

機電工程署 氣體安全監督
Gas Authority Electrical and Mechanical Services Department

共證承諾 · 氣體安全三十載
A Shared Commitment
30 Years of Gas Safety



機電工程署
EMSD





香港的氣體安全工作於1979年加快朝規範化的方向發展，原因是當年發生的一宗致命氣體事故，引發死因調查報告建議政府委任一位氣體安全顧問。政府隨後委託顧問公司就煤氣及石油氣的運作及安全標準進行研究。研究報告提出了多項建議，包括建議成立氣體標準事務處。經過30年來的持續發展，香港已成為全球氣體安全表現最佳的城市之一。

關於氣體標準事務處

氣體標準事務處於1982年成立，當時的工作是籌備氣體安全立法及為氣體行業設立規管架構。《氣體安全條例》於1991年正式生效，氣體標準事務處的職能也隨之擴大至執法工作。氣體標準事務處目前負責：

- 管理氣體供應公司、氣體工程承辦商及氣體裝置技工的登記名冊，監察他們的表現，並於必要時採取安全措施。
- 監察所有氣體裝置和有關設施的運作，並巡查與批核新建應具報氣體裝置的建造。
- 草擬及批核氣體裝置的工作守則，定期巡查氣體裝置，及批核住宅式氣體用具。
- 透過傳媒、氣體標準事務處刊物、各種活動與比賽，向業界及市民推廣氣體安全。

Gas safety work in Hong Kong gathered momentum in 1979 towards a more structured approach, when a fatal gas incident that year led to a death inquiry recommendation that the Government should appoint a Gas Safety Advisor. The Government then commissioned a consultancy study on town gas and Liquefied Petroleum Gas (LPG) operations and safety standards which recommended, among other things, the setting up of a Gas Standards Office (GasSO). With continuous improvement over the past three decades, Hong Kong is among the world's top cities for gas safety performance.

About the Gas Standards Office

The GasSO was established in 1982 to prepare safety legislation and set up a regulatory framework for the gas industry. When the Gas Safety Ordinance came into effect in 1991, its role expanded into enforcement. Today it is responsible for:

- Administering a register of gas supply companies, gas contractors and installers, monitoring their performance, and enforcing safety measures as necessary.
- Monitoring the operation of all gas installations and associated facilities, and inspecting and approving the construction of new notifiable gas installations.
- Preparing and approving codes of practice, conducting regular inspections of gas installations, and approving domestic gas appliances.
- Conducting gas safety education programmes for the trade and the public via the media and GasSO publications, and leveraging events and competitions.

目錄 Contents

01	環境局局長賀辭 Congratulatory Message from the Secretary for the Environment	05	氣體供應鏈 Gas Supply Chain	10	績效一覽 Major Achievements	18	剪影 Snapshots
02	氣體安全諮詢委員會賀辭 Congratulatory Messages from the Gas Safety Advisory Committee	06	氣體安全里程一覽 Milestones for Gas Safety	14	氣體安全先驅 Leading Role in Gas Safety	20	團隊 The Team
04	署長致辭 Message from the Director	08	規管架構 Regulatory Framework	16	氣體安全數據 Gas Safety Statistics		

環境局局長賀辭

Congratulatory Message from the Secretary for the Environment



氣體標準事務處多年來就管制氣體的進口、生產、儲存、運送、供應及使用作出安全監督，確保香港市民享有優質的生活。對於氣體標準事務處取得的豐碩成果，我謹此致賀。

現時香港擁有良好的氣體安全紀錄，實在有賴氣體標準事務處與社會各界人士齊心合力所達成。我們相信，只要政府、氣體業界、氣體裝置擁有人及用家等繼續群策群力，本港的氣體供應及使用鍊將可持續維持在高度的安全水平。

氣體安全「人人有責」，這是毋庸置疑的。但當我們在安全使用氣體時，也應關注其對環境的影響。因此，政府積極提倡使用氣體這種清潔能源，目的正是減少溫室氣體排放及改善空氣質素。

展望將來，隨着氣體應用的增加，環保及經濟方面的考慮和要求也會越趨逼切。我們相信，積累了30年豐富經驗的氣體標準事務處，將能克服這些挑戰，帶領全港市民構建更美好的綠色生活環境。

祝願氣體標準事務處有更美好的前景！

環境局局長
邱騰華

The Gas Standards Office (GasSO) controls the importation, manufacture, storage, transport, supply and use of gas in the interest of public safety and to ensure local residents enjoy a high quality of life. My congratulations go to the GasSO on its outstanding contribution to life in Hong Kong over the years.

Hong Kong enjoys very high standards of gas safety. Our excellent safety record has been achieved through a GasSO-led concerted effort by all parties – Government, gas industry, gas installation owners and end users – and we must all continue to work together to ensure that our gas supply and utilisation chain remains safe, every step of the way.

