



# Environmental Report 2013

**Government Laboratory**

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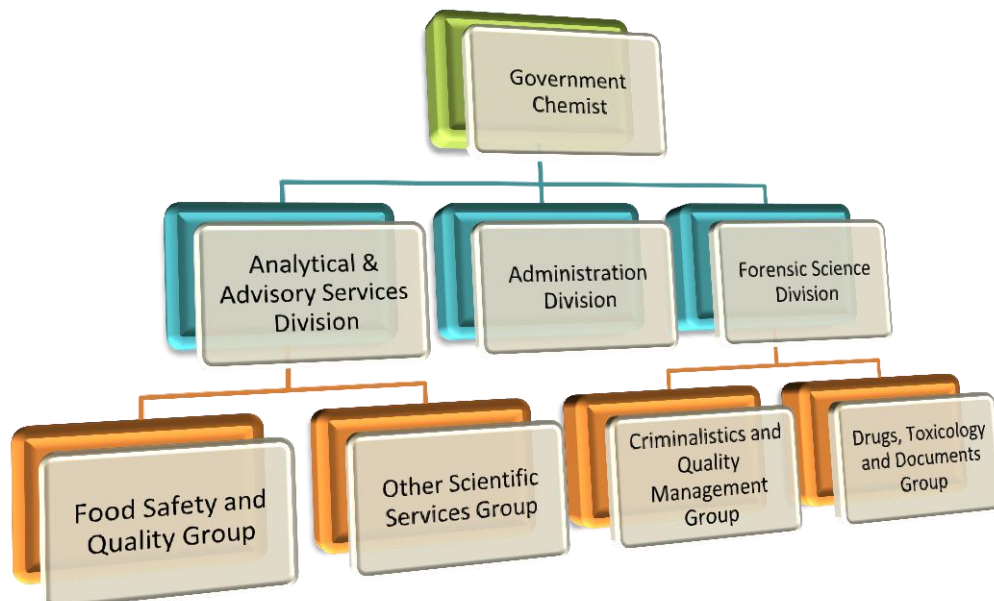
## Executive Summary

The Government Laboratory provides a wide range of scientific services to various government departments to support law enforcement, public health and safety, environmental protection, protection of consumer interests and revenue. The Laboratory is committed to achieving a high standard of environmental performance in its operation through the implementation of its environmental management system. There are established procedures to prevent the release of harmful pollutants to the environment including the atmosphere, land and water. The Laboratory has also taken steps to minimise the impact of its operation on the environment through continuous reengineering and redesigning of operation procedures. Chemical wastes generated in the Laboratory are disposed of in a safe and proper way.

