection of environment, HKO appealed to all staff to avoid using departmental/hired transport on that day in their operation. The event received full support from the directorate and over 56% of the HKO staff signed up in support of the “Carfree Day”.

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

HKO conducted a series of public awareness promotion programmes and researches on global warming and climate change in 2009. About 70 lectures, talks and school visits were arranged to raise the awareness and understanding of the public on the subject (see Figure 4 below).

In September 2009, HKO published a pamphlet on the "Climate Change in Hong Kong" with a view to enhancing the public’s knowledge and awareness in respect of climate change issues. The pamphlet provides concise information on the causes of climate change, its impact and what we can do to mitigate its effects. The pamphlet is available on our website.



Figure 4 : HKO staff delivering public talks on climate change

IV. Guided Tour of the Hong Kong Observatory

The guided tour of HKO HQ (see Figure 5 below) is intended to provide an opportunity for members of the 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 regularly on Saturdays and in the HKO Open Day. Visitors are guided and briefed by voluntary docents of HKO's support group "The Friends of the Observatory".



Figure 5 : Visitors exploring the ecological environment of HKO HQ

11. Environmental Performance

(a) Envelope Consumption - Target 2.5% reduction achieved

Under the concerted effort of staff, the total envelope consumption in HKO decreased by 8,885 or 43.2% in Fiscal Year (FY) 2009/10 (see Figure 6 below) as compared to FY2007/08. The target of 2.5% reduction was achieved.

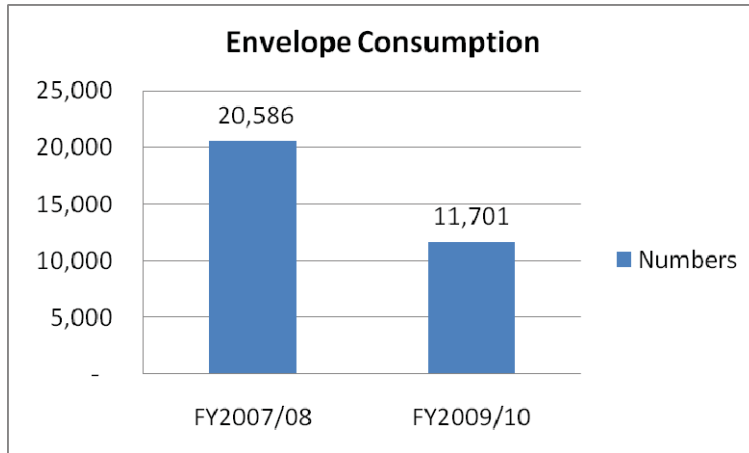


Figure 6 : Envelope consumption in FY2007/08 and FY2009/10

(b) Paper Consumption - Target 2.5% reduction not achieved

The paper consumption in HKO in FY2009/10 decreased by 1 ream or 0.1% compared with FY2007/08 (see Figure 7 below). In spite of the decrease, the target of 2.5% reduction was not achieved.

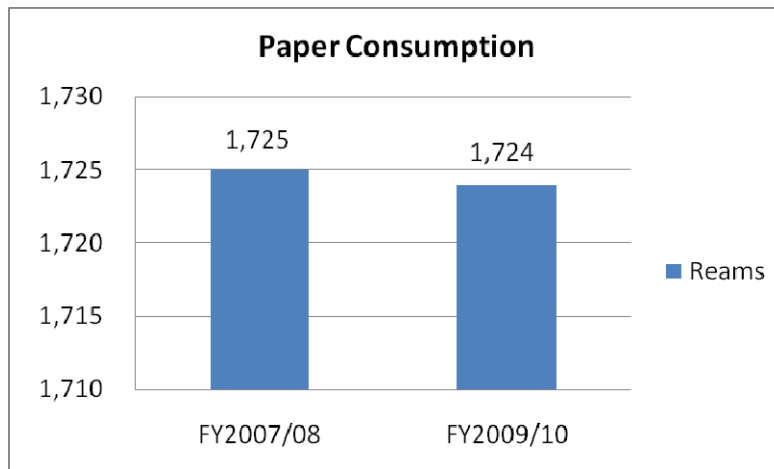


Figure 7 : Paper consumption in FY2007/08 and FY2009/10

(c) Electricity Consumption – Target 1% reduction not achieved

Despite the various departmental measures to save energy, the gross electricity consumption in HKO in FY2009/10 increased by 354,484 kWh or 10.5% as compared to FY2007/08 (see Figure 8 below). This was mainly due to the installation of high performance computers in HKO HQ in late 2009. That said, the net electricity consumption in HKO after discounting the activity changes showed a reduction of around 2% as compared to FY2007/08. In the coming year, HKO will continue to strive for energy saving.

