



Government Flying Service
Environmental Report 2023

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Introduction

Who we are

1. The GFS is a disciplined services department of the Government of the Hong Kong Special Administrative Region. We have an establishment of 335 full-time civil servants as at 31 December 2023 responsible for operations, maintenance and administration.
2. We operate a fleet of twelve aircraft, namely three fixed-wing aeroplanes and nine helicopters to carry out the full range of flying services and support.
3. In 2023-24, the total expenditure of the GFS was about \$586 million.

Where we are

4. The GFS Headquarters is located at the south-western corner of the Hong Kong International Airport with a total floor area of around 8,600m². Other than the Headquarters, the GFS also occupies (i) the HKCEC Heliport, an operational site with an internal floor area of 176m² near the Hong Kong Convention and Exhibition Centre, and (ii) the Kai Tak Division located at the tip of the ex-Kai Tak Runway with a gross floor area of around 2,018m², which came into operation from the end of June 2022.
5. The GFS installed a new H175 full flight simulator in the Flight Simulator Training Centre on its Headquarters premises to provide realistic and immersive training for the GFS's pilots since November 2022.

What we do

6. The GFS provides the Hong Kong community with a wide range of flying services, including round-the-clock search and rescue coverage, air ambulance service, fire-fighting and support to law enforcement agencies and government departments. The GFS also provides emergency services to the international air carriers within the Hong Kong Flight Information Region and vessels using the shipping lanes within and adjacent to the Hong Kong Maritime Area of Responsibility.

7. The major tasks of the GFS are to:
- carry out search and rescue both over land and at sea;
 - provide emergency air ambulance service;
 - support the Hong Kong Police Force and other disciplined services in carrying out their law enforcement duties and training for such duties;
 - assist in fighting fires and in responding to any other emergencies which threaten life or property;
 - carry out photography for aerial surveys; and
 - carry such persons as the Secretary for Security may authorise as passengers.
8. In 2023, the GFS flew a total of 6,654 hours. We flew 753 hours in support of search and rescue operations with 571 persons rescued, transported 1,713 people to hospital by helicopter and flew 8,491 government officers and official visitors.

Environmental Aspects and Impacts

9. The policies under the purview of the GFS may have environmental impact on various aspects, including material, fuel and energy consumption, noise pollution and waste management. Such impacts would be taken into account when drawing up policies.

Our Environmental Goal

10. The GFS sustains its efforts to minimise the impact of its activities on the environment and provide the community with safe, efficient and cost-effective emergency and general aviation support services in an environmentally friendly manner.

Our Environmental Policy

11. The GFS supports the Hong Kong Special Administrative Region Government's initiatives to improve the environment by:-

- conducting operations in compliance with relevant environmental protection requirements and regulations;
- promoting energy saving and green buildings and waste reduction;
- contributing to the overall Government's environmental goal of achieving carbon neutrality before 2050; and
- raising the environmental awareness of staff and instilling amongst them a sense of responsibility for the environment.

Our Environmental Concerns in Aviation Related Operations

Aircraft Noise

12. The GFS is very much concerned with the noise generated by our aircraft. Due to the nature of our flying services, such as casualty evacuation and support of law and order, it is not always possible to avoid flights where the noise may affect the public. Nevertheless, we have always been conscious of the need to conserve the environment and have taken various measures to protect the environment and minimise the noise nuisance caused to the public. Our measures include -

- (a) Higher transit height through the Harbour
Unless due to weather limitations or when there is an operational requirement, our helicopters will fly at 1,000 feet or above in the Harbour to reduce the noise caused to the public.
- (b) Winding down of helicopter rotors
If a prolonged waiting time is expected, especially at a helipad in the urban area (e.g. Pamela Youde Nethersole Eastern Hospital rooftop), the helicopter rotors would be wound down to reduce the noise caused to the residents nearby. This can also help saving fuel.
- (c) Flight scheduling
Different tasks are combined into one flight as far as possible to reduce the total flight time and fuel consumption. Also, training flights are conducted at remote areas whenever possible, and night flights are scheduled to start and finish early after sunset in order to minimise the disturbance to the general public.
- (d) Selection of holding points
Specific holding points away from noise sensitive areas are identified in case passengers are delayed.
- (e) Lower noise helicopter H175 introduced
The five-bladed main rotor and three-bladed tail rotor have

new-generation blade profiles and tips. These offer a reduction in vibration and noise.

