



Civil Aviation Department

Environmental Report 2021



Content

1 Foreword	1
Our Environmental Goals.....	1
Our Environmental Policy.....	1
2 Aircraft Noise Management	2
Quieter Arrivals.....	2
Quieter Departures.....	3
Restrictions on Noisy Aircraft.....	4
Noise Monitoring.....	5
3 Aircraft Emission	7
Measures Taken by CAD.....	7
Measures Taken by Airlines.....	7
Carbon Emission Certification.....	8
Carbon Offsetting and Reduction.....	8
4 Green Measures in Other Aviation Related Operations	9
Standardized Forms for Various Tariff and Flight Applications.....	9
Electronics Submission / Approval.....	10
Online Promulgation of Divisional Documents.....	11
Paperless ATMD Operational Manuals.....	12
5 Green Housekeeping	14
Energy Conservation.....	14
Paper Conservation.....	19
Waste Reduction, Collection and Recycling.....	20
Green Procurement.....	25
Electric Vehicles.....	26
Training and Communication.....	27
Recognition.....	28
6 Views and Suggestions	31

1 | Foreword

This Environmental Report covered the environmental performance of the Civil Aviation Department (CAD) in 2021.

In the work of environmental management, the Department strives to minimize the disturbance caused by aircraft operations to the local communities and pursue environmentally friendly operations both in various functional areas and office management.

Our Environmental Goals

CAD is committed to ensuring that all services provided by the Department as well as our operations are conducted in an environmentally responsible manner.

Our Environmental Policy

We support the Hong Kong Special Administrative Region Government's initiatives to improve the environment by:-

- Committing to a safe, efficient and sustainable air transport system in Hong Kong;
- Compliance with relevant environmental protection ordinances;
- Striving to minimize the adverse effect that the development of the aviation industry may cause to our quality of life and environment;
- Promoting waste reduction, recovery and recycling, and reduction in consumption of resources including material, fuel and energy; and
- Providing environmental education and training to staff.

2 | Aircraft Noise Management

CAD is conscious of any possible noise impact that aircraft operations may have on local communities and has implemented a number of aircraft noise mitigating measures based on the guidelines of the International Civil Aviation Organization (ICAO), aiming at mitigating noise impact caused by the aircraft without compromising aviation safety. We have also monitored the implementation of these noise mitigating measures and the aircraft noise situation in various districts with the aid of a computer-based Aircraft Noise and Flight Track Monitoring System.

Quieter Arrivals

Arrivals from Southwest over Water

All arriving aircraft between midnight and 7 am of the following day are required to approach from the southwest of the airport over water, unless limited by safety and weather conditions. This measure aims at reducing the number of aircraft overflying populated areas such as Tseung Kwan O, Sha Tin, Kwai Chung, Tsing Yi and Tsuen Wan during the overnight period. In 2021, 82% of arrival aircraft were able to approach from the southwest of the airport between midnight and 7 am of the following day under permissible conditions.

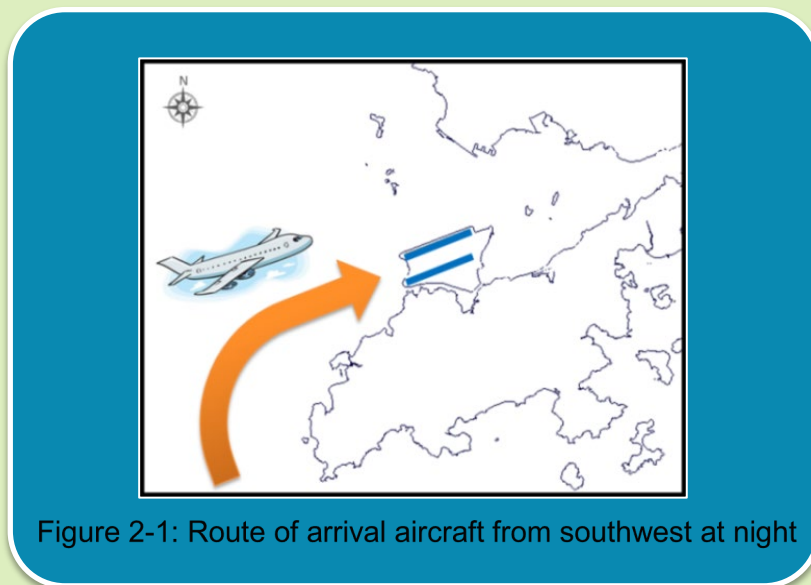


Figure 2-1: Route of arrival aircraft from southwest at night

Continuous Descent Approach Procedure

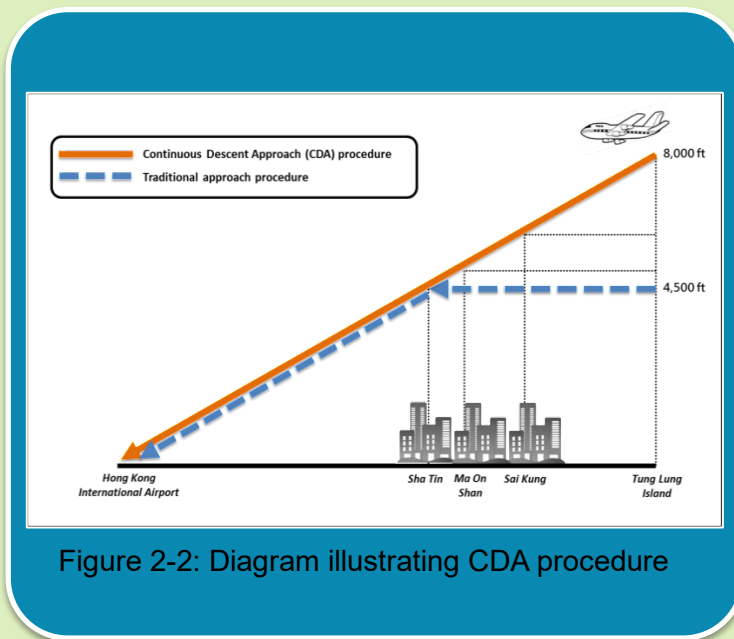


Figure 2-2: Diagram illustrating CDA procedure

All aircraft approaching the airport from the northeast between 11 pm to 7 am on the following day are encouraged to adopt the Continuous Descent Approach (CDA) procedure when safety and weather conditions do not allow night arrivals to approach from the southwest.

The CDA procedure requires the aircraft to fly higher and adopt a lower power setting and drag configuration during the commencement of the approach, thereby reducing aircraft noise impacts to areas such as Sai Kung, Tseung Kwan O and Ma On Shan.

Quieter Departures

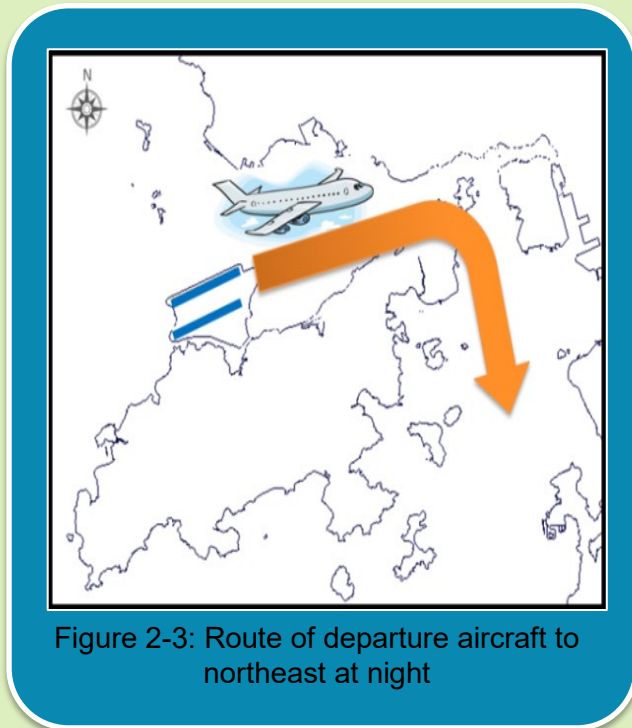
Noise Abatement Departure Procedures

All aircraft departing to the northeast are required to adopt the Noise Abatement Departure Procedures stipulated by the ICAO so long as safe flight operations permit.