Gas safety is everyone's responsibility. While we are using gas safely, we should also pay attention to its impact on the environment. This is why the Government promotes the use of this kind of clean fuel to reduce emissions and improve air quality.

With three decades of solid experience, the GasSO will no doubt rise to the challenges ahead as gas utilisation continues to grow and environmental and economic imperatives become more urgent, leading local residents to help build a greener environment.

I wish the GasSO many more successful decades to come.

Mr Edward Yau
Secretary for the Environment

氣體安全諮詢委員會賀辭

Congratulatory Messages from the Gas Safety Advisory Committee



何鍾泰博士、工程師 SBS, MBE, SB St J, JP
香港特別行政區立法會議員（工程界）
中華人民共和國第十一屆全國人民代表大會香港區代表

Ir Dr the Honourable Raymond Ho Chung-tai, SBS, MBE, SB St J, JP
Member of the Legislative Council (Engineering Functional Constituency)
Hong Kong Deputy to the 11th National People's Congress of the People's Republic of China



關育材工程師 太平紳士
香港中華煤氣有限公司
執行董事暨營運總裁

Ir James Kwan, JP
Executive Director and Chief Operating Officer
The Hong Kong and China Gas Company Limited

氣體安全一直是香港市民關注的事項之一。在氣體安全的事宜上，本人一直與機電工程署共同努力，亦曾擔任氣體安全諮詢委員會成員。機電工程署多年來一直致力推行安全使用氣體，並取得顯著成績。本人希望該署再接再厲，進一步提升本港氣體安全的水平。

In the past three decades, gas safety standards in Hong Kong have been greatly improved. This is an impressive accomplishment which has much to do with the continuing efforts of the Electrical and Mechanical Services Department (EMSD). The Department is responsible for the enforcement of gas safety practices and its safe utilization.

Gas safety is a major public issue in Hong Kong with 2.3 million gas customers in the domestic, commercial and industrial sectors. Apart from towngas and liquefied petroleum gas (LPG) being the two main types of fuel gas widely used throughout Hong Kong, the utilization of gas has also extended to other areas over the years. LPG is used as fuel for LPG taxis and light buses while natural gas is used for generating electricity.

I am always proud of my association with the Gas Safety Advisory Committee as its member from 1997 to 2005. During the period, I worked closely with the EMSD on gas safety issues.

I wish the EMSD continued success in its future endeavours.

過去三十年，氣體標準事務處致力推廣香港氣體安全，不遺餘力，成績有目共睹。

氣體標準事務處於1991年實施了氣體安全條例，為業界提供了一個有效的管理框架，確保氣體運作及應用以安全為本。高度的安全意識是煤氣公司的企業文化，我們與氣體標準事務處一直合作無間，例如引入石油氣車輛計劃、制定供氣系統安裝及氣體爐具應用等工作守則，對提升氣體安全尤為重要。煤氣公司將繼續與氣體標準事務處通力合作，積極支持該處的各项關於氣體安全的措施和所舉辦的安全及節能研討會等。

本人謹此祝賀氣體標準事務處三十周年誌慶，續創佳績。

The past three decades have seen remarkable progress in the enhancement of gas safety in Hong Kong as a result of the vision and efforts of the Gas Standards Office.

Towngas, as the premier gas supplier in Hong Kong, has always had a high culture of safety awareness, and was therefore very pleased when the Gas Standards Office implemented the Gas Safety Ordinance in 1991, formally establishing a regulatory framework for the gas industry. This legislation enforces safe working practices and utilization and has ensured gas safety becomes the bedrock of both the Gas Standards Office and related industries' operations. Towngas also works closely with the Gas Standards Office in introducing LPG vehicles safely to Hong Kong. This has an important environmental implication, as LPG vehicles significantly reduce air pollution. The Gas Standards Office also prepares and approves codes of practice for gas installations and appliances, a crucial part of their remit to further enhance the community's safety. Towngas will continue to work in close partnership with the Gas Standards Office, both actively supporting Government gas safety initiatives and symposiums on safety and energy efficiency.

I congratulate the Gas Standards Office on many years of excellence in enhancing gas safety in Hong Kong and send Towngas' good wishes for the future.



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隨著七十年代房屋政策發展，帶動了管道石油氣及煤氣的需求，至今，氣體燃料已成為每個家庭的主要能源之一。

多年來透過機電工程署及業界的通力合作，推行一系列安全條例及守則，並推動不同氣體安全運動，大大提升市民對氣體安全認識，成績卓越。在此，祝願機電工程署百尺竿頭，更進一步。

Triggered by housing policy developments in the 1970s, demand for piped LPG and town gas has steadily increased and gas has become one of our key domestic fuels.

Throughout the years, EMSD and the trade have worked closely to implement a series of safety legislation and regulations and drive various gas safety campaigns. These have raised significantly the public's knowledge of gas safety, with excellent results.

I wish EMSD further success in its future work.