Chemical Substances

13. The common chemical substances used in the GFS for the maintenance of our fleet are cleaning solvent, aviation fuel, lubrication oil, grease and paint. These chemical substances are used on a daily basis. The waste substances are disposed of through licensed waste collectors approved by the Environmental Protection Department (EPD).

14. For flight safety purpose, we conduct fuel sample checks for each storage tank and each aircraft daily. In the past, we disposed of these fuel samples. To reduce the amount of chemical wastes, we have filtered the fuel samples and re-used it for other purposes since 2005. In 2023, 800 litres of spent lubrication oil was disposed of. 200 litres of spent aviation fuel and 400 litres of non-halo solvent were disposed of.

15. We have exerted continuous efforts for years to control the generation of time-expired paint at a low level. We have tried to use some of the aircraft paint waste for ground equipment maintenance with the aim of reducing the waste. In 2023, no time expired paint was disposed of.

16. We remind our staff regularly of the importance of the effective use of chemical and solvent in maintenance activities so as to minimise the amount of chemical.

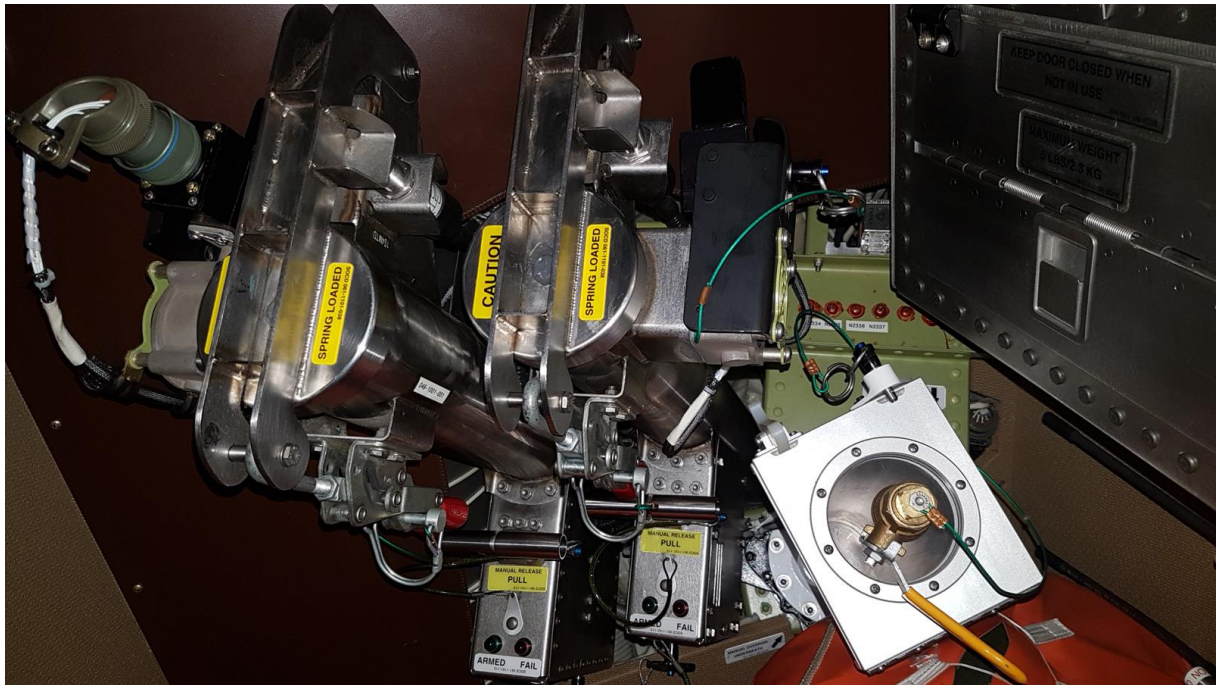
Climate Change Adaptation and Resilience

17. Due to climate change, extreme rainstorms and tropical cyclones will become more frequent and intense. With reference to the climate change adaption and resilience strategies in the Hong Kong's Climate Action Plan 2050, the GFS supports other departments in measures on climate change adaptation and resilience to protect the lives, health and properties of people from extreme weather and strengthen the resilience of the community.

18. To enhance the monitoring of typhoons and preparedness, the GFS introduced the dropsonde system in 2016 and carries out dropsonde

missions in collaboration with the Hong Kong Observatory (HKO) to collect tropical cyclone meteorological data. We dispatch Challenger 605, a fixed-wing aircraft, to deploy sondes at the designated co-ordinates and altitudes provided by the HKO during typhoons. The GFS's crew members are committed to working closely with the HKO in order to provide the most accurate and critical data that helps the HKO make accurate forecasts and warnings of tropical cyclones, enabling the public and authorities to take necessary precautions and ensure safety during a storm.