These procedures require aircraft to reduce power setting upon reaching an altitude of 800 feet or above, thus can alleviate aircraft noise impact during take-offs on communities in the vicinity of the airport.

Departures via West Lamma Channel

All aircraft taking off to the northeast between 11 pm and 7 am of the following



day are required to use the southbound route via the West Lamma Channel, unless limited by safety and weather conditions, thereby avoiding flying over populated areas such as Kowloon, North Point, Shau Kei Wan and Chai Wan. In 2021, 99% of aircraft taking off to the northeast between 11 pm and 7 am of the following day were able to take this southbound route over the West Lamma Channel.

Improving Track Adherence

We have introduced a set of noise mitigating departure procedures which make use of satellite-based navigation technology for noise mitigation. Aircraft which are properly equipped to use the technology, when departing to the northeast of the Hong Kong International Airport (HKIA), can make use of the on-board navigation capabilities to adhere closely to the nominal centre line of the flight track during their turn to the West Lamma Channel. With better track-keeping accuracy, the aircraft can be kept at a distance from the populated residential areas. In doing so, the aircraft noise footprint can be confined and the overall aircraft noise effect on these residential areas can be reduced.

Restrictions on Noisy Aircraft

Apart from implementing the aircraft noise abatement procedures mentioned above, the CAD has prohibited aircraft that are not meeting the relevant aircraft noise standards from landing and taking off in Hong Kong.

Since 2002, aircraft that do not comply with the noise standards stipulated in Chapter 3 of Annex 16 Volume I, Part II to the Convention on International Civil Aviation (“Chapter 3 noise standards”) are not allowed to land or take off in Hong Kong. Furthermore, starting from 2014, airlines are not allowed to schedule

aircraft whose noise levels only marginally meet the Chapter 3 noise standards¹ to land and take off in HKIA.

Starting from March 2019, CAD has taken an initiative to impose more stringent requirements with additional operating restrictions on aircraft which do not comply with the noise standards stipulated in Chapter 4 of Annex 16 Volume I, Part II to the Convention on International Civil Aviation (“Chapter 4 noise standards”), or equivalent, to operate at the HKIA from 10 pm to 7 am of the following day.

Noise Monitoring

CAD has installed an Aircraft Noise and Flight Track Monitoring System to monitor the implementation and effectiveness of various noise mitigating measures, and the noise environment in various districts. The system comprises 16 outdoor noise monitoring terminals located in the vicinity of the flight paths and a central computer server which correlates the flight data provided by radars and noise data recorded by noise monitoring terminals.



Figure 2-4: Outdoor noise monitoring terminal

¹ Marginally Compliant Chapter 3 (MCC3) aircraft are defined as subsonic jet aircraft which comply with the noise standards stipulated in Volume I, Part II, Chapter 3 of the Annex 16 to the Convention on International Civil Aviation by a cumulative margin of not more than 5 EPNdB.

Location of outdoor noise monitoring terminals

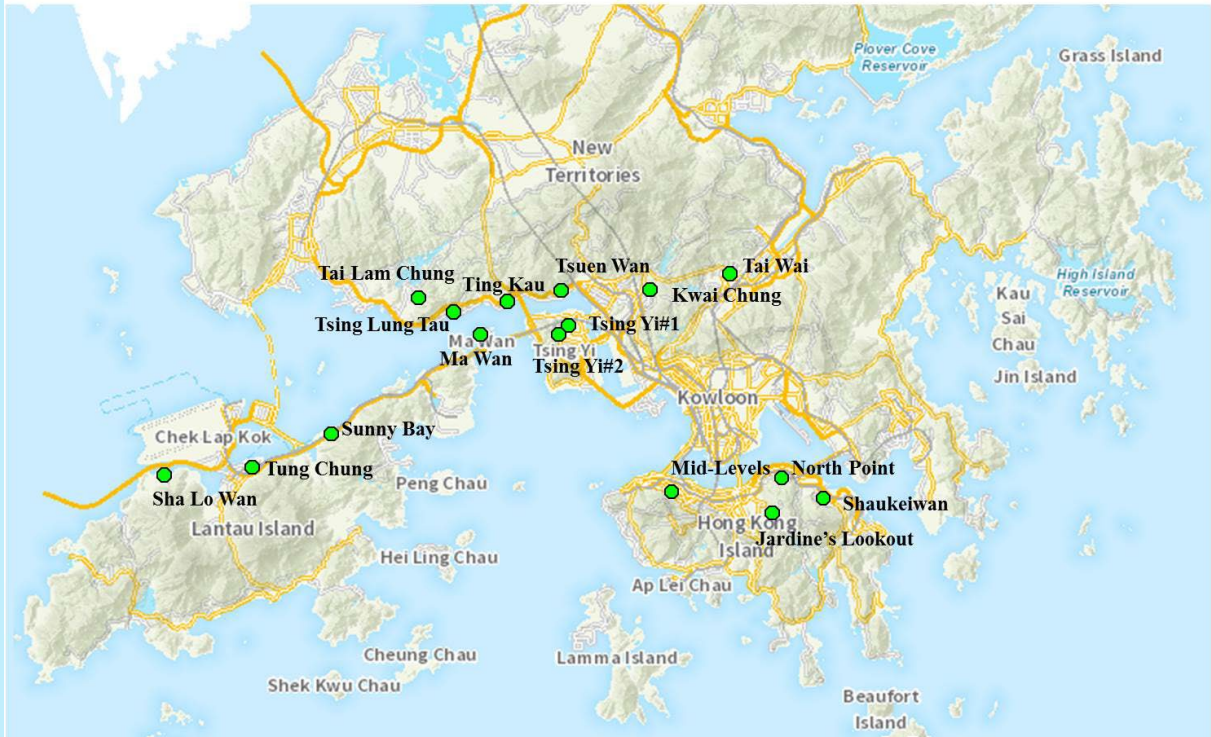


Figure 2-5: Location of outdoor noise monitoring terminals

3 | Aircraft Emission

Most aircraft operating at the HKIA comply with the engine emission standards as stipulated in Annex 16, Volume II to the Convention on International Civil Aviation. With the growing attention to the climate change caused by the greenhouse gas (i.e. carbon dioxide), CAD has been closely monitoring the development of guidelines from ICAO on the reduction of carbon dioxide emission from aircraft operations and conveyed the guidelines to the industry.

Measures Taken by CAD

Being the air navigation services provider, CAD has from time to time reviewed air routes and air traffic management arrangements by making reference to the latest ICAO guidelines. Taking advantage of the latest development in satellite-based navigation technologies, CAD has conducted enhancements of the air route system which enabled shortened travelling distances and allowed more aircraft to fly at optimum and fuel efficient altitudes, thereby achieving fuel savings and a reduction of carbon dioxide emission.

CAD would continue to keep in view the development of the latest ICAO flight procedure criteria, progressively apply more advanced aviation technologies as appropriate and closely work with other air traffic control authorities and airline operators for further enhancing the air route system in the Hong Kong Flight Information Region.

Measures Taken by Airlines

To achieve the goal of less emissions, airlines have taken the initiative to retire and replace old aircraft with new models which are more fuel efficient, quiet and advanced in navigation technology. In addition, through modernisation of aircraft fleet, reduction of aircraft weights, better maintenance and improved flight planning and management, airlines endeavour to reduce aircraft emissions. Nevertheless, airlines have also considered the use of sustainable aviation fuel, which could also contribute to reducing lifecycle carbon emissions.