於1979年冬天發生的幾宗嚴重氣體事故，把香港市民——尤其是使用石油氣熱水爐的人士——之安全意識大大提高。在業界的鼎力支持下，政府成立了氣體標準事務處，並向業界發出工作守則，訂定清晰的規管條例及安全指引。各油公司、分銷商及代理均積極響應，並配合政府的措施，攜手合作，成績有目共睹。

多年來，氣體安全持續改善，工作守則也提供了有效的平台，進一步提升石油氣處理的專業和安全水平。我欣然見到30年來業界有關人士所作的努力及貢獻，使香港成為氣體安全方面最出色的城市之一。

The serious gas-related accidents that happened in the winter of 1979 heightened Hong Kong's awareness of gas safety, especially those who used LPG water heaters. With full support of the industry, the Gas Standards Office was then formed. Codes of practice were also developed providing clear regulations and safety guidelines to the industry. The oil companies and their network of distributors and dealers agreed voluntarily to cooperate and support the Government. The rest was history.

With continuous improvement in safety over the years, these codes of practice have provided an effective platform for enhancing professional and safe handling of LPG. After three decades of evolvement, I am glad that all stakeholders involved in the process have all contributed in making Hong Kong one of the top cities in gas safety.

氣體標準事務處二十多年來默默耕耘，對提升香港氣體安全，貢獻良多。本人有幸參與部分工作，見證多項工作守則和法例，從草擬、諮詢至立法到實施過程。我亦見證有關官員的努力，他們都表現超卓，大家有目共睹。代表安全和品質的GU標誌，已成為香港市民購用氣體爐具之信心指標。

香港所制定的一系列氣體安全法例和工作守則，不但造福香港社會，更影響國家行業法規之制定和實施，利國惠民，值得讚揚。在此衷心祈望業界努力提升安全和品質、服務市民；祝願香港氣體標準事務處繼續帶領行業、再創佳績。

For years the Gas Standards Office has worked to raise Hong Kong's gas safety standards, with enormous contribution to society. It has been my pleasure to participate in and witness many codes of practice and laws come into being, from drafting, consultation to enactment. I also witness the effort of all related officers whose achievement is immense. The GU mark, for example, has become a mark of confidence for the public when purchasing gas appliances.

The gas safety laws and codes of practice benefit not only the Hong Kong community but also bring positive impact on the Mainland's gas industry regulation development. I wish that the gas industry will continue to enhance safety, quality and its services to the public, and the GasSO will continue to lead the gas industry to further success.

署長致辭

Message from the Director



我很高興見證機電工程署氣體安全工作30周年紀念。

我曾先後兩次獲調派氣體標準事務處工作。第一次是八十年代，當時的工作重點是成立氣體安全規管架構；第二次是九十年代，重點是鞏固規管架構，並為引進天然氣及其他創新工作做好準備。在氣體標準事務處工作的兩段期間，我們所負責的工作都意義重大而令人鼓舞，但我印象最深刻的有兩宗事故：一是沙田的致命家居氣體爆炸，促使我們加強對公眾的氣體安全教育工作；二是新界西北氣體中斷事故，導致後來修訂《氣體安全條例》，使因第三者損毀地下氣體喉管引致的事故得以大幅減少。

這類事故現時已極為罕見，證明氣體標準事務處的工作卓有成效；而香港也已躋身全球氣體安全表現最佳的城市之列。

氣體標準事務處同寅多年來貢獻良多，包括制訂氣體安全指引、執行法例、與業界協作及教育市民大眾，以推動氣體安全等，我謹此致賀。我也感謝氣體公司和供應商、氣體業界人士及相關行業多年來的支持。香港已邁進一個安全及可持續發展兩者並重的階段，因此也面對新的挑戰。我深信氣體標準事務處在未來的日子會精益求精，昂步向前。

何光偉

機電工程署署長
何光偉

It gives me great pleasure to witness the 30th anniversary of our work in gas safety.

I was posted twice to the Gas Standards Office (GasSO), first in the 1980s, when we were busy setting up the gas safety regulatory framework, and then again in the 1990s, when our focus was on strengthening the framework and paving the way for natural gas and other innovations. In both periods, our work was important and inspiring, but two incidents stand out for me: a lethal household gas explosion in Sha Tin, which spurred us on to greater effort in public education; and a gas stoppage in Northwest New Territories, which led to an amendment of the Gas Safety Ordinance and resulted in a significant decline in third-party damage incidents.

It is a testimony to GasSO's good work that incidents such as these are very rare nowadays. Indeed, Hong Kong is among the world's top cities for gas safety performance.

