



# Chapter 5

## Review of Performance on Green Policy

CAD's green policy is energy conservation, paper conservation, recycle, proper disposal of environmentally hazardous waste and provision of awareness training for staff.

### Energy Conservation

#### Conserving Electricity by Energy Saving Initiatives

##### *Buildings Managed by CAD*

In buildings and premises managed by CAD, such as the Air Traffic Control Complex (ATCX), Air Traffic Control Tower (ATCT) and Back-up Air Traffic Control Complex (BATCX), we have explored various initiatives to save energy on our air-conditioning and lighting systems.

##### Energy Saving on Air-conditioning system

- We have installed light reflective shades in the Centralized Fault Reporting Centre at the ATCX and the Precision Runway Monitor and Microwave Equipment Room of the BATCX to lower the room temperature.
- We are exploring with the Electrical and Mechanical Services Department (EMSD) the feasibility and cost-effectiveness to implement the following energy management opportunities (EMOs) to save energy cost on the air-conditioning of ATCX, ATCT and BATCX: -
  - Injecting more outdoor cool air into the buildings during winter period
  - Reducing maintenance time and providing anti-scaling system for water-cooled chiller system
  - Providing control system to switch off fan coil units at non-operational areas
  - Providing thermal storage of chilled water at night time for use during day time



### Energy Saving on Lighting System

- We have replaced electrical "Exit" signs at two of our equipment rooms at the South Runway with self-luminous signs that do not require power. As self-luminous signs may give out small amount of radioactive emissions, we will install the signs in unmanned sites only.
- We are exploring with EMSD the feasibility of permanently dismantling the floodlights at the rooftop of the ATCX and switching off half of the floodlights underneath the ATCT.
- We are exploring with EMSD the feasibility and cost-effectiveness of installing occupancy sensors at non-operation areas to automatically switch off lighting systems after those areas have been vacated for 5 minutes.

### CAD Offices Managed by Other Organizations

We would regularly convey our concerns about exploring energy saving initiatives to the building managers of other CAD offices. For example, we have given the building management of Queensway Government Offices our full support on the proposed new energy saving initiatives such as controlling indoor temperature at a reasonable level and shortening the operation hours of air conditioning chiller plant by the Government Property Agency.

### Targets for 2002 and 2003

After implementing various energy conservation measures, we managed to reduce the average daily electricity consumption in the ATCX in 2002 by 3.4% comparing to the year of 2001 (Figure 10).

