



# **HONG KONG FIRE SERVICES DEPARTMENT ENVIRONMENTAL REPORT 2017**



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## **Introduction**

As an emergency service provider, the Fire Services Department (FSD) is not only responsible for firefighting, rescue, providing advice on fire protection and emergency ambulance services, but also conscious of the need to deliver our services and conduct our operations in an environmentally friendly and responsible manner to demonstrate our green credentials.

Despite resource constraints, we are committed to protecting the environment by pursuing continual improvements in delivering our services to the community in an environmental-friendly manner without compromising the efficiency and cost-effectiveness of our core functions. We have established mitigating programmes to reduce the impacts that may be caused during the delivery of our services on the environment. We endeavor to comply with all the legal requirements for environmental protection; monitor and control the significant environmental impacts associated with our activities and operations; and to support environmental programmes and activities.

## **Environmental Management System**

### **Environmental Auditing Committee**

Since 1995, we set up the Environmental Auditing Committee (EAC), chaired by Assistant Director (Headquarters) with Divisional Officers/Superintendent and Executive Officer appointed from respective Commands and the Administration Division as members. Also, all fire station and ambulance depot commanders were appointed as Unit Environmental Auditors of their fire stations/ambulance depots to assist the EAC in the development and implementation of the Department's environmental auditing management systems.

The Staff Officer of each Command has been appointed as the Energy Economy Officer to monitor the energy consumption on the premises under his purview. The Unit Environmental Auditor of each operational unit is required to submit monthly energy consumption report to the Command Headquarters for monitoring purposes.

### **Staff Awareness Training**

Members' willingness to participate in green initiatives is crucial to the success in building a green culture in the Department. From time to time, the EAC reminds members by issuing green tips and best practices in housekeeping through e-mails. Members are also reminded to make continuous effort towards a greener workplace. To foster the culture of environmental protection management in the Department, members have been nominated to attend briefings and experience-sharing workshops on the relevant legislative initiatives and

green management measures organized by the relevant government departments and organizations.

## **Environmental Performances**

### **Energy Saving**

Our total electricity consumption in 2017 was 46,004,906 kWh with a slight decrease of about 0.47% as compared with 2016. We thrived to challenge ourselves in curbing electricity consumption although we operated under a continuing expanding scale. Our members are fully aware of the importance of energy saving and are dedicated to contribute.

### **Energy Saving Measures**

In order to reduce energy consumption, we had implemented the following energy-saving measures in FSD premises:

- ☆ To replace T8 fluorescent light fittings by more energy efficient T5 fluorescent light during our refurbishment works;
- ☆ To wire light fittings into several circuit arrangements during the refurbishment works so that users could control different fluorescent tubes according to the required illumination and reduce electricity consumption;
- ☆ To switch off some elevators during off-peak hours;
- ☆ To replace aged elevators to improve efficiency;
- ☆ To connect different work stations to one printer to maximize usage and minimize idling time, improve the efficiency of the machine whereby reducing the electricity wastage.

### **Carbon Audit**

To combat climate change, we compiled 11 Carbon Audit Reports for FSD premises with annual electricity consumption over 500,000 kWh in 2017. Through regular carbon audit process, we are able to identify the major carbon emission sources and contributors with a view to mapping out and implementing corresponding carbon reduction measures as far as practicable.

### **Economy in the Use of Paper**

Paper is valuable resources. We strive our best to adhere to the principles of “Avoid, Reduce and Reuse/Recycle” in the use of paper. To keep pace with the E-Government strategy, we had implemented some computer-aided systems and IT Programmes such as the Electronic Submission of Administrative Correspondence System and the Accessibility Programme to reduce paper records and transactions.

The paper consumption in 2017 was 43,648 reams, representing a decrease of about 6.54% as against 2016. We will continue to make every effort with a view to reducing paper consumption.

### **Consumption of Fuel**

Staff of the Fire Services Workshops and Transport Division and the Electrical & Mechanical Services Department conducted periodical maintenance and necessary repairs for our fire appliances and ambulances to ensure that they were maintained at the most optimum mechanical efficiency so as to avoid excessive fuel consumption. In 2017, subsequent to 0.45% and 7% increase of emergency calls and fire safety inspections respectively, the FSD vehicle fleet consumed about 3,653,186 litres of fuel, representing an increase of 1.93% over the total consumption in the previous year.

### **Reduction of Noise Impact**

Noise was inevitably generated by the activation of the emergency broadcasting systems, the automatic folding gates at fire stations/ambulance depots and the sirens of the fire appliances/ambulances in responding to emergency calls. In order to reduce the noise impact, FSD has instructed all operational units to tune down the volume of the emergency broadcasting systems during night time. We had also installed the volume control timers for the systems so as to further reduce the noise level.

Variable speed drivers had been installed for all our existing automatic folding gates as a mitigation measure to reduce the noise nuisance caused by their operation. Moreover, we had also included such a device for the automatic folding gates in the design of all new fire stations and ambulance depots. Besides, the Department had laid down clear orders on the proper use of siren which included instructing the officers-in-charge to exercise discretion during the night time to either switch off the audio warning devices or use them intermittently, according to the prevailing road configuration or traffic condition.