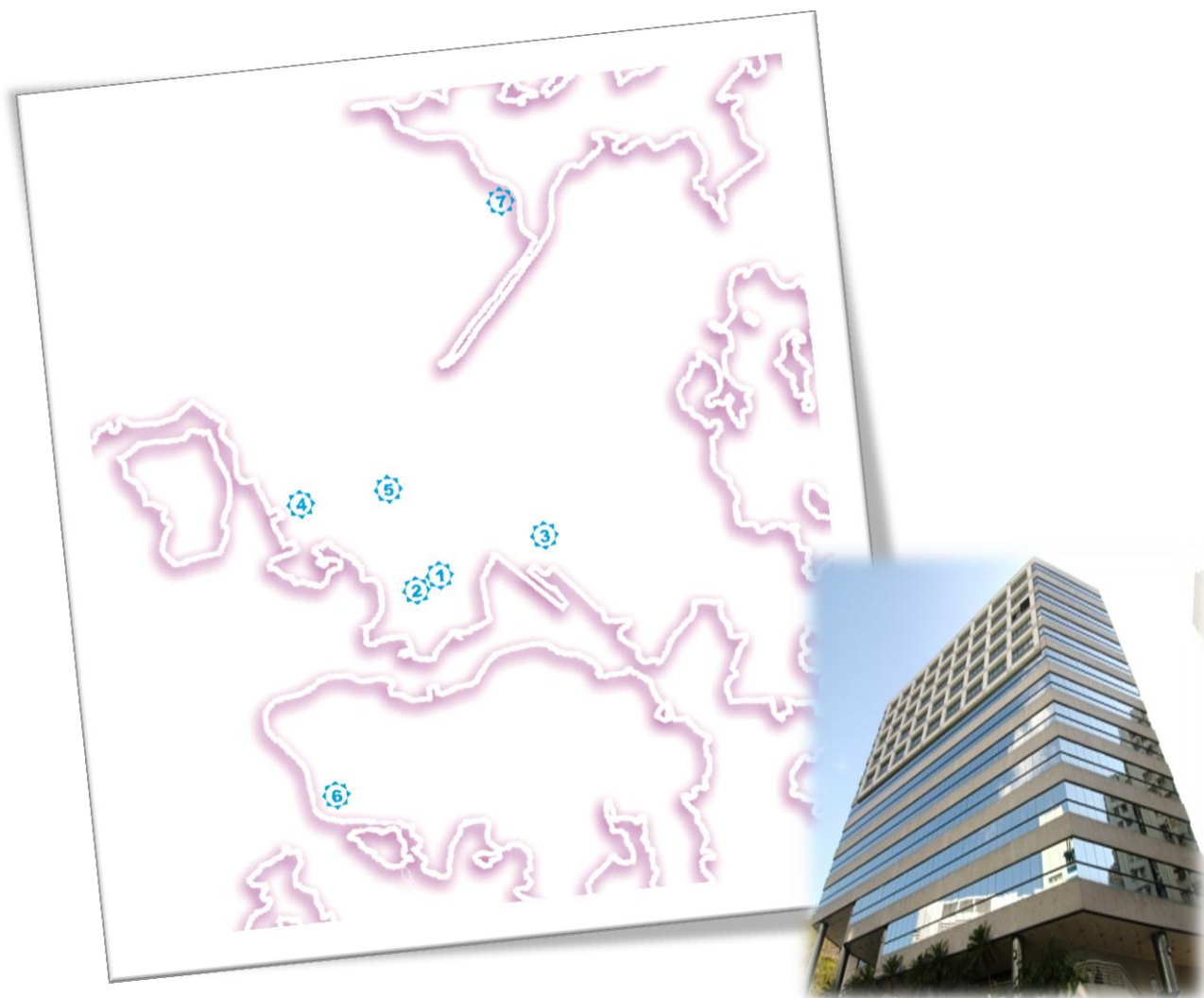
This report summarises and reviews the Laboratory's environmental performance in the year 2013 and issues pertaining to the Laboratory's environmental management system. The Laboratory will continue to seek opportunities to enhance environmental integrity of all its processes and facilities, and to sustain a high standard of environmental performance in its operation. Moreover, the Laboratory is committed to continuous saving of resources and enhancing the awareness on environmental protection of the staff.

## Profile of Key Responsibilities

The Government Laboratory provides comprehensive forensic, analytical and advisory services to various bureaux and departments of the Government of the Hong Kong Special Administrative Region to uphold the law and order and the implementation of government policies on public health, safety, environmental protection and government revenue. Analytical and advisory services are provided for surveillance programmes on food, drugs, and Chinese medicine to safeguard the health of the public and for environmental protection for the sustainable development of Hong Kong. The Laboratory also provides testing and advisory services related to commodities for health and safety evaluation, and for the protection of consumer interests. The forensic science service provided by the Laboratory seeks to be impartial, accurate and efficient. The service is essential for the Criminal Justice System of Hong Kong. Where appropriate and necessary, the Laboratory will also provide services to public institutions and international organisations. In brief, the Laboratory is composed of 2 operational divisions and one administration division as shown in the organization chart below.



As at the end of March 2014, the Government Laboratory has an establishment of 459 staff, comprising 7 directorate-grade and 452 non-directorate-grade staff members. The actual expenditure for 2013-2014 was \$410 million. Currently, the Laboratory consists of 27 operating Sections at seven different locations in Hong Kong.



- 1) Headquarters, Homantin Government Offices, Chung Hau Street, Homantin;
- 2) King's Park Meteorological Station, King's Park Road, Homantin;
- 3) Public Works Central Laboratory Building, Cheung Yip Street, Kowloon Bay;
- 4) Lai Chi Kok Government Offices, Lai Wan Road, Lai Chi Kok;
- 5) The Public Health Laboratory Centre, Nam Cheong Street, Shek Kip Mei;
- 6) Food Safety Laboratory, Victoria Road, Pokfulam;
- 7) Biotech Centre, Hong Kong Science Park, Shatin.

## Environmental Policy

Government Laboratory is committed to maintaining a sound environmental management system as an integral part of its activities. It is our policy to ensure environmental integrity of all processes and facilities at all times and at all places. We do so by adhering to the four principles of our environmental policies:

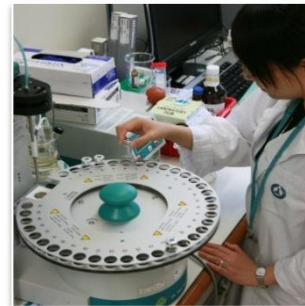


### Compliance

- We comply with all applicable environmental laws and regulations. To ensure that the waste generated during its operation is in compliance with regulatory requirements, the Laboratory has implemented a programme to monitor the level of pollutants in the air emitted and effluent discharged from the Laboratory.