Carbon Emission Certification

A new requirement relating to Standards and Recommended Practices on certification of carbon emissions of aircraft was published by ICAO in July 2017, which aimed at reducing the impact of aviation greenhouse gas emissions on the global climate. New aircraft type certificates submitted on or after 1 January 2020 would have to comply with the new requirement. That means new aircraft models in the future will produce less carbon emission.

Carbon Offsetting and Reduction

ICAO decided in October 2016 to implement a Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) as one of the measures to contribute to carbon neutral growth from 2020 onwards. The scheme is expected to complement a broader package of measures to be implemented by the aviation sector including the technological advancement on fuel efficient aircraft, improvement on operational procedures to reduce fuel consumption and promotion of the use of sustainable alternative fuels. In accordance with the requirements set by CAD, local aircraft operators have developed and implemented monitoring plans for carbon dioxide emissions of their international flights under CORSIA since 2019.

4 | Green Measures in Other Aviation Related Operations

CAD recognizes the importance of environmental protection. We have implemented various green measures in aviation related operations. We would continue to explore means to infuse green measures into our operations to maintain sustainability of civil aviation.

Standardized Forms for Various Tariff and Flight Applications

Use of standardized forms for various types of applications has reduced the consumption of paper and processing time in the Air Services Office. As a result of the liberalization and change of approval mechanism of the Passenger and Cargo Fuel Surcharges respectively, consumption of paper has been greatly reduced. The use of e-filing as a platform for submission of forms and various relevant information continue to contribute to reduction of paper consumption, which also greatly enhances readability and accuracy of the information provided. Applications pertaining to scheduled or non-scheduled air services permits and schedule changes via e-filing account for over 96% of these applications.

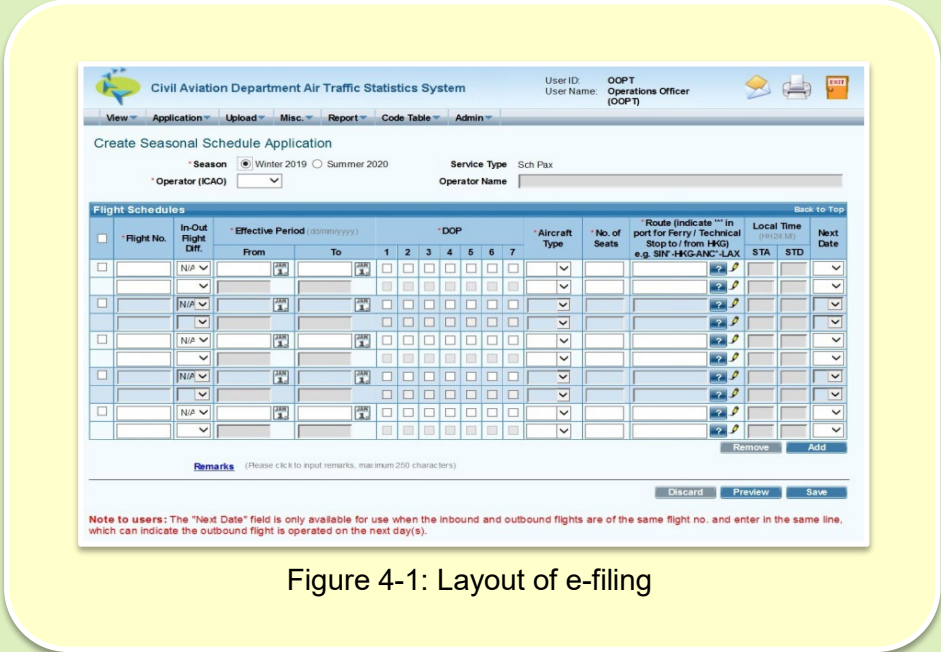


Figure 4-1: Layout of e-filing

Electronics Submission / Approval

Use of Electronic Flight Bags

CAD promulgated to airlines that they could choose to carry on board aircraft a number of document records for flight crew’s use, including licences, operations manuals, maps and navigational charts, etc. Instead of carrying on board paper documents, airlines can carry them through electronic means. With the use of Electronic Flight Bags, paper-based operational documents used to be required to be on-board the aircraft and carry-on flight bag could be greatly replaced and reduced. In addition, latest weather information, flight paths and other operational updates can easily be delivered to flight crew, hence the flight crew can perform and manage different tasks more efficiently and effectively.

The application form for Electronic Flight Bag Operational Approval is available on the CAD website. As at the end of 2021, six local airlines have been approved by CAD to use Electronic Flight Bags. Flight crew could make use of the document viewing functions in Electronic Flight Bags to read the operational and maintenance manuals, enroute and airport navigation charts. Furthermore, saving of paper printing can be achieved via other applications in Electronic Flight Bags such as electronic checklists and flight plans. It is estimated that over one million paper sheets have been saved each year.

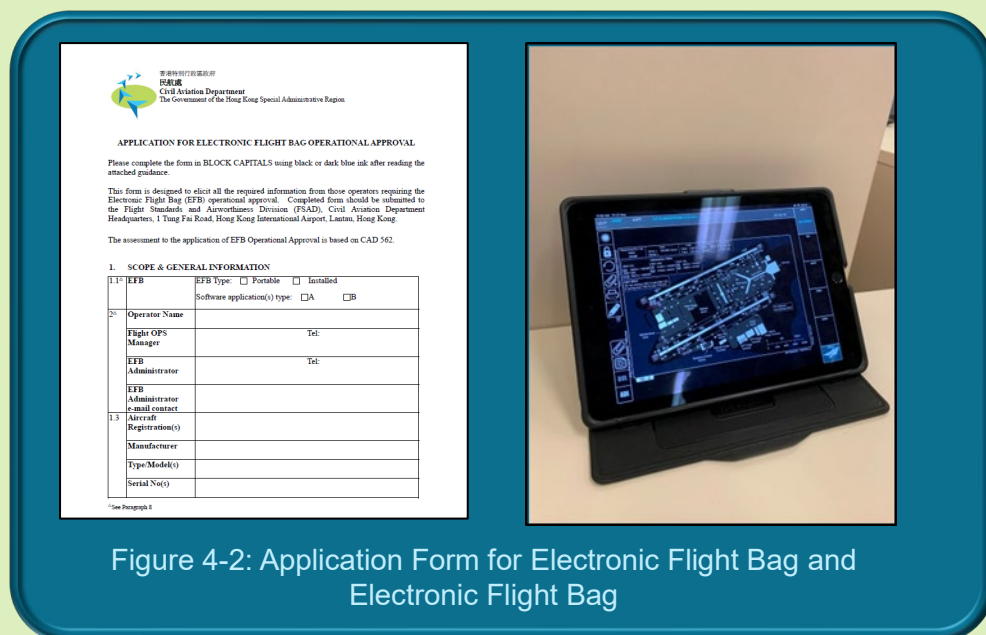


Figure 4-2: Application Form for Electronic Flight Bag and Electronic Flight Bag

Application for Guided Tours of the Education Path

In Q2 2021, arrangement has been made for the provision of E-form on the CAD website, to facilitate electronic application for visit to the Aviation Education Path by interested individual and group with real time display of available guided tour sessions.



Online Promulgation of Divisional Documents

The Air Traffic Management Division (ATMD) of CAD has launched a website with secured access limited to divisional staff, named as the “ATMD Information Dissemination Website”, since 1 September 2014. The website was at first used to disseminate roster information to colleagues through the internet. Since December 2014, the function of the website was extended to house and disseminate training materials, airport circulars, divisional information circulars and materials of professional interest aiming to replace the traditional means of distributing hard copies.