*Folding gates at Ambulance Depot installed with variable speed drivers*

## **Improving the Air Quality**

Our workshop staff would conduct the Vehicle Emission (Gases Analysis) tests/ Diesel Vehicle Emission (Smoke Density) tests in the routine maintenance and servicing of our vehicles to ensure that their emission was in full compliance with the legal requirements. All new fire stations and ambulance depots have been equipped with fume exhaust systems at the appliance rooms. The systems serve to extract exhaust from engines of fire appliances and ambulances and thus improve air quality in the workplaces.

## **Management of Wastes**

### **Recycling**

The Department fully understands that Earth's resources are limited. As such, we encouraged all members to take part in the recycling programme. In 2017, about 22,470 kg of papers were collected from our workplaces for recycling, which was equivalent to about 9,607 reams of papers or about 22.01% of the Department's paper consumption for the entire year.

### **Source Separation of Domestic Waste**

To encourage our staff to separate their waste for recycling, waste separation bins have been placed in Fire Services Headquarters Building and Cheung Sha Wan Fire Station since April 2014. In view of the successful experience, we have extended the provision of waste separation bins to the FASA since early 2016 to help reduce the volume of waste requiring disposal at the landfill.

### **Chemical Wastes**

As at 31<sup>st</sup> December 2017, a total of 114 units of the Department had been registered as Chemical Waste Producers under the Waste Disposal (Chemical Waste) (General) Regulation of the Waste Disposal Ordinance (Chapter 354). Proper arrangements had been made with registered chemical waste collecting contractors to collect the chemical waste produced in these units.

### **Clinical Waste**

Clinical waste generated in the course of providing ambulance and paramedic services by ambulance staff would be temporarily stored in ambulance depots installed with "Clinical Waste Storage Cupboard". Those clinical wastes would then be collected and properly disposed of by designated contractors.

## Major Environmental Initiatives

### Green Procurement Policy

Most of the Fire Services vehicles in commission are in compliance with Euro V or above emission standards. For continual improvement, green procurement measures had been incorporated in tender specifications. We have procured and planned to procure 211 fire appliances to replace the aged ones so as to reduce emissions in the coming years. In 2018-19, over 30 new vehicles with Euro VI emission standards will be put into commission.

As for the procurement of equipment, we took into account environmental factors such as energy efficiency and recyclability as far as practicable. Moreover, considerations were also given to procuring consumable items from the Green Products List of the Government Logistics Department. Since 2007, we have included recycling of used toner cartridges for facsimile machines in our maintenance contracts.

### Solar Photovoltaic Panels

The consequences of global warming are serious. To combat climate change and to achieve sustainable development, we have installed solar photovoltaic panels on the roof of 8 fire services premises so as to supplement the electricity supply from the power company.



*Solar photovoltaic panels on the roof of Kai Tak Fire Station*

### “Zero Hill Fire Scheme”

To protect our countryside from fire, the Department had launched the campaign of “Zero Hill Fire Scheme” since 2007 to engage the community in promoting their awareness of the hazards of hill fires during Ching Ming and Chung Yeung Festivals. The Campaign aimed at encouraging all rural villages in Hong Kong to participate in hill fires prevention. With the concerted effort of all participating villages, we could better protect our environment by reducing the number of hill fires significantly. In 2017, 489 participating villages had successfully hit the target of “Zero Hill Fire” and were given award as a due recognition of their success.

### **Indoor Air Quality Improvement**

To support the government's policy on improving Indoor Air Quality Control, the Department has looked into various options to enhance the indoor air quality of our office premises. We have implemented a number of measures, such as searching for suitable tools/equipment in the market which would reduce the level of indoor air pollutants, arranging cleansing of air ducts to improve the mechanical ventilation and air conditioning system etc.

FSD has participated in the IAQ Certification Scheme since 2006. Up to 2017, 24 fire services premises had been certified as Excellent Class or Good Class. We will continue to conduct IAQ certification for other eligible premises so as to provide a more pleasant indoor working environment for our members.

### **Green Roofing of Fire Station and Ambulance Depot**

Green roofing system was implemented in appropriate fire stations and ambulance depots. Green planting was also carried out at the balcony and entrance. The green roof substrate soil and vegetation, apart from beautifying the roof, had brought positive effect to address the urban climatic change by reducing, to some extent, the energy demand for the premises through direct shading and better insulation of the roof.



*Green Roof at Sheung Shui Ambulance Depot*



*Green Planting at Sheung Shui Ambulance Depot*

### **Food Wise Hong Kong Campaign**

To support the "Food Wise Hong Kong Campaign" launched by the Environment Bureau, we had signed the "Food Wise Charter" in 2013 with a view to reducing food waste. For effective monitoring of our performance in this regard, fire stations/ambulance depots are required to record the amount of food waste regularly. Reminder messages were frequently disseminated to our staff by email with a view to encouraging them to reduce food waste.



## **Way Forward**

We had secured funding for 28 energy saving projects on upgrading or optimizing the air conditioning system. We also made satisfactory progress in meeting the environmental management targets in 2017. To keep up our improvements in green management and to promote a green culture, we would continue to implement energy saving measures and to identify any potential energy management opportunities. We will monitor the target of reducing electricity consumption and carbon emission through regular checking and reporting exercises.

## **Views and Suggestions**

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