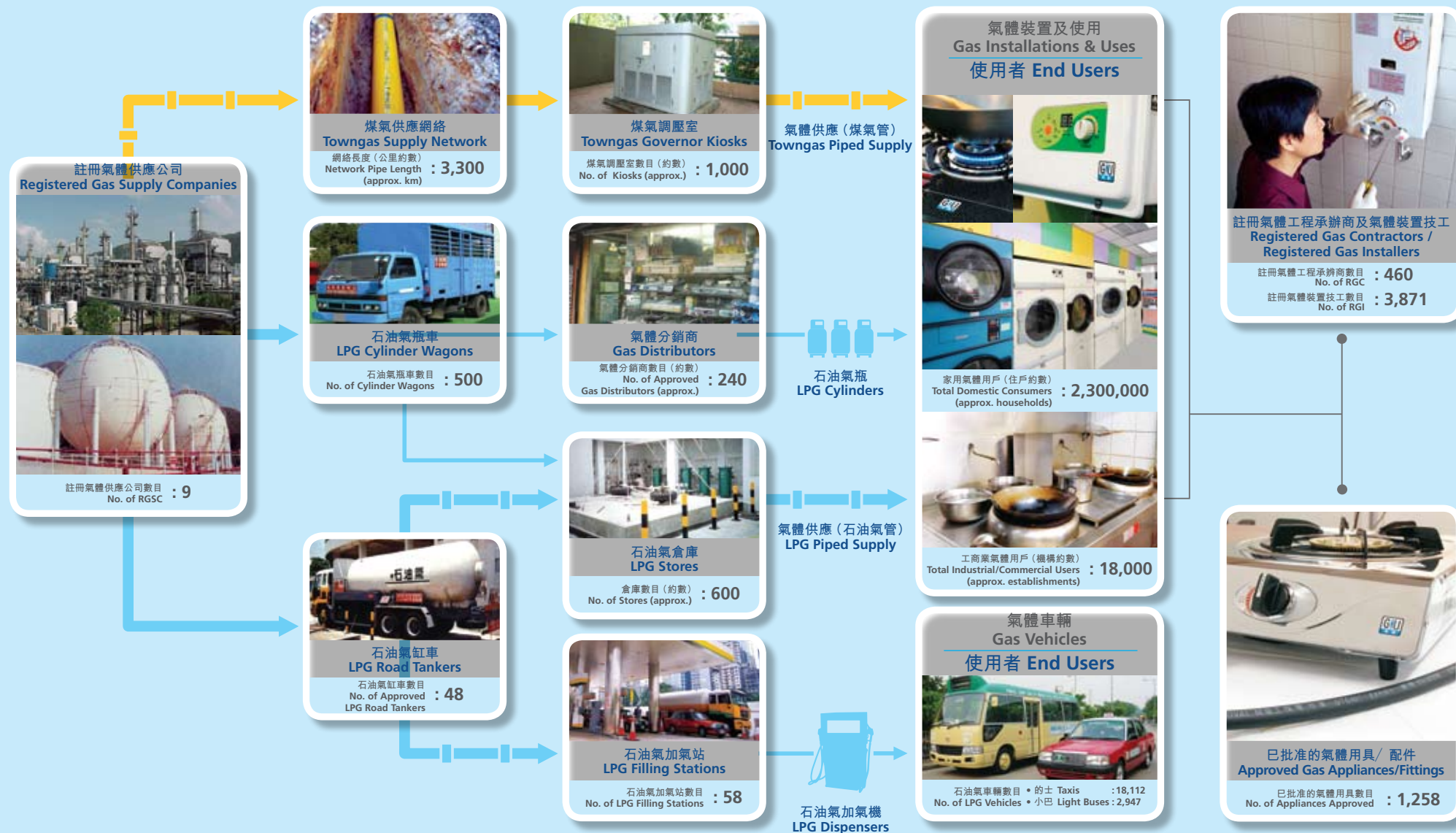
I congratulate the GasSO on its many contributions over the years: setting up gas safety guidelines, enforcing the law, working with the trade, and educating the public. I also thank the gas utilities and suppliers, the trade and related industries for their support. Hong Kong has now entered a stage where safety *and* sustainability are both important, posing new challenges. I have no doubt that the GasSO will go from strength to strength in the years to come.

Ho Kwong-wai

Mr HO Kwong-wai, JP
Director of Electrical and Mechanical Services

氣體供應鏈

Gas Supply Chain



* 數字截至 2008 年 12 月底
Numbers as of end December 2008
* 部份相片承蒙香港中華煤氣有限公司借出
Some photos courtesy of The Hong Kong and China Gas Co Ltd

氣體安全里程一覽

Milestones for Gas Safety

成立與建基
Origins and Groundwork :
1979 – 1988



立法及規管架構
Legislation and Regulatory
Framework : 1989 – 1998



1979

1979年發生的一宗氣體事故，事後的死因調查報告，建議政府委任香港首位氣體安全顧問。

A death inquiry into a gas incident that occurred in 1979 recommended that the Government appoint Hong Kong's first Gas Safety Advisor