In order to reap further environmental benefits, since 2015, the use of the website has been extended to provide online access to divisional reference documents and their updates which used to be disseminated by CD-ROMs. Since the implementation of this initiative, it is estimated that about 2,000 CD-ROMs have been saved each year. “ATMD Information Dissemination Website” has recorded over 23,500 visits in 2021.

Since August 2017, the distribution of internal Administrative Memorandum has been digitised to enhance the operational efficiency while being more environmentally friendly. With the significant reduction of hard copies to be distributed, it is estimated that about 10,000 sheets of A4 size paper have been saved each year. To further reduce the need for hard copies, all course plans have been digitised in 2021.

Description	Remark
ATFSO Fundamental Course Chapter 4	Units of Measurement
ATFSO Fundamental Course Chapter 21b	Airspace Restriction
ATFSO Fundamental Course Chapter 21a	Airspace Navigation Warnings
ATFSO Fundamental Course Chapter 20	AIS
ATFSO Fundamental Course Chapter 19	RT Phraseology Application
ATFSO Fundamental Course Chapter 18	Emergency PROCs
ATFSO Fundamental Course Chapter 17	MET INFO
ATFSO Fundamental Course Chapter 16c	ICAO 4444 Examples of ATS messages

Figure 4-4: ATMD Information Dissemination Website

Paperless ATMD Operational Manuals

In line with the departmental green measures, the Aeronautical Information Management Centre (AIMC) under the ATMD has been working on the reduction of hard copy publications. The change of distribution of Aeronautical Publications (including Aeronautical Information Publication (AIP), AIP Supplement (AIP SUP) and Aeronautical Information Circular (AIC)) of Hong Kong from paper-based to electronic form was proven to be a successful initiative. The scope has been further expanded to include the distribution of ATMD operational manuals.

With the support from operational staff, paper copies of three operational documents, namely Manual of Air Traffic Control (MATC), Manual of Aeronautical Information Services (MAIS) and Aeronautical Information Management Centre Quality Manual (AIMCQM) were no longer published and only electronic copies in PDF format were produced. ATMD staff can access these documents via ATMD Information Dissemination Website and Operational Information Database System (OIDS) from 2014 and 2016 respectively. In April 2021, a new platform using CAD intranet was introduced to facilitate operational staff to access these documents in operational areas. Since then,

provision of paper copies of these documents in operational areas was discontinued. With the discontinuation of paper copies of the three documents, it is estimated that over 8,800 sheets of A4 size paper were saved in the year.

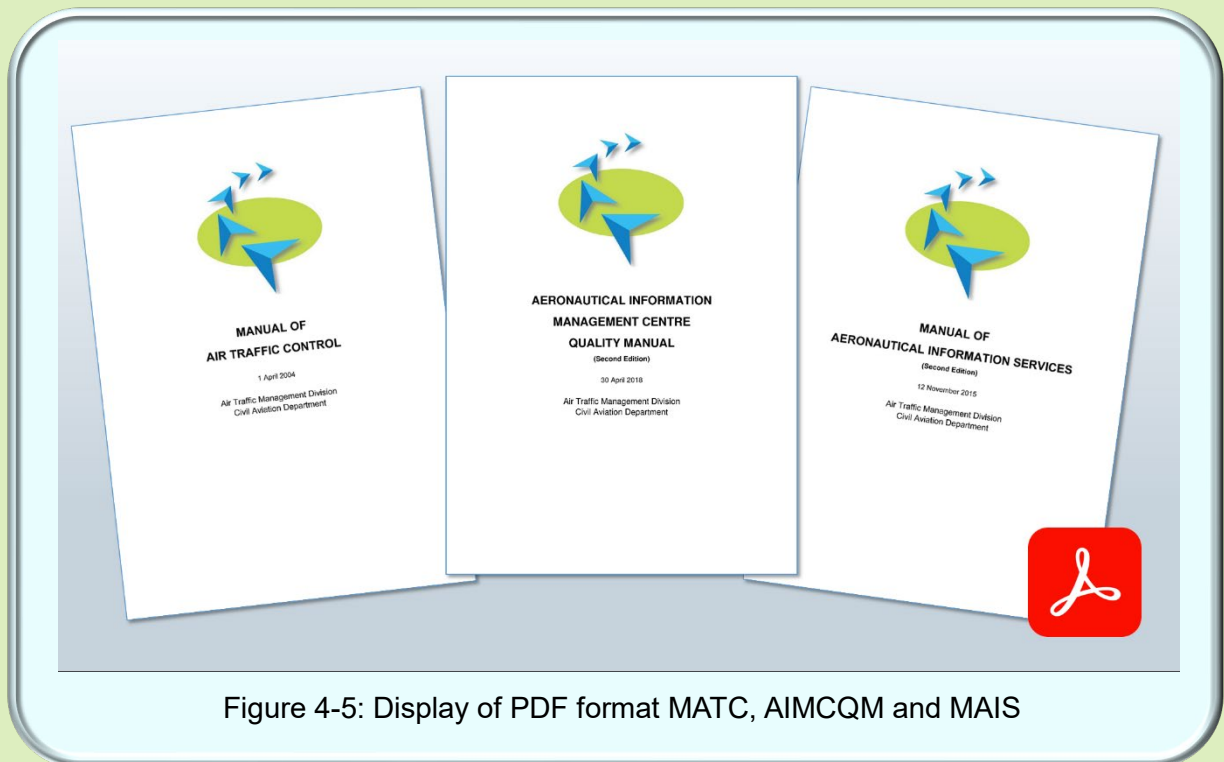


Figure 4-5: Display of PDF format MATC, AIMCQM and MAIS

5 | Green Housekeeping

CAD has been implementing a number of housekeeping measures in daily office operations to encourage energy conservation, paper conservation, waste collection and recycling, proper disposal of environmentally hazardous waste, green procurement and environmental awareness among all staff.

Energy Conservation

Daily Energy Saving Measures in Housekeeping

To minimize the consumption of energy in our daily office operations, the following green measures have been adopted in CAD buildings:-

- Continuing to follow the Government recommended summer air conditioning setting of 25.5°C and use electric fans to improve air circulation and provide better staff comfort if necessary;
- Continuing the practice of switching off any air conditioning, lights, lifts, escalators, digital signage system and video wall, etc. when not in use;
- Fine-tuning the external essential lighting on-off hours periodically to optimise against seasonal changes in light / dark hours;



Figure 5-1: Lifts programming to reduce wastage during non-peak office hours

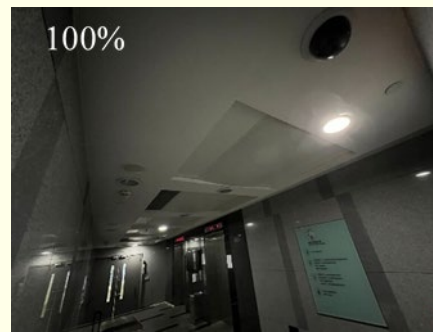
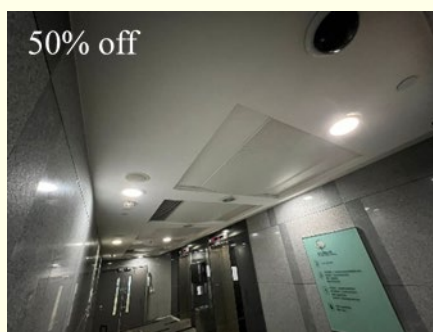


Figure 5-2: Switching off all non-essential lighting at lift lobby (illustration of the effect of 50% off and 100% off)