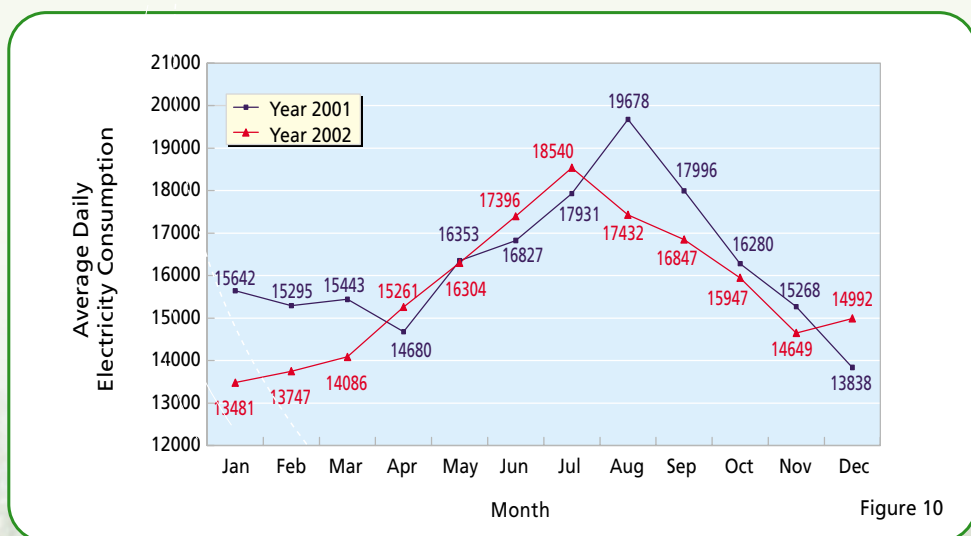
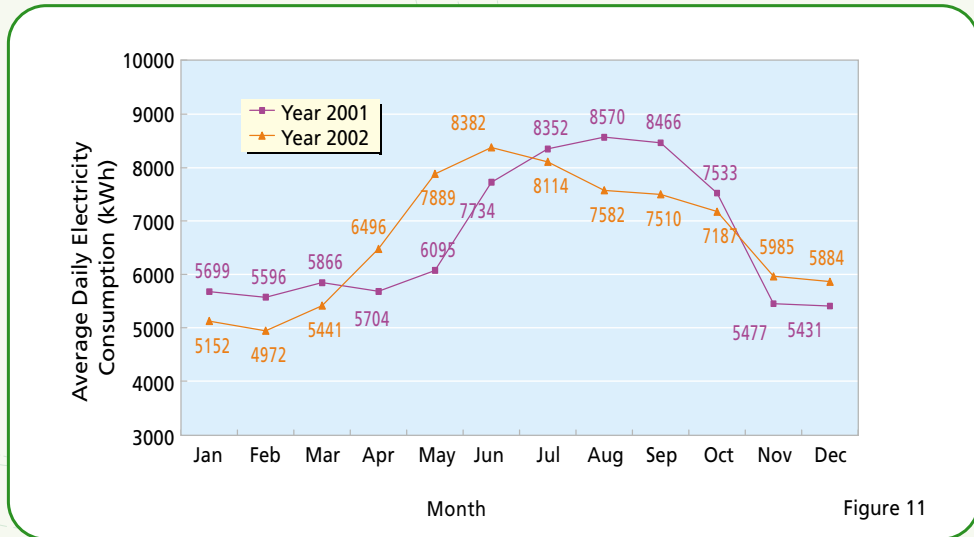


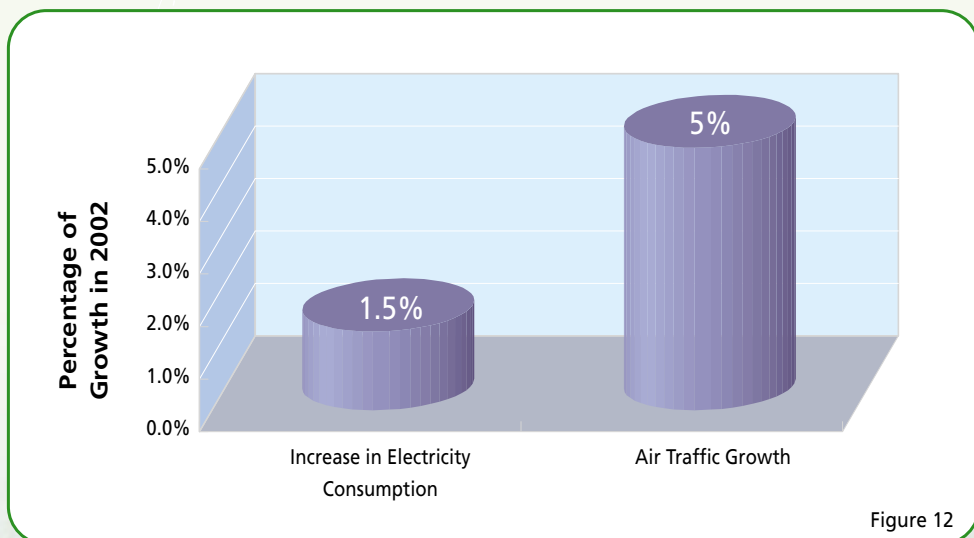
Figure 10



The BATCX, however, recorded a slight increase of 0.1% of the average daily electricity consumption (Figure 11).



Despite our overall 1.5% increase in electricity consumption in all CAD premises in 2002, amounting to 30,891 kilowatt-hours on average daily, we still met our 2002 target which was to maintain electricity consumption at a level below the traffic growth in the Hong Kong International Airport (Figure 12). The traffic has grown by 5% in 2002.