### Prevention

- We implement management system and procedures designed to prevent activities and / or conditions that pose a threat to the environment. There are established procedures for managing chemical waste disposal and handling of environmental emergencies.



### Continual Improvement

- We continually seek opportunities to improve our adherence to these principles. All the Sections in the Laboratory have been encouraged to set up environmental objectives and targets relevant to their operations. Sustained efforts have been made to reduce the consumption of chemicals and / or the release of harmful substances to the environment.

### Communication

- We communicate in the Laboratory's annual report our commitment to environmental quality to our staff and clients. Training in safety and environmental operation was given to new recruits. In addition, continuous training on handling environmental emergencies was provided regularly.



## Management System

### Staff Responsibility

The Laboratory's Environment, Safety and Security Committee (LESSC) is responsible for formulating the environmental policy, overseeing its implementation and monitoring environmental performance. The Committee is chaired by a directorate-grade officer and meets quarterly. It comprises officers appointed by the Government Chemist and staff representatives for different ranks.

Section Heads and the Departmental Secretary are assigned to be the Laboratory's Environment, Safety and Security Inspectors, who are responsible for ensuring the compliance with the established environmental policy, guidelines and measures on environmental matters by all staff.

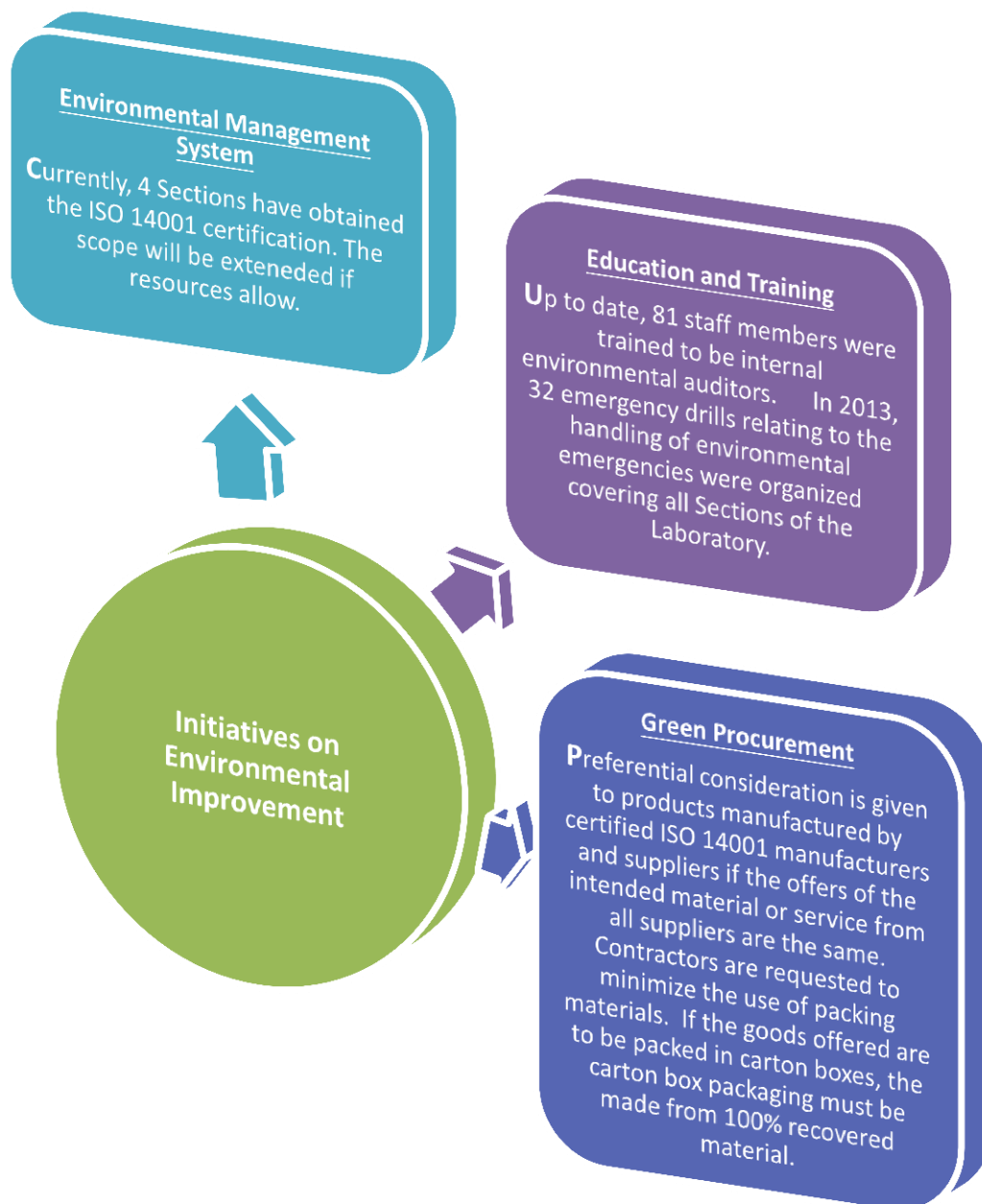
An Environmental Management System Working Group (EMSWG) was established to look after environmental matters and oversee the implementation of the environmental management system in the Environmental Chemistry A & B, Residues and Trace Elements Sections according to the international standard ISO 14001. The EMSWG is under the leadership of the Environmental Manager and comprises representatives from the four Sections concerned and the Quality Management Section.