1980

委託顧問公司進行有關煤氣及石油氣運作及安全標準的研究。

Study of town gas and LPG operations and safety standards commissioned

1982

行政局推出管道氣體政策。

氣體顧問事務處成立，後成為氣體標準事務處。

Piped gas policy introduced by the Executive Council

Gas Advisor's Office established, later becoming the Gas Standards Office (GasSO)

1985

職業訓練局氣體燃料業訓練中心開始為氣體裝置技工提供有關氣體裝置工程的培訓。

The Gas Industry Training Centre of the Vocational Training Council (VTC) began training gas installers on gas installation work

1988

委託顧問公司進行「青衣石油氣庫風險評估」研究。

"Risk Assessment of Tsing Yi LPG Terminals" consultancy study commissioned

1990

《氣體安全條例》立法。

機電工程署署長獲委任為氣體安全監督。

Gas Safety Ordinance enacted

Director of Electrical and Mechanical Services appointed as the Gas Authority

1991

《氣體安全條例》正式生效。

為氣體供應公司、氣體工程承辦商及氣體裝置技工進行註冊。

強制氣體接駁軟喉必須取得批准。

Gas Safety Ordinance came into effect

Registration of gas supply companies, gas contractors and gas installers

Mandatory approval of flexible gas tubing introduced

1992

禁止石油氣與火水等貨物一起運送。

氣體供應商開始為所有住宅氣體用戶進行定期安全檢查。

Conveyance of LPG together with other goods such as kerosene prohibited

Gas suppliers began regular safety inspection of all domestic gas customers

1996

修訂《氣體安全條例》，加入檢測儲氣鼓條文。

Gas Safety Ordinance amended to include provision for examining gas holders



發展與創新 Enhancement and Innovation : 1999 – 2009



1997

修訂《氣體安全條例》以保護地底氣體喉管。

修訂《氣體安全（氣體供應）規例》，要求氣體裝置擁有人進行定期檢查。

Gas Safety Ordinance amended to protect underground gas pipes

Gas Safety (Gas Supply) Regulations amended to require installation owners to arrange regular inspections

1998

委託顧問公司進行「香港氣體車輛及有關基建風險評估」研究，為引進石油氣的士做準備。

“Quantitative Risk Assessment of Gas Vehicles and Associated Infrastructures in Hong Kong” study commissioned to facilitate the introduction of LPG taxis into Hong Kong

2000

第一批專用石油氣加氣站落成啟用，支援石油氣的士計劃。

職業訓練局汽車業訓練中心，開始為車輛技工提供維修保養石油氣車輛燃料系統的培訓。

修訂《氣體安全（雜項）規例》，禁止售賣無煙道式熱水爐。

The first batch of dedicated LPG filling stations commissioned to support the LPG taxi scheme

The Automobile Industry Training Centre under VTC began training mechanics to service LPG vehicle fuel systems

Gas Safety (Miscellaneous) Regulations amended to ban the sale of flueless gas water heaters

2001

委託顧問公司就香港引進石油氣小巴及輕型貨車的可行性進行研究。

Feasibility study commissioned on the introduction of LPG light vans and light goods vehicles into Hong Kong

2002

修訂《氣體安全條例》，引進GU標誌，方便公眾及業界識別已取得批准的住宅式氣體用具。

大部份的士已轉用石油氣，而小巴轉用石油氣的數目亦開始上升。

Gas Safety Ordinance amended to introduce the GU Mark to help the public and trade readily identify approved domestic gas appliances

Most taxis have switched to LPG, while the number of LPG light buses also began to increase

2004

與國家質量監督檢驗檢疫總局就跨境氣體安全及其他與安全有關事宜，簽訂備忘錄。

Memorandum of Understanding signed with the mainland's General Administration of Quality Supervision, Inspection and Quarantine on cross-border cooperation on gas and other safety issues