**Revised**

In the year of 2003, we will follow the guidelines of the Environment, Transport and Works Bureau on reducing the electricity consumption by 1.5% from that of the year of 2002.



### Conserving Fuel

Poor driving habit not only increases fuel consumption, it can also cause more pollutants to be emitted. We thus provide information on eco-driving to our drivers to remind them to drive and maintain vehicles properly so as to reduce fuel consumption and pollution.

### Purchasing Energy Efficient Equipment

#### *Air Traffic Control Equipment*

To support Government's drive for energy saving, we would purchase air traffic control equipment of high standard of energy efficiency to save electricity. Examples are our replacement of 30 cathode-ray-tube monitors with state-of-the-art LCD



monitors for our Aeronautical Information Display System and Flight Data Processing System for air traffic control operations in 2002, and our replacement of the existing Mount Parker Primary Surveillance Radar of 3 MW peak transmit power with a new fully solid-state radar of only 24 kW peak transmit power but with the same radar coverage by the end of 2003.

#### *Other Equipment*

We are obliged to observe central guidelines from the Government on green purchasing and taking environmental considerations into account when procuring goods and services. Environmental terms such as high standard of recyclability and energy efficiency have been included in our tender specifications whenever applicable.



## Paper Conservation

We encourage the use of e-mail for office communication

It is our continuous target to reduce paper consumption by encouraging staff to use e-mail for communications both within and outside the Department. Thus, in 2002, we have enhanced our email systems to make it easier for our staff to use emails. In addition, we have installed a Document Management System to disseminate information such as posting circulars, departmental circulars and telephone lists electronically. As a result, paper circulation within CAD has been reduced.

### Targets for 2002 and 2003

In the year of 2002, with continuous efforts of our staff, we were able to achieve our target by maintaining our paper consumption at the low level of 5,924 reams as in 2001.

It must be pointed out that such consumption level represents a significant drop of 26% over four years from 8,000 reams in 1998 to the 2002 level (Figure 13).

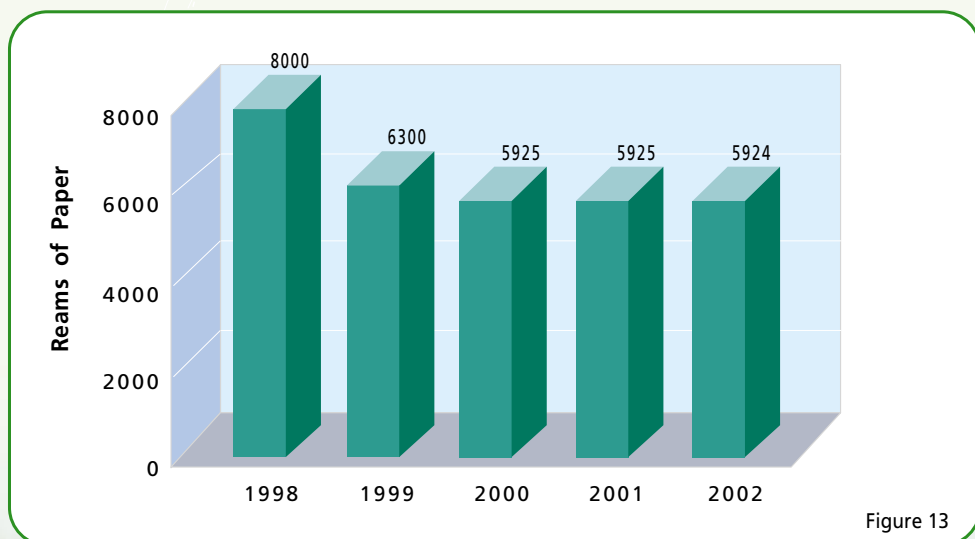


Figure 13

Revised

In 2003, we will continue our efforts in promoting electronic communication among staff. In addition, we shall follow the guidelines of the Environment, Transport and Works Bureau on reducing paper consumption by 2.5% from the 2002 figures.



## Recycle

We implement waste paper and laser printer cartridge recycling schemes to save the Earth's natural resources.

### Waste Paper

Our staff would separately dispose of recyclable waste paper in conveniently located recycling bins. CAD's cleaning contractors then transport those paper to designated locations for recycling (Table 1).