### Education and Training

Training in safety and environmental operation was given to new recruits, which included the general laboratory safety practices, handling of chemicals and equipment, and procedures for handling chemical spills. Furthermore, training in handling environmental emergencies like handling of chemical spills to minimize contamination to the environment was provided regularly.

## Environmental Audits

The annual internal audit was conducted in December 2013 for the Environmental Chemistry A & B Sections, the Trace Elements Section and the Residues Section. In addition, the Hong Kong Quality Assurance Agency (HKQAA) conducted external recertification audits for these four Sections in March 2014. These audits served to verify that the environmental policy and relevant operating procedures are implemented effectively.





## Achievements and Progress

The Laboratory has set up objectives, targets and programmes for environmental protection. The environmental programmes that were implemented and in progress in the year 2013-2014 are shown below:

### Minimize the Generation of Plastic Waste

- Review of the programme indicated that it was not cost effective to replace existing disposable plasticware with biodegradable plasticware. The programme has been completed.

### Reduce the Use of Chemicals

- A new programme has been launched to reduce the use of solvent for the LC-MS/MS\* determination of pesticide residues in food sample. The programme is in progress.  
*\*Liquid chromatographic system with tandem mass spectrometric detection.*

## Resources Consumption

The LESSC of the Laboratory prepared the environmental guidelines and frequently reminded the staff to observe the green housekeeping measures stipulated in the guidelines. In this connection, the consumption of electricity, paper and envelope were monitored annually as environmental performance indicators. Figures for year 2012 and 2013 are given below for reference. As noticed, the electricity and envelope consumption dropped in 2013 which reflected the effectiveness of the measures taken. However, the slightly increase in the paper consumption was mainly due to increase in laboratory activities as reflected in laboratory test number and scope of services.

Resource	2012	2013
Electricity (10 <sup>3</sup> kWh)	2571	2495
Paper (kg)	2504	2549
Envelope (unit)	5947	5848

## Chemical Waste

According to the ISO 14001 Environmental Management System, the Laboratory is required to provide measures to monitor waste generation to our environment. Therefore, the level of pollutants in the effluent discharge and air emission were monitored in order to ensure the compliance with relevant regulatory limits. Chemical wastes generated in the Laboratory were collected for treatment by an authorized agent. The amount of chemical waste generated in 2012 and 2013 are summarized below for reference.

Chemical Waste Generation	2012	2013
Spent acid (L)	5849	5555
Spent alkali (L)	46	30
Spent non-halogenated organic solvent (L)	2933	2885
Spent halogenated organic solvent (L)	1383	1239

In 2013, the total organic solvent and acid-alkali waste generation continued to decline at about 5% which reflected the effectiveness of the measures implemented in the Laboratory.

## Way Forward

As committed in continuous improvement in the environmental performance, the Laboratory regularly reviews its operation to ensure the established environmental guidelines and procedures are fully implemented. In addition, Sections concerned will continue to initiate environment programmes for activities under their purview.

In respect to the green measures taken for conserving energy and saving resources, the Laboratory will keep liaison with the Electrical & Mechanical Services Department (EMSD) and the Architectural Services Department (ASD) to seek new initiatives and formulate effective energy management programmes. Besides, the staff members of the Laboratory would be reminded to observe the guidelines and policy regularly.

In our routine operations, the consumption of electricity by the Laboratory was reduced in 2013. Furthermore, the amount of total chemical waste generation has kept declining since 2011. Meanwhile, hard copies of quality document involved in the laboratory operation and instrument maintenance has been replaced by electronic versions as far as practicable.

Over the year, the Laboratory has achieved its environmental targets to minimize the use of chemicals and generation of chemical waste through continuous modification of operation procedures or upgrading the equipment. In order to sustain a high standard of environmental performance, the Laboratory will continue to seek opportunities to make contribution towards a better living environment in Hong Kong.

## Feedback and Enquiries

Please direct any feedback and comments on this Report to the Departmental Secretary of Government Laboratory.

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