2006

為專用石油氣加氣站推出新的石油氣定價機制。

氣體標準事務處採用「綜合氣體安全執法系統」，使運作更趨現代化。

New pricing mechanism for dedicated LPG filling stations introduced

Integrated Gas Safety Enforcement System adopted to modernise GasSO operations

2007

石油氣加氣站數目達58個。

委託顧問公司就香港引進天然氣及石油氣巴士與重型車輛的可行性進行研究。

The number of LPG filling stations reached 58

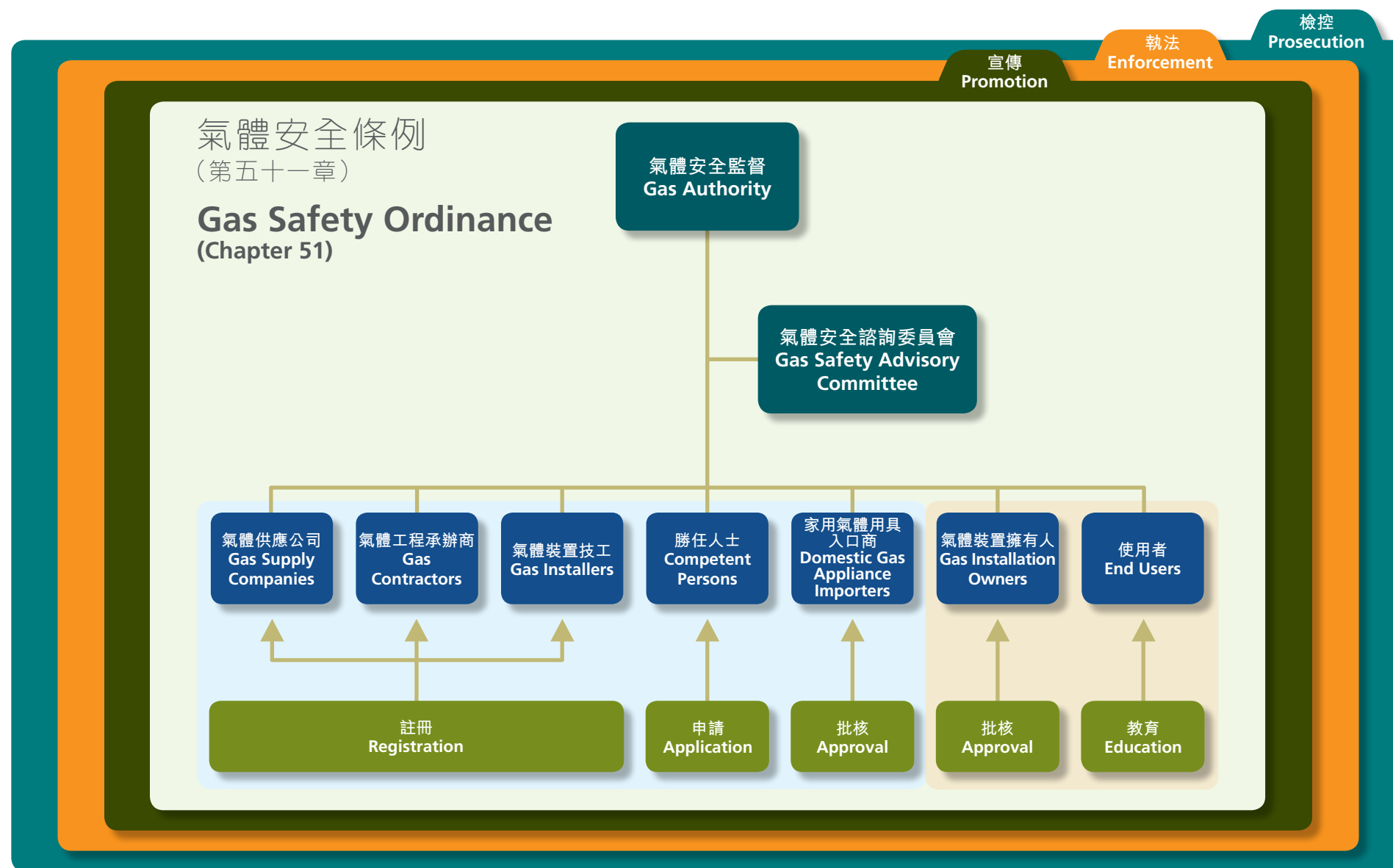
Feasibility study on the introduction of Natural Gas / Liquefied Petroleum Gas buses and heavy duty vehicles into Hong Kong commissioned

2009

氣體標準事務處取得ISO 9001認證。

GasSO operations achieved ISO 9001 certification

規管架構 Regulatory Framework





三管齊下： 與持份者攜手加強氣體安全

本港的氣體規管架構，以《氣體安全條例》及所有持份者通力合作恪守法例為核心。我們與不同的持份者合作，盡力協助各方面依法行事，確保法例得以有效執行，並於必要時進行檢控。

A Three-Pronged Approach: Working with Stakeholders to Enhance Gas Safety

The gas safety regulatory framework centres on the Gas Safety Ordinance and a joint effort by all stakeholders to abide by the law. Working with a wide range of stakeholders, we strive to facilitate compliance with the law, to ensure effective enforcement, and to prosecute where necessary.

宣傳 Promotion

常言道「預防勝於治療」，因此我們十分重視向業界和公眾宣傳氣體安全的工作。

氣體業界通過我們舉辦的各種研討會、簡報會和出版單張與刊物，例如定期通訊《氣體快訊》等，得知有關的最新消息、工作守則和業務指南等。

此外，我們也透過電視及電台的政府廣告，廣泛傳播氣體安全秘訣及資訊，公眾人士也可隨時登入機電工程署網頁，輕易取得最新的氣體安全消息。我們也定期舉辦各種活動，例如嘉年華、社區同樂日、各式比賽、及為屋邨與物業管理公司舉行氣體安全講座等；部份活動更與業界及公用事業機構聯合舉辦。

As the saying goes, prevention is better than cure. Hence we attach great importance to promoting safety awareness among the trade and the public.