Table 1

2002						2001
Waste Paper Collection (Kg)	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Total	Total
	1308	2232	2190	2489	8219	7534

### Laser Printer Cartridges

We return used laser printer cartridges to our suppliers for recycling. (Table 2)

Table 2

	1998	1999	2000	2001	2002
Laser Printer Cartridge	Purchased	Purchased	Purchased	Purchased	Purchased
	153 units	150 units	166 units	167 units	167 units
	Recycled	Recycled	Recycled	Recycled	Recycled
	33 units	72 units	67 units	77 units	124 units

### Targets for 2002 and 2003

We have increased our recycling of paper by 9% in the year of 2002 comparing with the quantity being recycled in the preceding year. The recycling of laser printer cartridges in the year of 2002 showed continuing increase of 276% comparing to the number recycled when we first implemented this scheme in 1998. Our target for 2003 is to continue our recycling efforts.



## Proper Disposal of Environmentally Hazardous Waste

We comply with the environmental regulations with regard to the disposal of chemical waste and the discharge of sea water for cooling systems.

### Chemical Waste Disposal

Stable and reliable air traffic control equipment are installed in our 13 equipment outstations to provide air traffic related services. When the normal city mains supply to these equipment is interrupted, the equipment will automatically switch to operate on alternate power supply including standby diesel generators and sealed-type batteries. These standby generators and batteries however will produce chemical waste such as engine lubrication oil and battery fluid, which are required to be properly disposed of.