- Enhancing the energy saving mode of non-essential lighting at lift lobbies from switching off 50% to 100% of the lighting;
- Switching off pantry lights from midnight to early morning;
- Conducting regular review on the operating hours of Air Handling Units according to the latest operational arrangement to avoid wastage due to change in occupancy pattern;
- De-lamping in corridors and common areas;
- During non-peak office hours, switching off some lifts in Air Traffic Control Building, Office Building and Facilities Building of CAD Headquarters and Backup Air Traffic Control Complex (BATCX) for energy-saving;
- Outside normal office hours, operating limited lifts; lighting under night mode and suspending service of escalators in the Office Building of CAD Headquarters;
- Encouraging staff to use staircases instead of lifts;
- Installing energy-saving timer devices in most share-used printers and photocopiers to prevent the consumption of electricity in standby mode during non-office hours;
- Checking lights and electrical appliances during security patrol outside office hours to ensure that they are switched off when not in use;
- Displaying notices in all meeting / training rooms to remind users to switch off lights and all electrical appliances before leaving. Users will be reminded if necessary;
- Installing solar films in strategic locations to reduce sunlight and heat;
- Installing motorized blinds at the atrium of the CAD Headquarters to shield sunlight and heat on sunny days;

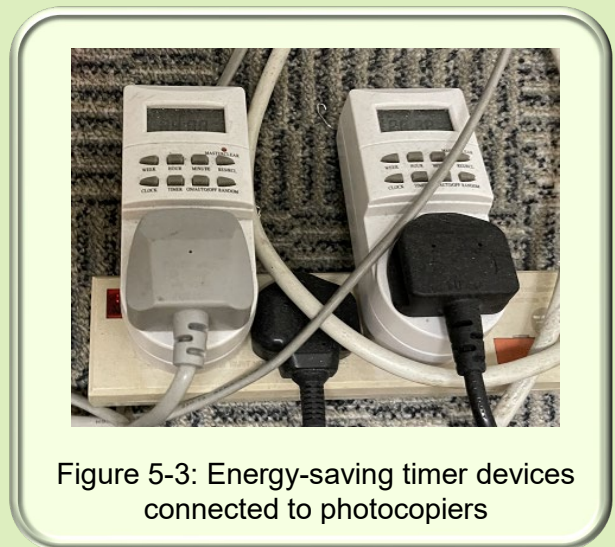


Figure 5-3: Energy-saving timer devices connected to photocopiers

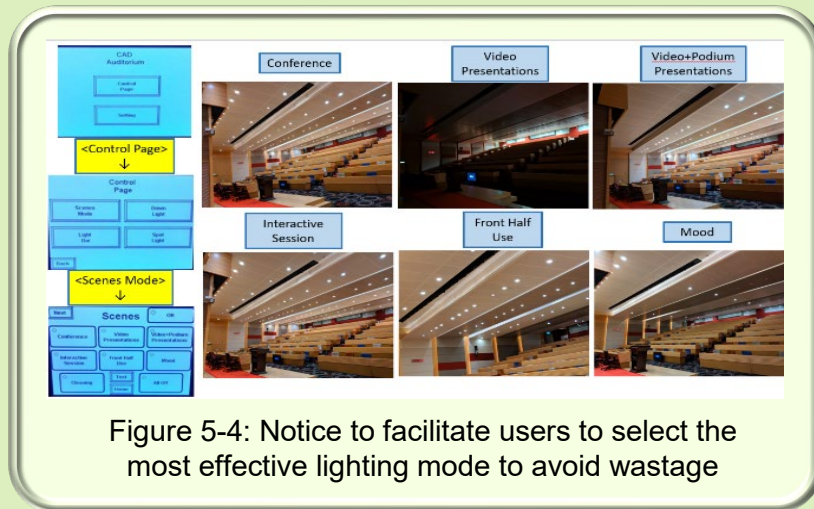


Figure 5-4: Notice to facilitate users to select the most effective lighting mode to avoid wastage

- Introducing green installation during the building construction, e.g. installing photovoltaic panels on the rooftop of CAD Headquarters. In 2021, the electricity generated by the panels was 20,301.5 kWh;
- Maintaining a green roof which is helpful to lower temperature on the top floor;
- Reviewing the occupancy patterns in CAD Headquarters before the summer season to optimize the operation schedules of air-conditioning supply for different zones for further reduction of the operating hours of air-conditioning and the overall cooling (energy) demands; and
- The operation schedule of the video wall at CAD Headquarters has been reviewed to optimize the energy saving.

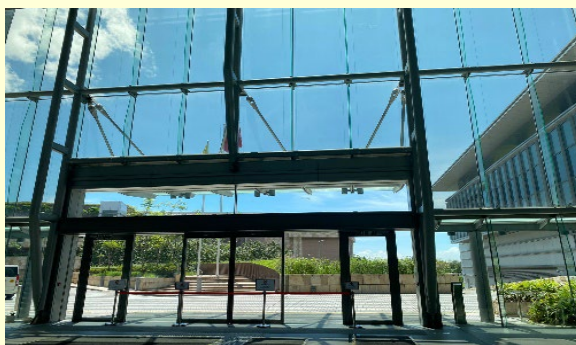


Figure 5-5: Use of solar films to reduce sunlight and heat



Figure 5-6: Green roof helps lower temperature on the top floor

Energy Consumption

The Government has set a 6% “Green Energy Target” for the period from FY 2020-21 to FY 2024-25. The energy consumption in FY 2018-19 was set as the baseline for comparison. Under the new target, the scope of reporting has been expanded to include other energy consumption in addition to electricity, e.g. gas, liquefied petroleum gas. Furthermore, apart from government buildings, energy consumption of infrastructure facilities is also included in the expanded scope. Besides energy consumption, generation of renewable energy such as energy generated by photovoltaic panels will also be included. In FY 2021-22, the energy performance of the Department has improved by 4%.

	Energy consumption (Billed & RE)	Energy consumption under comparable operating conditions ¹	Renewable energy (RE) generation
FY 2018-19 (baseline) (kWh)	26,204,431 (a)		17,233
FY 2019-20 (kWh)	26,750,742	25,901,615	18,940
FY 2020-21 (kWh)	26,837,569	25,802,835	19,917
FY 2021-22 (kWh)	27,937,669	25,152,615	19,273
Net change compared with the previous year (kWh)	+1,100,100	-650,220	+644
Change compared with (a) , (%) ²		+4% (b)	+0.0% (c)
Energy Performance (b)+(c) , (%) ²		+4%	

Remarks: (1) Activities of B/Ds evolve over time in meeting the public service demands, which lead to changes of operating conditions and significant impacts on energy consumption such as operating hours, usage rate number of equipment, the floor area of venues, volume of water/sewage flow, etc. Such changes also bring significant impacts on energy consumption and adjustments (or normalisation processes) are therefore conducted to generate a more likely actual energy consumption under comparable operating conditions with baseline.

(2) The change in operating conditions is mainly the change in accommodation occupied by CAD in the past years.

Carbon Audit and Energy Audit

A consultant was appointed in 2015 to conduct energy audits for the major CAD premises including the CAD Headquarters, Air Traffic Control Complex (ATCX) and BATCX. The Energy Utilisation Indices (EUIs)² of CAD Headquarters, ATCX and BATCX in FY 2013-14 were 1,393, 2,906 and 8,306 MJ / m² / annum, respectively. The consultant reports issued in 2016 recommended that the green measures adopted by CAD should be continued. As specifically mentioned in the energy audit reports, the following energy saving initiatives are recommended to be implemented/maintained based on site conditions:-

- Keeping temperature setting to 25.5°C for all air-conditioning installation;
- Keeping lights off alongside windows, as far as practical;
- Labelling zone control plans near the switches;
- Lowering or closing the blinds to avoid direct sunlight; and
- Switching off the electrical appliances when the facility is unoccupied.