The gas trade is kept informed of the latest news, codes of practice and guidelines via seminars, briefings, leaflets and publications, including our regular *Gas Safety Bulletin* newsletter.

Announcements of public interest on TV and radio widely disseminate gas safety tips and information, while members of the public can also easily access the latest gas safety news on the EMSD website. Special events such as carnivals, community fun fairs and competitions, as well as talks for housing estates and management companies, are held periodically, sometimes in collaboration with the trade and utilities.

執法 Enforcement

執行《氣體安全條例》及有關的規例，須要有系統地抽樣巡查氣體裝置及設施、有效地為業界包括氣體供應公司、氣體工程承辦商及氣體裝置技工進行註冊及徹底地調查事故。我們採納了以風險為本的工作方法，務求集中資源去巡查老化或較高風險的系統，更有效地防止事故發生。

Enforcement of the Gas Safety Ordinance and the related regulations entails the systematic audit inspection of gas installations and facilities; effective registration of the trade, including gas supply companies, gas contractors and installers; and the thorough investigation of incidents. We have adopted a risk based approach in order to focus our resources on inspecting aging or higher risk systems for better prevention of incidents.

檢控 Prosecution

我們一般的做法是教育各持份者，幫助他們遵守法例，但在有必要時也會提出檢控。如發現有不遵守法例的情況，我們可先發出敦促改善通知書，如有關人士仍未能糾正，我們最後只有提出檢控。

Our general approach is to educate our stakeholders and help them comply with the law, but we are prepared to prosecute where necessary. In the case of non-compliance, improvement notices and warnings may be issued. If the party concerned still fails to rectify the non-compliance, prosecution is used as a last resort.

績效一覽

Major Achievements



職業訓練局培訓氣體裝置技工

氣體裝置技工是氣體安全的關鍵：他們在前線工作，確保正確地安裝氣體用具，並提醒用家正確使用氣體用具的方法和保養程序。早於《氣體安全條例》立法之前，氣體標準事務處已察覺到為這類技工提供標準化培訓的迫切需要，並與職業訓練局(職訓局)磋商，安排培訓課程。

職訓局至今已培訓了數千名氣體裝置技工，俾能進行符合本港情況、各工作守則及國際標準的安裝工作。職訓局目前也為石油氣車輛維修技工提供培訓。

VTC Training for Gas Installers

Gas installers are the key to gas safety: working on the front-line, they ensure that appliances are correctly fitted and remind users of proper usage and maintenance procedures. Even before the Gas Safety Ordinance was enacted, the Gas Standards Office (GasSO) saw an urgent need for standardised training of these skilled workers, and made the necessary arrangements with the Vocational Training Council (VTC).

To date, the Council has trained thousands of gas installers to carry out installation work in accordance with Hong Kong conditions and codes of practice, and international standards. It now also provides training for LPG vehicle mechanics.

工作守則及指引

今天本港氣體行業的特色是工作達到標準化，並普遍遵守最佳做法。能有這樣的成績，各種工作守則及指引的制訂，起了重大作用。

氣體標準事務處早於八十年代中期，職訓局推出氣體裝置技工培訓的同時，已開始擬定各種工作守則及指引。目前實施中的工作守則及指引共有24份。

Codes of Practice and Guidelines

The development of codes of practice and guidelines has been crucial to achieving the standardisation of work and widespread adherence to the best practices that characterise the local gas industry today.

GasSO started to develop codes of practice and guidelines in conjunction with the launching of the VTC training, both in the mid-1980s. To date, we have 24 codes of practice and guidelines in use.





對衡式熱水爐

1979年，本港發生了幾宗在浴室使用無煙道式熱水爐而引致一氧化碳中毒的致命事故，對衡式熱水爐因而在八十年代初推出，取代無煙道式熱水爐。

為使較為安全的對衡式熱水爐更容易被採納，政府在1983年修訂《建築物規例》，規定新落成住宅單位的所有浴室都必須設有熱水爐排氣孔，浴室氣體事故從此大幅減少。

Balanced Flue Gas Water Heaters

Balanced flue gas water heaters were introduced in the early 1980s to replace flueless gas water heaters in bathrooms after the latter claimed several lives in 1979 as a result of carbon monoxide poisoning.

The use of the much safer balanced flue water heater was reinforced by an amendment to the Buildings Regulations in 1983, which mandated a flue aperture in all bathrooms of new residential flats. The result was a dramatic reduction of gas incidents in the bathroom.

氣體接駁軟喉標準

八十年代初發生的幾宗氣體事故，使我們察覺到有需要禁止使用不安全的氣體接駁軟喉。我們研究了多個國家的標準，並與業界磋商，制訂出一套香港氣體接駁軟喉標準，並於八十年代中期開始強制執行。

這為眾多早期氣體事故從源頭消弭成因，踏出重要的另一步。

Flexible Gas Tubing Standards

A number of incidents in the early 1980s alerted us to the need to prohibit use of unsafe gas tubing. We studied standards from many countries and consulted with the trade to develop a set of standards for Hong Kong for flexible gas tubing, which became mandatory in the mid-1980s.