19. In 2023, 9 dropsonde missions were carried out for 5 tropical cyclones.



Dropsonde device

Working with Other Government Departments in Environmental Protection

20. The GFS works closely with other government departments in environmental protection. For example, our helicopters assist the Marine Department in conducting surveillance of floating refuse and oil pollution in Hong Kong waters. We also help in spraying oil dispersant over the sea when required.

21. Our helicopters also assist the Agriculture, Fisheries and

Conservation Department in conducting a “Sky-shout” publicity exercise on hill fire prevention. On Sundays and public holidays (particularly Chung Yeung Festival and Ching Ming Festival), our helicopters help disseminate the message of preventing hill fires to the public by flying above the countryside and playing pre-recorded voice messages through the loudhailers.



Helicopter in fire-fighting operations

22. In addition, our aircraft carry officers of the EPD to take aerial photographs of power stations and their surrounding environment for studies and analyses. We also assist the EPD to conduct aerial inspections, surveys and monitoring of upper-air quality in the atmosphere and river catchments of Deep Bay and Mirs Bay on the spreading of wastewater plumes from major sewage outfalls. Our aircraft are also used to take aerial photographs for conducting site inspections and surveys of existing waste facilities such as landfills and transfer stations as well as planning of special waste projects in Hong Kong.

Environmental Measures and Performance in 2023

Green Features in Premises

23. Photovoltaic systems are installed on our GFS Headquarters rooftop for harnessing solar energy which generated about 9,750kWh in 2023. The GFS participated in a high-level feasibility study on onsite solar opportunities conducted by Airport Authority Hong Kong (AAHK) in 2023 to identify potential locations to make the best use of the open spaces such as open car parks and at rooftops to maximise the efficiency of radiation absorption for generating electricity.



Photovoltaic systems on the rooftop of GFS Headquarters

24. The GFS also explores the incorporation of more green features to reduce energy consumption, such as converting the lighting systems to light-emitting diodes (LEDs) and replacing aged chillers to raise energy efficiency.

Adoption of Energy Efficient Features

25. The Kai Tak Division which recently came into operation has an architectural and landscape design that is compatible with the adjacent Kai Tak Cruise Terminal. Since the base is exposed to strong sunlight and subjected to intensive glare during sunset, it was designed with aluminum cladding with softened corners and a curtain wall with enhanced shading effect. The hangar space was designed to allow for natural ventilation so that air-conditioning is not required. Roof light tunnels are extensively used to redirect natural sunlight for indoor illumination to save energy. The green roof over the hangar and the office building maximise the greening area and reduces heat gain. It is prominently visible from the viewing platform of the Kai Tak Cruise Terminal and to helicopter operators and passengers.



Kai Tak Division

Energy Consumption and Saving

26. The GFS recognises the importance of energy conservation and efficiency. It has carried out a good amount of energy saving retrofit works, including installing motion sensors and automatic lighting systems to turn off lights that are not in use, installing zoned lighting, installing energy-saving fluorescent tubes and compact fluorescent lamps, and replacing the lights in hangar and the high-mast lights with LED luminaries.

27. Apart from the modification of engineering installations, the GFS emphasises good housekeeping practices in achieving energy conservation. Green energy management practices are widely adopted in the offices. Such practices include switching off lights, air-conditioners and electric equipment when not in use, using the power management feature of computer to preset the computer to sleep or hibernation mode when it is idle, switching off or unplugging equipment chargers and adapters from socket outlets or extension cables if not in use to reduce standby power consumption, lowering venetian blinds when sunlight is strong, encouraging the use of staircase for inter-floor traffic, and setting air-conditioning at appropriate room temperature. Staff are arranged to conduct checking after office hours to ensure lights in offices and meeting rooms and communal facilities, such as photocopies are switched off.

28. The Government has set a new “Green Energy Target” to improve its use of energy by 6% for the period 2020-21 to 2024-25 under comparable operating conditions in 2018-19 as the baseline. Under comparable operating conditions in 2018-19, i.e. not including energy consumption in newly set up offices, the GFS consumed 4,590,727kWh of energy in 2022-23, lower than the amount of energy consumed in 2018-19, achieving an overall 9% green energy target. The GFS is highly concerned about energy conservation and is constantly looking out for opportunities and the latest products that can bring about savings in energy consumption.