Following the first in-house carbon audit in 2017, CAD has conducted annual carbon audits since then. The results of the recent three years are reported in the table below:-

Year	<u>Greenhouse Gas Emission per employee (tonnes of CO₂)</u>		
	CAD Headquarters	ATCX	BATCX
2019	6.78	36.24	22.04
2020	6.71	32.25	28.66
2021	5.49	26.62	15.26

Remarks: For consistency and easy comparison, Greenhouse Gas Emission per employee is adopted in the Environmental Report since 2019 to give a fair comparison of Greenhouse Gas generated in the course of operation.

² EUI is the annual energy consumption per unit area.

Paper Conservation

Daily Paper Saving Measures in Housekeeping

We promote the “4-R principle” in paper conservation as summarized in the following diagram.

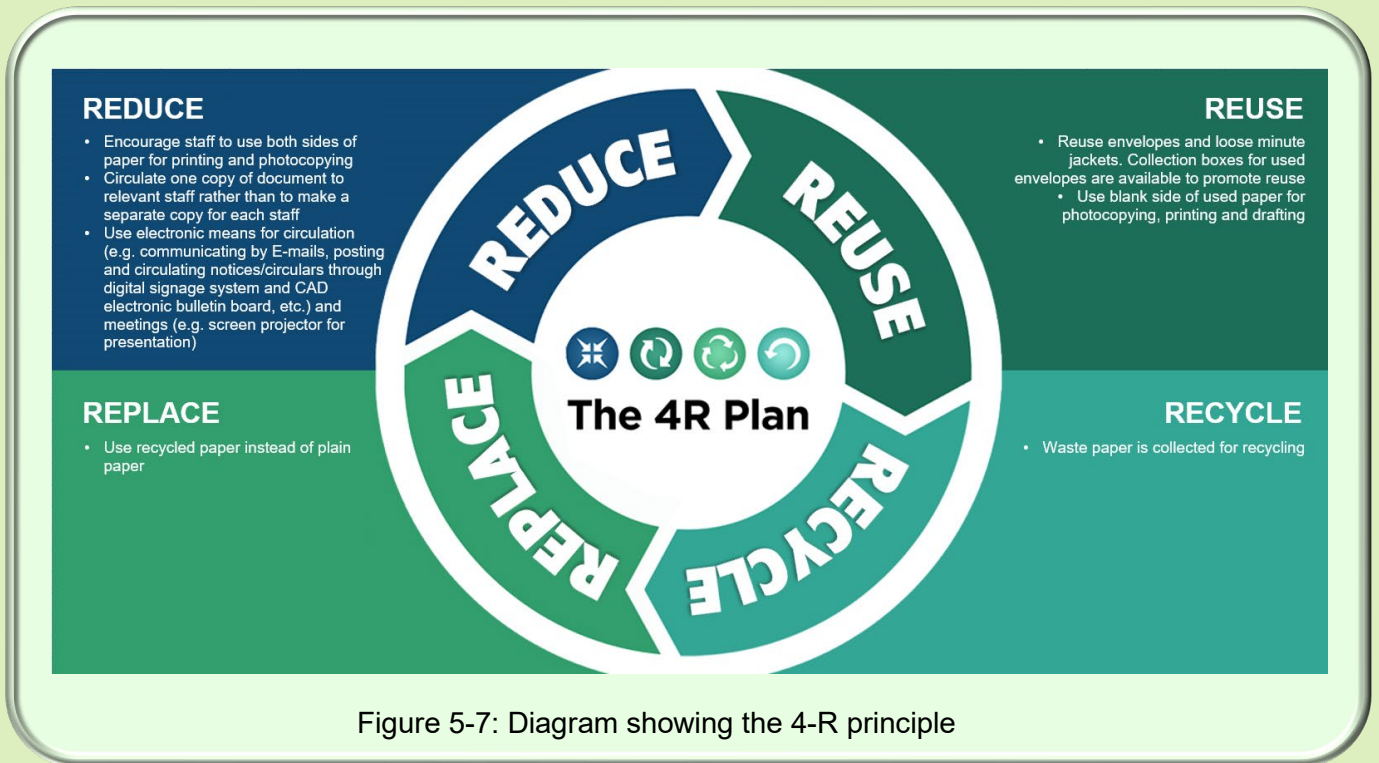


Figure 5-7: Diagram showing the 4-R principle

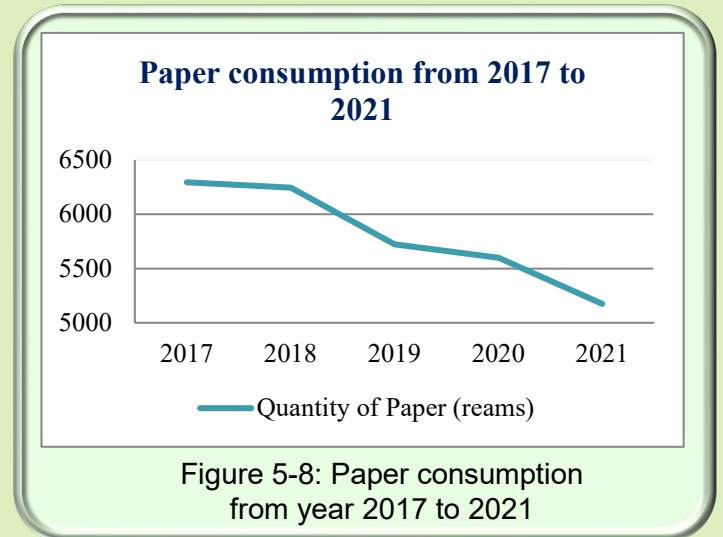
Measures on Paper Conservation

Apart from the daily housekeeping, we adopt the following arrangements in order to reduce the use of paper:-

- No longer producing hardcopies of the CAD Annual Report since 2017. This arrangement has saved about 28,000 sheets of A4 size paper per year;
- Posting notices at paper towel dispensers to encourage staff to use less paper towel; and
- Circulating newspaper cuttings by electronic means instead of hardcopies. It is estimated that about 46,000 sheets of A4 size paper were saved in 2021.

Paper Consumption

In 2021, we consumed 5,174 reams of paper, which recorded a decrease of about 8% against the consumption in 2020. This demonstrated that the bit by bit effort in daily paper conservation by individual staff has paid off. Staff are encouraged to keep up with the good practice.



Waste Reduction, Collection and Recycling

Recycling Bins to Collect Waste Paper, Plastic Bottle, Metal Can and Glass Bottle

We collect waste paper, used plastic bottle, metal can, glass bottle and rechargeable batteries, etc. for recycling. Recycling bins are placed in common areas to facilitate disposal by staff members and visitors. The materials collected are delivered on a regular basis to recycling operators. The table below shows the amount of recyclables collected in 2021.

Recyclables	Amount Collected
Waste Paper	1,362 kg
Plastic	9 kg
Metal	8 kg
Glass Bottle	26 pcs
Rechargeable Battery	65 pcs



Food Waste Collection and Decomposition System

Food waste is one of the major solid wastes in Hong Kong. Reduction of food waste is therefore crucial for minimizing the load of landfills. To work towards this goal, a food waste decomposition system had been installed in CAD Headquarters.

Food wastes are collected in the CAD Staff Canteen at CAD Headquarters, and then are disposed of into the food waste decomposition system. During the decomposition process, the food wastes are converted by enzyme into liquid, part of which is used as a natural fertilizer for the vegetation at CAD Headquarters and the remaining is discharged as an effluent. In 2021, we collected about 1.55 tonnes of food waste.