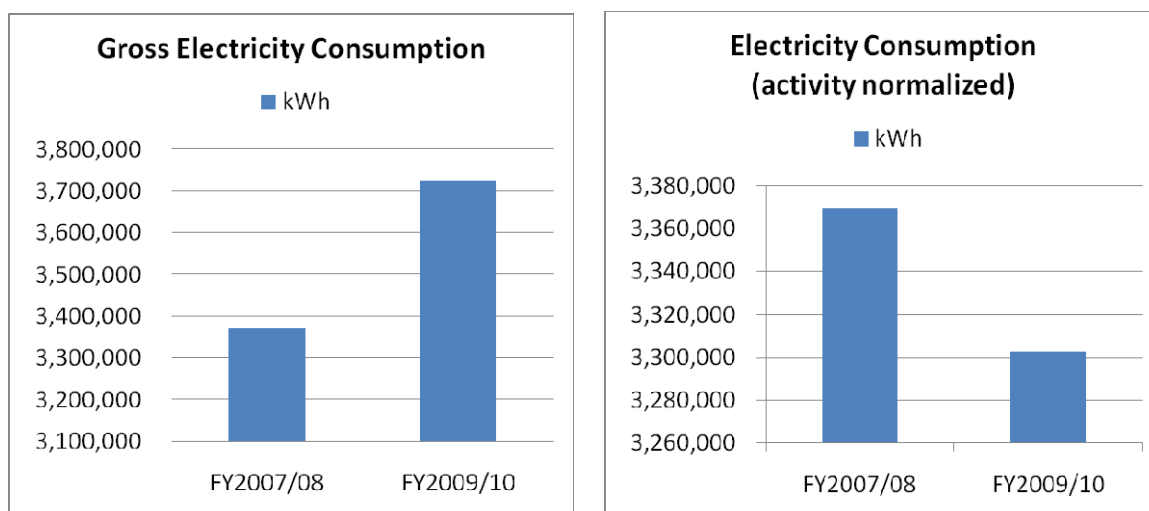


Figure 8 : (Left) Gross electricity consumption in FY2007/08 and FY2009/10.
(Right) Electricity consumption in FY2007/08 and FY2009/10 with activity normalized

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

We organized the 10th Tree Planting Day in May 2009 at the Hong Kong Observatory Headquarters (see Figure 9 below). One hundred trees were planted on that day. This is a continuous programme and will be organized annually.



Figure 9 : Tree Planting Day at HKO HQ

12. Recognition on Environmental Protection

HKO has received a Silver Award in the Public Sector of the 2009 Hong Kong Awards for Environmental Excellence (HKAEE) Sectoral Awards (see Figure 10 below). The HKAEE is recognized as one of the most prestigious and reputable award schemes in environmental protection in Hong Kong. It aims to encourage organizations to adopt green management and present them with a unique opportunity to benchmark their commitment towards environmental protection.

In October 2009, 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.



Figure 10 : Mr Edwin Ginn, Senior Scientific Officer of HKO (right), receiving the Silver Award in the Public Sector of the 2009 HKAEE Sectoral Awards

13. Targets for Fiscal Year 2010/11

We aim at achieving the following targets in FY2010/11:

- 2.5% reduction in envelope consumption compared to FY2007/08
- 2.5% reduction in paper consumption compared to FY2007/08
- 2.0% reduction in electricity consumption compared to FY2007/08
- To plant 100 seedlings

14. Verification Statement

I have verified the information and data of the Environmental Report 2009. I confirm that the data presented in the Environmental Report 2009 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 2009.



Mr CHOI Siu-chuen
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 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: