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 implemented a number of housekeeping measures to save energy. Measures implemented include: -

- switching off unnecessary air-conditioning and lighting when the space is not in use;
- keeping the setting of room thermostat at a suitable temperature and fan speed;
- replacing Venetian blinds which could not effectively block sunlight to reduce the increase of room temperature;
- switching off fan coil units at corridors of BATCX;
- switching off fresh air units during daytime at BATCX; and
- activation of energy saving mode for CAD computer monitors at BATCX.

Energy Saving on Air-conditioning system:

Air-conditioning system is the major electricity consumption sector in the premises. We have acquired standby heat plates to reduce maintenance time for the water-cooled chillers at BATCX as an additional EMO to save energy in 2004. In 2005, we will implement the following EMOs in our air-conditioning system to further save energy:

- modification of power supply to chiller system of ATCX to minimize the use of air-cooled chiller; and
- use of Polarized Refrigerant Oil Additives (PROA) for one water-cooled chiller at BATCX.

Energy Saving on Lighting System:

In 2004, we have continued to implement the following measures

- switch off the outdoor architectural floodlights at BATCX ; and
- switch off part of the corridor lightings at ATCX and BATCX.

Energy Saving on Lift System:

In 2004, we have continued to suspend one passenger lift and one cargo lift at ATCX during non-office hours.

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. Besides, we have given the building management of Queensway Government Offices our full support on the 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 2004 and 2005

The overall decrease in electricity consumption in all CAD premises in 2004 was 0.3% amounting to 31,783 kilowatt-hours on average daily.

However, despite the implementation of various energy conservation measures, the average daily electricity consumption in the ATCX and Tower in 2004 increased by 7.8% comparing to the year of 2003 (Figure 10).

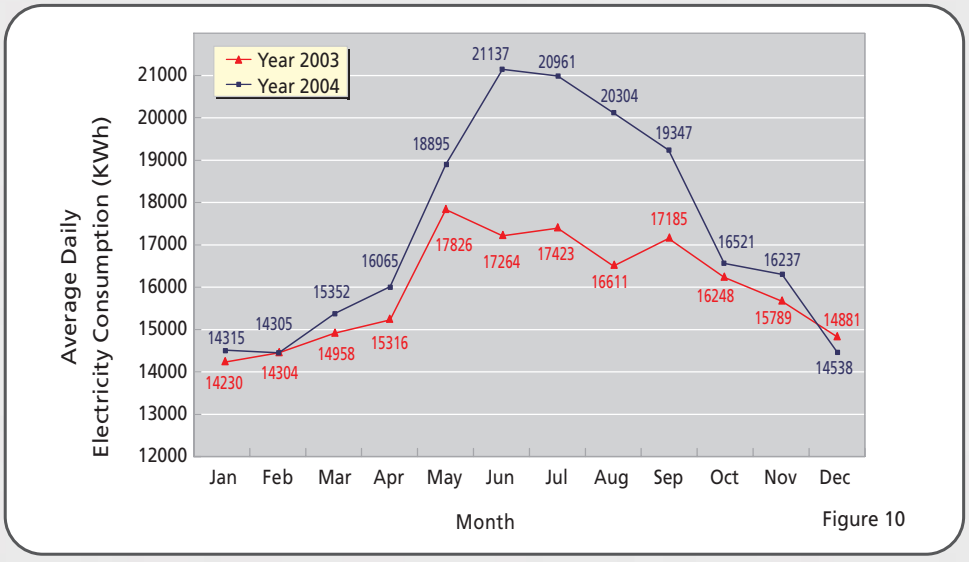

Figure 10

The increase in electricity consumption in 2004 was mainly due to the installation of additional electrical equipment in the ATCX .

On the contrary, the average daily electricity consumption in the BATCX decreased by 5.6% in 2004 comparing to the year of 2003, after adopting various energy saving measures. (Figure 11).

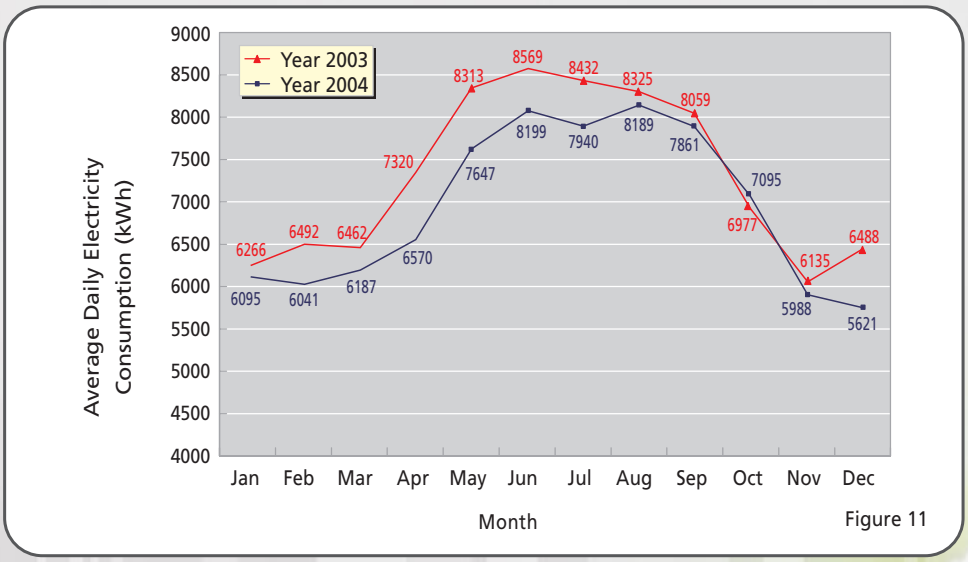

Figure 11

In the year of 2005, we will continue to follow the guidelines of the Environment, Transport and Works Bureau on reducing the electricity consumption by 4.5% from that of the year of 2002.

Conserving Fuel

Poor driving habit not only increases fuel consumption, but also causes more pollutants to be emitted. We thus continue to 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 have purchased air traffic control equipment of high standard of energy efficiency to save electricity.

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.

Targets for 2004 and 2005

All cathode-ray-tube(CRT) monitors for office personal computers in this Department have already been replaced by LCD monitors.

In 2005, we shall continue to take environmental considerations into account when procuring goods and services. When appropriate, we will procure equipment and services which are of high standard of energy efficiency and are amiable to the environment.

We will continue the technical study to replace the CRT displays by state-of-the-art LCD displays for the Radar Data Processing and Display System and planned to complete such study in end 2005.

Paper Conservation

We encourage staff to implement different green measures for reducing paper consumption.

It is our continuous target to reduce paper consumption by encouraging staff to implement various green measures such as communicating by e-mail, printing on both sides of paper and using double-side photocopier / printer. In addition, the use of the Document Management System enables information such as posting circulars, departmental circulars and telephone lists be disseminated electronically. As a result, paper circulation within CAD has been reduced.

Targets for 2004 and 2005

In the year of 2004, with continuous effort of our staff, we were able to achieve our target of reducing 5.0% of our paper consumption from the 2002 level (Figure 12).

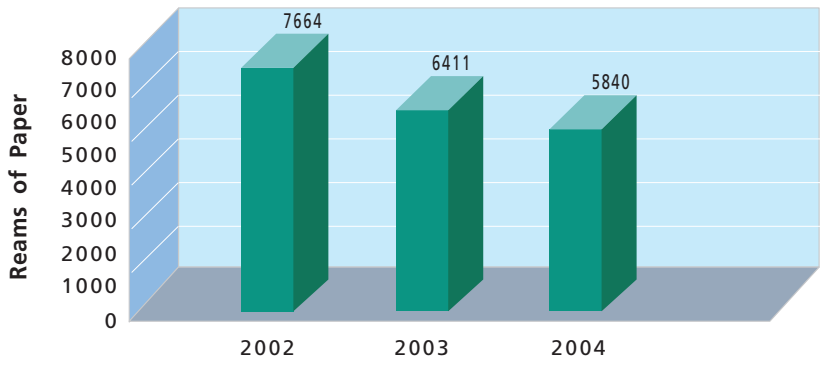

Figure 12

Note: Since 2004, the data collection method on paper consumption has been re-determined in accordance with actual paper consumption which includes recycled paper. Paper consumption for 2002 and 2003 estimated by the new method are shown for comparison.

In 2005, we will continue our efforts in promoting electronic communication among staff. In addition, we shall follow the guidelines of Environment, Transport and Works Bureau on reducing paper consumption by 7.5% from the 2002 figures.

Recycle

We implement waste paper, used CD 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 papers to designated locations for recycling (Table 1).

Table 1

	2004				
Waste Paper Collection	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	**Total**
(Kg)	1506.3	1743.0	1707.0	1381.0	**6337.3**

Used CD

Since November 2004, CAD has launched a programme for collection of used CD for recycling. CAD then forwards those CDs to designated collection point for recycling.

Laser Printer Cartridges

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

Table 2

	1999	2000	2001	2002	2003	2004
Laser Printer Cartridge	Purchased	Purchased	Purchased	Purchased	Purchased	Purchased
	15 units	16 units	167 units	167 units	88 units	116 units
	Recycled	Recycled	Recycled	Recycled	Recycled	Recycled
	7 units	67 units	77 units	124 units	269 units	271 units

Targets for 2004 and 2005

The recycling of laser printer cartridges in the year of 2004 showed a slightly increase from the 2003 figure. Our target for 2005 is to continue our efforts in recycling waste papers, used CD and cartridges.

Proper Disposal of Environmentally Hazardous Waste

Compliance with the environmental regulations with regard to the disposal of chemical waste systems.

Chemical Waste Disposal

Air traffic control equipment located in 13 equipment outstations are essential to maintain the air traffic operation. When the normal city mains supply to these equipment is interrupted, the equipment will automatically and immediately switch to operate on alternate power supply from standby diesel generator and sealed-type battery. The chemical waste so produced, arising from the use of engine lubrication oil and battery fluid by the standby generators and batteries, are required to be properly disposed of.