Figure 5-10: Food waste decomposition system in CAD Headquarters – generation of fertilizer



Figure 5-11: Food Waste Collection in Canteen

Reduction of Waste in Staff Canteen

Besides handling the food waste collected through the food waste decomposition system, the Staff Canteen has taken actions to reduce other solid wastes through the following means:-

- Promotion of No Straw Campaign;
- Ban the use of poly-foam food containers;
- Encourage customers to bring their own food container and avoid the use of disposable utensils;
- Encourage customers to request a smaller portion of rice, thus reducing the chance of creating food waste; and
- Publicity materials are posted in the Staff Canteen to remind customers to reduce the amount of leftover food and avoid the use of disposable plastic food container and utensils.



Figures 5-12: More staff bringing their own food containers when buying food from Staff Canteen

Food Wise Charter

We have signed the Food Wise Charter implemented by the Environmental Protection Department since 2016. Upon joining the Charter, measures on food waste reduction are being reviewed regularly. Communication among the management, staff and the Staff Canteen operator is maintained through the Canteen Sub-committee meetings.

Collection of Rain Water Recycling for Irrigation

Rain water and air-conditioning condensate water is recycled for the irrigation system installed at CAD Headquarters. The following table shows the saving of irrigation water in 2021: -

Buildings of CAD Headquarters	Facilities Building	Office Building	Air Traffic Control Building
Annual Irrigation Consumption (L)	5,348,398	1,530,057	1,953,561
Annual Recycled Water Collected for Irrigation (L)*	376,200	274,700	450,700
Percentage of Saving	7%	18%	23%

*Including the water recycled from the cooling tower.

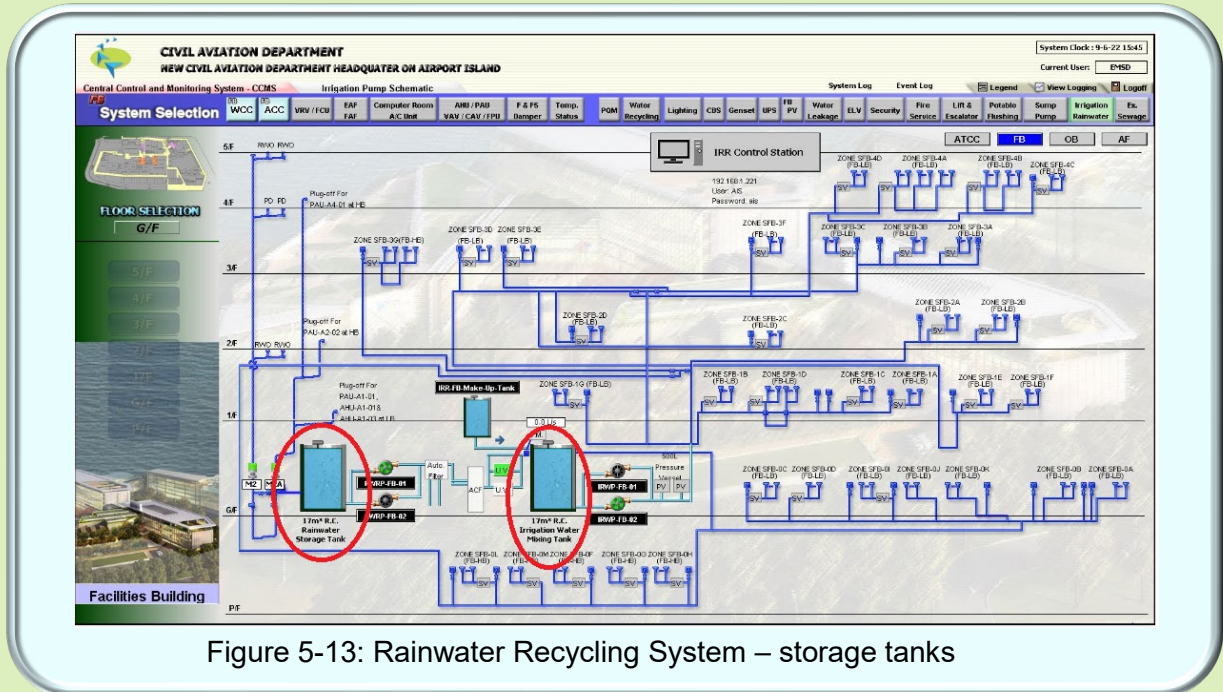


Figure 5-13: Rainwater Recycling System – storage tanks

Water Saving Measures

Fresh water is a precious natural resource. We encourage our staff to actively reduce their water consumption by the following:-

- For seminars and conferences involving guests, water dispensers are placed in the meeting venues for their refilling. Bottled water is not provided as far as practicable; and
- Notices are posted in pantries to remind colleagues to save water.

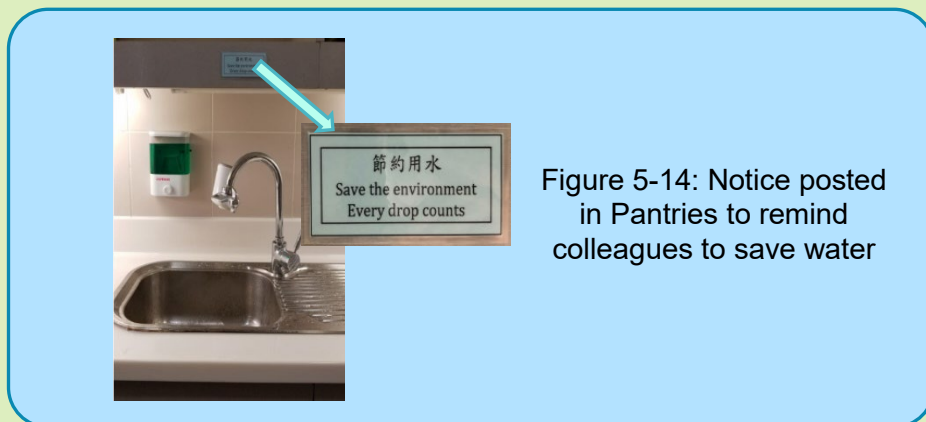


Figure 5-14: Notice posted in Pantries to remind colleagues to save water

- For replacement of defective faucets, a new model with higher efficiency in water saving has been used for better control of water flow.

Bring Your Own Cup

- We encourage colleagues to bring their own cups when attending meetings. In addition, coffee machines were provided and staff could bring their own cups and coffee capsules to get coffee from the machines instead of buying packaged coffee. These could to minimize the waste generated from disposable paper / plastic cups.
- Water dispensers are provided in meeting rooms for guests.
- To support waste reduction, the caterer of departmental events is requested to provide reusable food utensils instead of using disposable tableware.

Reduction in Procurement of Newspapers

- To support paper reduction, circulation of newspaper cutting in electronic means is implemented. The Library has further reduced the quantity of hard copy newspaper procurement and achieved reduction of hard copy newspaper by 3.3% in 2021.

Green Procurement

CAD follows the guidelines as set out in the Government’s green procurement policy (e.g. Environment Bureau Circular Memorandum No. 1/2021) on “Green Procurement in the Government” and avoids procuring single-use disposable items. We purchase items that are durable, energy-efficient and recyclable. Below are some examples of green procurement measures implemented in our Department:-

- Procuring operation equipment, office equipment and other electrical appliances having an energy label;



Figure 5-15: Label issued for air-conditioner and washing machine fulfilling Product Eco-responsibility Ordinance

- Choosing green products such as refillable ball pens, mechanical pencils and recyclable laser printer cartridges;
-
- Reviewing the operational need against monthly supply items regularly, particularly for those items with expiry dates;
- Avoid using items that are environmentally unfriendly, for example, correction fluid and batteries containing mercury;
- Incorporating term requesting Contractor to follow green guidelines in new cleansing contract; and
- Following the general guidelines on matters relating to purchase and disposal of regulated electrical equipment (REE), e.g. air conditioner, refrigerator, computer and printer, etc. issued by the Environment and Ecology Bureau.