### *Targets for 2002 and 2003*

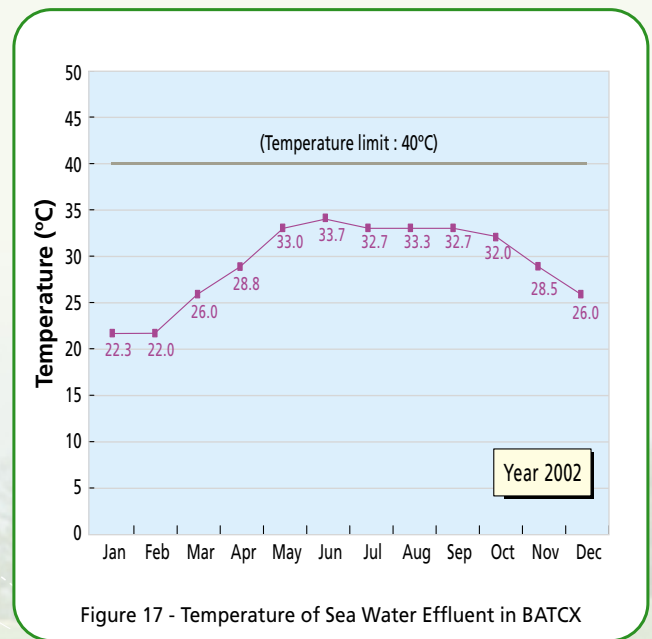
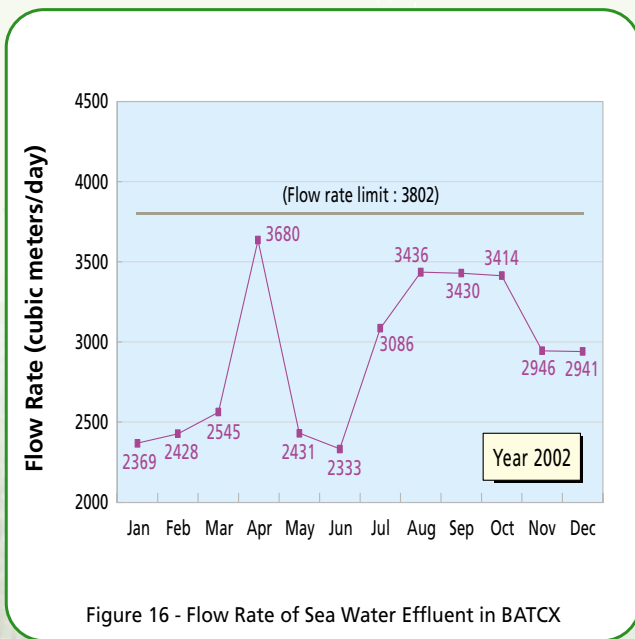
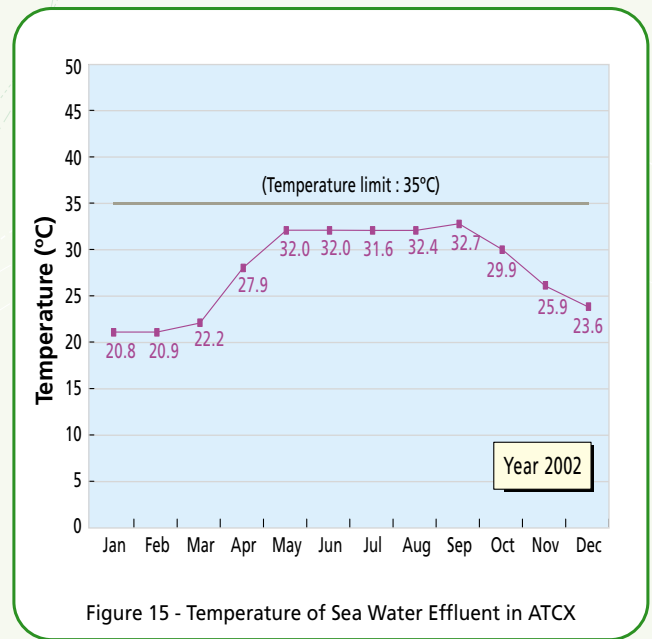
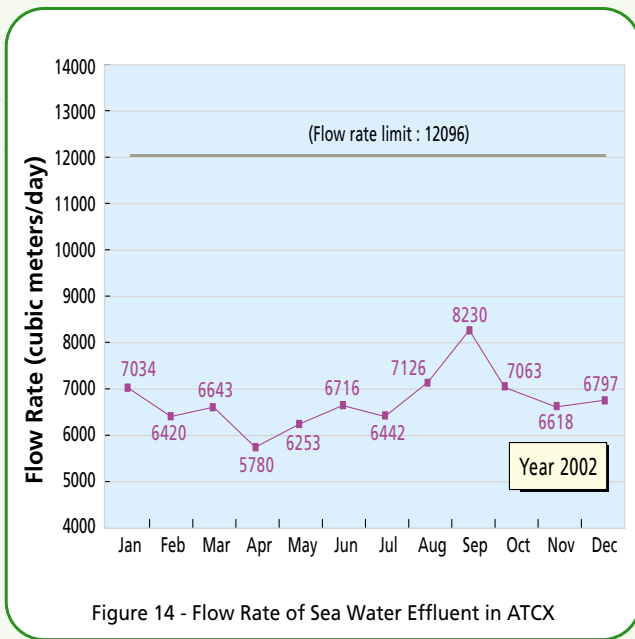
In the year of 2002, our maintenance contractor has handled the waste in accordance with the statutory requirements under the Waste Disposal (Chemical Waste) (General) Regulation of the Waste Disposal Ordinance (Chapter 354 subsidiary legislation C). We will continue to supervise our contractor to ensure proper handling and disposal of chemical waste in the year of 2003.

### Discharge of Effluent of Sea Water Used for Cooling

Our ATCX and BATCX use sea water for their cooling systems. We ensure that the sea water effluent is discharged in compliance with the requirements set under the Water Pollution Control Ordinance (Chapter 358).

*Targets for 2002 and 2003*

As in the year of 2001, our monthly measurement of the flow rate, temperature, pH value and residual chlorine level of the effluent showed that the limits of these four control parameters have not been exceeded in 2002. In 2003, we will continue to monitor all these parameters. (Figures 14 to 17 present the monthly variation of the flow rate and temperature of the sea water discharged.)







## Staff Training on Environmental Issues

Throughout 2002, we have regularly organized seminars and uploaded training video to intranet to familiarize our staff with the importance of energy conservation and our green measures. Also, we have displayed publicity materials on energy saving at conspicuous locations to remind them to be environmentally responsible.