29. There are three departmental vehicles in the GFS and one uses unleaded petrol. In 2023, the total mileage was 47,225km, and the fuel consumption was as follows:

Fuel	Litre
Unleaded petrol	2,739
Diesel	1,129
Liquefied petroleum gas	4,208



Notice on occupancy sensors



Zoned lighting



Notice encouraging the use of staircases

Green Transport

30. Electric vehicles are being used more frequently in Hong Kong to reduce the city's air pollution. In order to encourage on-site service contractors to use electric vehicles when delivering service to the GFS, GFS would also explore setting up some charging facilities on the GFS premises if it is technically feasible. Subject to the feasibility of installation of charging facilities in GFS premises, the GFS will plan on the adoption of electric vehicles.

Waste Reduction and Recycling

31. The GFS collects waste paper, used plastic bottle, metal can, glass bottle and cartridges, 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.

32. Water filling type dispensers connected to water mains are installed on GFS premises to provide staff and visitors with potable water to reduce the consumption of carboy water.

33. The canteen at GFS Headquarters and the officer messes observe the Government's policy of avoiding disposable tableware and comply with the enhanced Plastic Shopping Bag Charging Scheme. Styrofoam food container and plastic disposable tableware, including plastic straw and plastic stirrer, are no longer provided. Posters are displayed in common areas, encouraging staff members to utilise usable tableware and bring their own shopping bags.



Recycling bins



Water filling type dispensers



Posters at canteen to promote waste reduction

Food Waste Reduction

34. One of the main solid wastes in Hong Kong is food waste. Therefore, reducing food waste helps reduce the volume of garbage sent to landfills. The GFS has joined the AAHK's food waste recycling programme. Food waste collected at the canteen is collected by a food waste collection

contractor for recycling. In 2023, around 4.65 tonnes of food waste was collected.

35. In addition, staff members are encouraged to request a smaller portion of rice, so as to reduce the likelihood of food waste. Publicity materials in the canteen are posted to remind customers to reduce the amount of leftover food.

36. To support the EPD's Food Wise Charter, the GFS reduces food waste by requesting canteen operator to review their supplies and providing portioning options, and by encouraging staff members to order meals thoughtfully and take away leftovers. Communication among the management, staff and the canteen operator is maintained through the Catering Management Committee meetings.

37. In 2023, food waste disposers were installed in pantries of the GFS Headquarters to reduce solid waste and the use of plastic bags.



Food waste disposers

Paper Conservation

38. Electronic communication has been widely used in both internal

and external communication in achieve paper saving. We adopt the following arrangements in order to reduce the use of paper: -

- posting notices at paper towel dispensers to encourage staff to use less paper towel;
- posting internal circulars, notices and other reference materials on internal bulletin board for access by staff;
- keeping the number of paper publications and copies of circulars to the absolute minimum (e.g. by circulating only one copy to all relevant staff);
- reusing paper, envelopes, file jackets and action tags;
- reusing decorative materials at festive seasons;
- implementing the online booking system of meeting rooms instead of keeping paper records;
- photocopying and printing documents only when it is unavoidable and using both sides of paper;
- using recycled paper in lieu of virgin paper; and
- placing boxes next to photocopiers to collect used paper, outdated newspaper and publications for recycling.

39. In 2023, 2,180 reams of paper and 3,280 nos. of envelope were consumed. On the other hand, about 2,012kg of waste paper was collected for recycling in 2023.

40. To enhance efficiency in preserving and managing government records, the Government announced in the Policy Address Supplement published in October 2019 the full implementation of Electronic Recordkeeping System (ERKS) by end-2025. To this end, we have been promoting staff's awareness of paper saving during the focus group meetings and training sessions. Staff are encouraged to adopt a wider use of emails or other electronic means in business communication, in order to foster a digital workplace culture that maximises the value of ERKS and minimises manual efforts in records management.

Water Conservation

41. To save water, buildings are equipped with water taps that have automatic sensors, dual-flush toilets, and sensor flush valves for urinals. Water

efficient taps are installed at the canteen.

Carbon Audit

42. Carbon audit 2023 was conducted for GFS Headquarters by AAHK and in-house for Kai Tak Division to monitor the effectiveness of greenhouse gas emission reduction efforts. The total Greenhouse Gas emissions for 2023 was 2,321 tonnes of CO₂ -e. We would continue to implement green management best practices with a view to further reducing our carbon footprint.

Green Management

43. The Controller, Government Flying Service has appointed an officer as the Green Manager responsible for overseeing the environmental issues of the department. The Green Manager is assisted by the Green Task Force and Energy Wardens in implementing the GFS's Green Policy.