Targets for 2004 and 2005

In the year of 2004, 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). Supervision on our contractor will be continued to ensure their proper handling and disposal of chemical waste in the year of 2005.

Discharge of Effluent of Sea Water Used for Cooling

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

Targets for 2004 and 2005

As in the year of 2003, our monthly measurement of the flow rate, temperature, pH value and residual chlorine level of the seawater effluent from ATCX and BATCX shows that the limits of these four control parameters were not exceeded in 2004. In 2005, we will continue to monitor all these parameters. (Figures 13 to 16 present the monthly variation of the flow rate and temperature of the seawater discharged.)

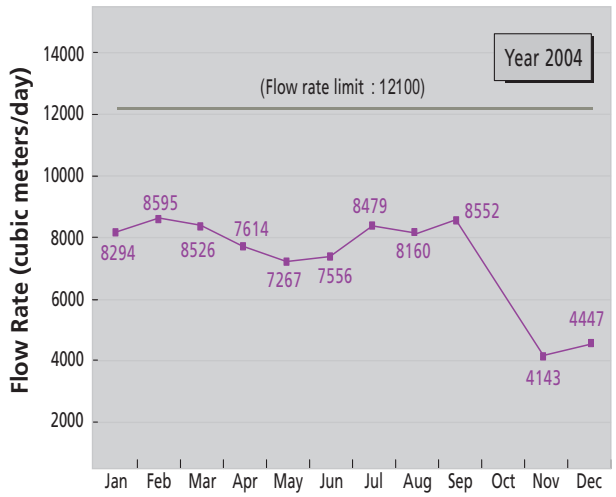

Figure 13 - Flow Rate of Sea Water Effluent from ATCX and ATCT

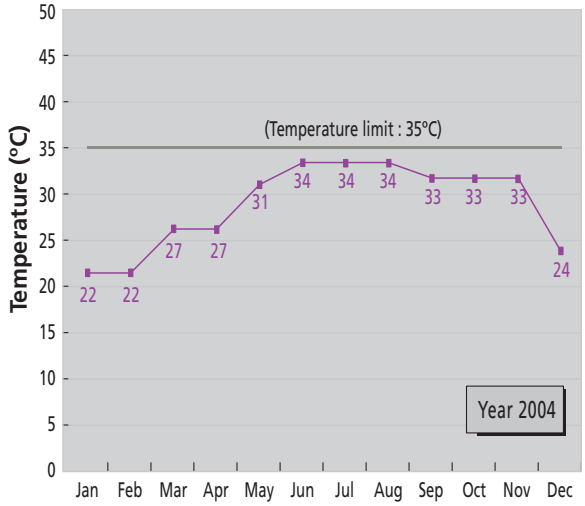

Figure 14 - Temperature of Sea Water Effluent from ATCX and ATCT

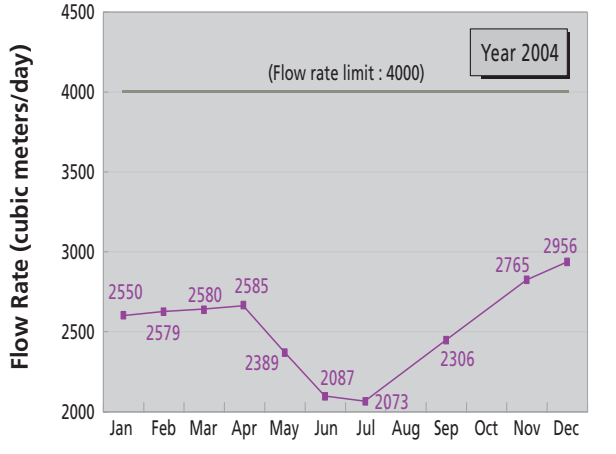

Figure 15 - Flow Rate of Sea Water Effluent from BATCX

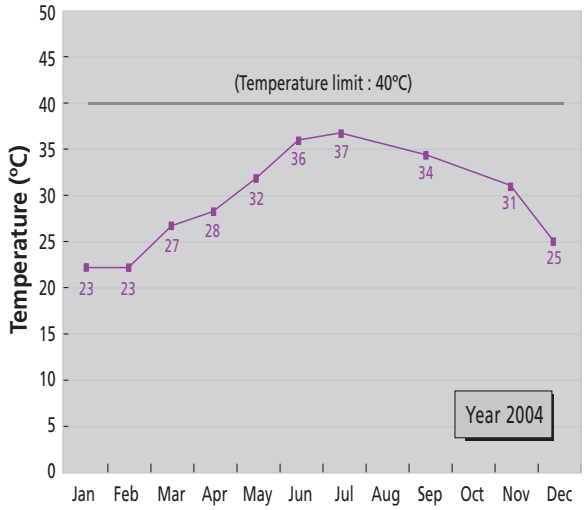

Figure 16 - Temperature of Sea Water Effluent from BATCX

Staff Training on Environmental Issues

Throughout 2004, we have used various means 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.