During procurement, we recommend the following green measures to the suppliers for their preparation of tendering documents and performing the contract:-

- All documents printing on both sides and on recycled paper, avoiding paper that exceeds 80 gsm;
- Avoiding use of plastic laminates, glossy covers or double covers;
- Using single line spacing and avoiding excessive space in the margins and in between paragraphs;
- Minimizing the use of packaging material; and
- For those carton boxes used for packing, made from 100% recovered fibre is preferred, given that it is strong enough for storage, stacking and transit.

Electric Vehicles

To ameliorate the air pollution problems in Hong Kong, electric vehicles are becoming more widely used in the territory. CAD has commenced to replace our petroleum saloon vehicles with electric vehicles since 2013. At present, among our existing fleet of six saloon vehicles, five of them are electric vehicles. CAD has provided sufficient charging facilities in CAD Headquarters and outstations to encourage on-site service contractors to adopt electric vehicles in providing service to the Department where applicable. At the same time, CAD has also encouraged the contractors to replace their fleet with electric vehicles.



Figure 5-16: Electric vehicle charging facilities in CAD

Training and Communication

Environmental Management Committee

The Environmental Management Committee (EMC) was chaired by the Departmental Green Manager and comprised of representatives from all divisions of the Department. It was established to recommend environmental goals, policy objectives and targets and to promote environmentally responsible management within the Department. To achieve this, the Committee met regularly to consider green initiatives, promote staff awareness, monitor and report on the implementation of green measures.

Appointment of Green Managers and Energy Wardens

Each division has nominated an officer as green manager to coordinate and oversee divisional green management issues. Energy Wardens were also appointed to promote and remind staff to comply with green housekeeping and energy-saving measures in the workplace on a day-to-day manner. In 2021, there were a total of 37 Energy Wardens for CAD Headquarters, ATCX and BATCX. Regular briefings were provided to them in order to enrich their relevant knowledge.

Green Tips to all CAD Staff

CAD has established a Green Corner in the CAD electronic bulletin board. It serves as a platform to share among CAD staff guidelines related to environmental management and green tips, such as circulars and pamphlets on energy saving measures, waste avoidance practices in office, etc. The related information would also be re-circulated to staff by electronic means regularly. Divisions were encouraged to post up the green tips and housekeeping measures at prominent places in the office area.

Training for New Recruits

CAD has included an introduction to green management in the orientation programme for new recruits since 2017. This would ensure a good understanding and compliance to departmental green policies and practices among them once they joined the Department.

Recognition

Indoor Air Quality

We support the commitments under the Clean Air Charter. As mentioned in the previous chapters, we have been implementing measures to reduce emissions from our daily operation.

The Indoor Air Quality (IAQ) of CAD premises has continued to be assessed annually to monitor the situation. In 2021, both the CAD Headquarters and the BATCX室 obtained the “Excellent Class” of IAQ Certificate. A full scheme IAQ Certification was arranged for the ATCX after the completion of its full-scale renovation and the “Excellent Class” standard was achieved.



Figure 5-17: The IAQ Certificates obtained in 2021

Hong Kong International Airport (HKIA) Carbon Reduction Programme – Innovation Award

The Airport Authority Hong Kong (AAHK) implements Carbon Reduction Programme in the HKIA and has introduced the 2050 Net Zero Carbon Pledge. CAD has shown support of the programme by signing the 2050 Carbon Pledge.

To kick start, CAD joined the first series of management sharing sessions organized by the AAHK. Professional staff and general grades staff were nominated to join different Working Groups to help formulate CAD’s net zero carbon policy and to exchange ideas with counterparts of the airport community.

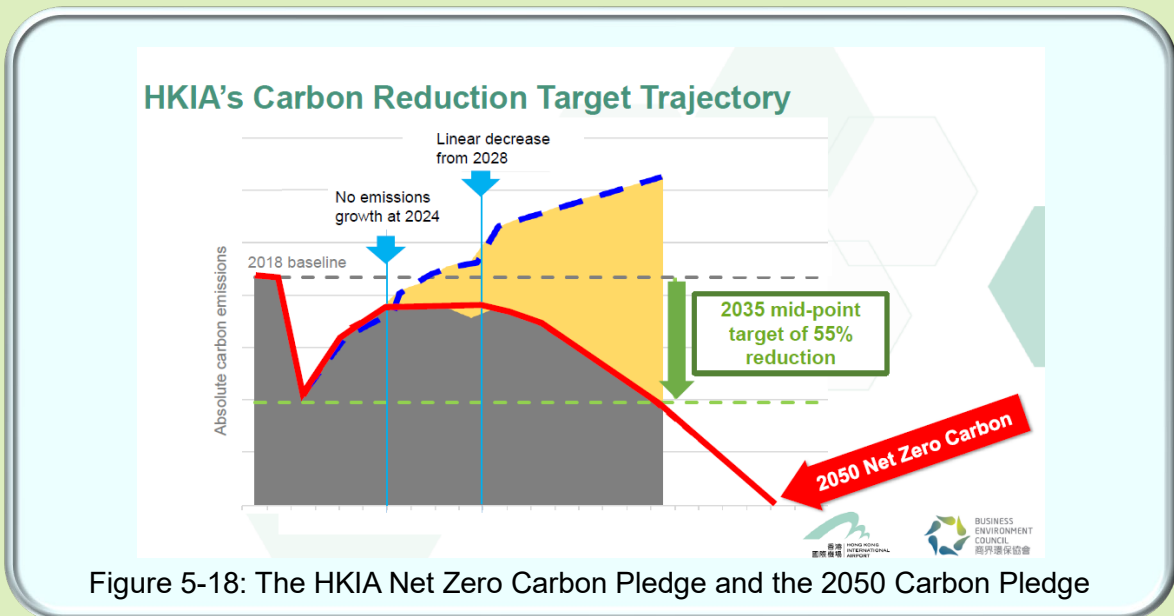


Figure 5-18: The HKIA Net Zero Carbon Pledge and the 2050 Carbon Pledge

Hong Kong Awards for Environmental Excellence

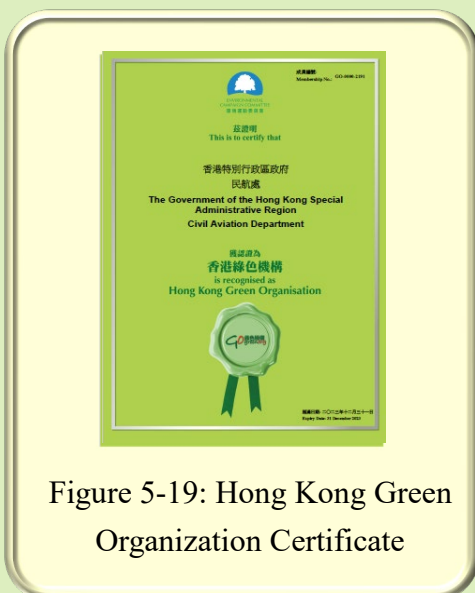


Figure 5-19: Hong Kong Green Organization Certificate

The Hong Kong Awards for Environmental Excellence (HKAEE) aims to encourage businesses and organisations to adopt green management; benchmark their commitments towards best practices within their sectors; and recognise and acknowledge the efforts of leading businesses and organisations.

CAD participated in the 2021 HKAEE under the Public and Community Services Sector to show our efforts in

green leadership, environmental communication and training, management for continual improvement, promotion and implementation of a series of environmental measures. CAD has been recognized as a Hong Kong Green Organization.

6 | Views and Suggestions

CAD Environmental Report in the previous years can be found in the CAD website (https://www.cad.gov.hk/english/environmental_reports.html). We welcome comments and feedback from readers so that we can identify ways for improvements. You can provide your views and suggestions to us by the following means:-

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