44. Aircraft Engineer (Airframe/Engine)¹² is the Green Manager of the GFS with the following responsibilities:

- implementing a programme of green housekeeping within the department;
- introducing measures to increase staff awareness and involvement in relation to environmental issues; and
- publicising the commitment to protecting the environment, formulating action plans and recording achievements.

45. He provides a focal point for introducing, sustaining, reviewing and strengthening all environmental initiatives/activities. He is assisted by the Assistant Departmental Secretary in carrying out these duties.

46. The GFS set up the Green Task Force in February 2003 with the main focus on energy conservation. The Green Task Force comprises representatives from the Operations, Engineering, Corporate Safety and Administration Divisions. They are responsible for liaising with staff members to explore possible options for saving energy without affecting the GFS operations and also discussing with the Electrical and Mechanical Services Department on how to make the proposals and ideas into effective measures.

The Environmental, Health and Safety Committee, chaired by the Chief Pilot (Corporate Safety), oversees the environmental, health and safety policy and goals of the department. It is also responsible for addressing certain topics, including but not limited to waste reduction, accident prevention and training programmes.

Indoor Air Quality

47. Indoor air quality certificates of “excellent class” had been issued to GFS Headquarters and Kai Tak Division, with valid periods up to 2025 and 2024 respectively, under the Indoor Air Quality (IAQ) Certification Scheme.

Indoor Air Quality Certificate
室內空氣質素檢定證書

Excellent Class
卓越級

Valid period : **16 Sep 2023** to **15 Sep 2024**
有效日期 : _____ 到 _____

I hereby certify that the indoor air quality of the following location(s) has fully complied with the Excellent Class of the Indoor Air Quality Objectives.
本人證明下列地點的室內空氣質素完全符合「卓越級」室內空氣質素指標。

Name of building : **Government Flying Service Kai Tak Division**
建築物名稱 : _____
Address : **Near 33, Shing Fung Road, Kai Tak**
地址 : _____
Certified location(s) : **Whole Building**
已檢定地點 : _____

Name of competent examiner : **LAU Yan Kin**
合資格檢驗師姓名 : _____
IAQ Certificate Issuing Body : **CMA Industrial Development Foundation Limited**
室內空氣質素證書發機構 : _____
Signature : _____
Date of issue : **06 Jul 2023**
簽發日期 : _____
Certificate No. : **87961231.202307 (2023)**
證書編號 : _____

Indoor Air Quality Certification Scheme for Offices and Public Places
辦公室及公眾場所室內空氣質素檢定計劃

IAQ Indoor Air Quality Information Centre
室內空氣質素資訊中心

EPD 環境保護署
Environmental Protection Department

Indoor Air Quality Certificate

Energywi\$e Certificate

48. In 2023, the GFS was awarded Energywi\$e Certificate (Good Level) with valid period up to 2025, under the “Hong Kong Green Organization Certification” by the Environmental Campaign Committee.

Green Procurement

49. The GFS 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 the GFS:

- procuring operation equipment, office equipment and other electrical appliances having an energy label;
- 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;
- avoiding to use items that are environmentally unfriendly, for example, correction fluid and batteries containing mercury;
- incorporating terms 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.

50. During procurement, we recommend the following green measures to the suppliers for their preparation of tenders 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 as far as possible;
- using single line spacing and avoiding excessive space in the margins and in between paragraphs;
- minimising 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.

51. In 2023, the GFS spent about \$3,187,300 in purchasing products and services from the green procurement list.

Staff Awareness on Green Management

52. We continued to support green activities organised by different non-governmental organisations in 2023. We also helped disseminate event information and encouraged colleagues to take part in meaningful events, which aim at calling for switching to a greener lifestyle, such as:

- WWF Earth Hour 2023
- Skip Lunch Day 2023
- Green Low Carbon Day

Aims for 2024

53. We will continue to encourage and remind our staff to practise and implement the various measures/programmes initiated/continued in 2024 to help protect the environment. Our targets in 2024 are:

- to review the effectiveness of existing measures and to identify new initiatives to reduce resources consumption; and
- to continue to promote good housekeeping practices for energy saving and to educate our staff on the awareness and importance of environmental protection.

We will continue to monitor progress in the above areas and to foster a green culture in the department.

Information and Suggestions

54. For further information or any suggestions, you may contact the Departmental Secretary of the GFS through:

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Hong Kong International Airport
Lantau
Hong Kong

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telephone : 2305 8212

e-mail : gfsenq@gfs.gov.hk