This was another major step towards eliminating the root cause of many of the gas incidents that occurred in the early days.

績效一覽

Major Achievements



住宅式氣體用具批准計劃

2000年以來，氣體用具的規管工作取得長足的進展，最重要的措施之一，是2002年在《氣體安全條例》之下引進的強制性「住宅式氣體用具批准」計劃，要求所有在香港售賣的氣體用具必須獲氣體安全監督批准。獲批准的氣體用具都有GU標誌，證明其生產程序符合國際安全標準及本地運作要求。

GU標誌現已成為消費者購買氣體用具時的信心標誌。

Approval of Domestic Gas Appliances

The years since 2000 saw many improvements in the regulation of gas appliances. Among the most important was the introduction, in 2002, of the mandatory “Approval of Domestic Gas Appliances” under the Gas Safety Ordinance. This requires that all domestic gas appliances sold in Hong Kong must be approved by the Gas Authority. Approved appliances carry the GU Mark to signify they have been manufactured in accordance with international safety standards and local operating requirements.

The GU Mark has become a mark of consumer confidence when it comes to gas appliance purchase.

熄火保險裝置

八十年代，本港發生幾宗家居氣體事故，原因是氣體爐頭遇風吹熄，引起氣體洩漏。有見及此，我們與業界商討，務求廣泛引進裝有熄火保險裝置的氣體煮食爐具。引進熄火保險裝置不但除去了這類事故的成因，同時因為大量引入熄火保險裝置，規模經濟使價格下降，減輕了消費者的負擔。

結果，因熄火漏氣而引致的氣體事故自九十年代起急速下降。2002年更立法引進強制住宅用具批准要求，規定所有氣體煮食爐具必須裝上熄火保險裝置。

溢流閥

石油氣瓶調壓器及較新的管道氣體裝置供氣點均裝有溢流閥，當發生不尋常的狀況如氣體洩漏時，溢流閥便會自動切斷氣體供應。這種安全裝置於九十年代引入，旋即使氣體洩漏事故大幅下降，特別是與瓶裝石油氣裝置有關的事故。

在石油氣燃料供應系統上安裝溢流閥，也是本港石油氣車輛的主要安全設計之一。

Flame Failure Devices

During the 1980s, a number of Hong Kong householders experienced gas incidents when a draught blew out the flame on their gas stoves, resulting in gas leakage. In response, we engaged the trade to widely introduce gas cooking appliances fitted with flame failure devices. This requirement eliminated the cause of such incidents and also made the device much more affordable for consumers through the economy of scale thus created.

As a result, flame failure incidents have rapidly declined since the 1990s. The enactment of the mandatory domestic gas appliance approval requirement in 2002 made it compulsory for all gas cooking appliances to be fitted with such safety devices.

Excess Flow Valves

LPG cylinder regulators and relatively new supply points of piped gas installations are fitted with an excess flow valve, which automatically cuts off the gas supply under abnormal conditions such as leakage of gas. This safety feature was introduced in the 1990s and brought about a reduction in gas leakage incidents, especially those in connection with LPG cylinder installations.

The fitting of excess flow valve on the LPG fuel supply system is also one of the key safety design features of LPG vehicles used in Hong Kong.



石油氣缸車額外安全設備

石油氣缸車由於要運送大量易燃物品，安全方面的要求也特別嚴格。

我們由1991年起強制要求加裝額外的安全設備，包括必須安裝防止引擎超轉裝置，及在緊急情況下可截斷石油氣缸車燃料供應的裝置。此外，全港所有石油氣缸車都必須塗上防火物料，即使遇到槽火災事故也可保護車輛在一小時內不會發生爆炸。

Additional Safety Measures for LPG Road Tankers

The safety requirements for LPG road tankers are particularly stringent, given the hazards of transporting flammable substance in bulk.

In 1991, we mandated additional safety measures, including the installation of an engine overrun prevention device, and a device to cut off the fuel supply to the engine in an emergency. In addition, all LPG road tankers in Hong Kong must be coated with a fire resistant material that provides protection against explosion for up to an hour under a pool fire situation.

石油氣的士計劃

石油氣的士試驗計劃於1997年推出，目的是幫助改善本港的空氣質素。試驗成功後，1999年的施政報告宣佈，政府向柴油的士車主提供資助，改用石油氣的士。為應付石油氣的士的加氣需求，第一批專用石油氣加氣站於2000年落成啟用。

時至今日，全港的18,000部的士幾乎已全數是石油氣車輛，並享有遍佈全港的基建支援服務，包括石油氣加氣站和已接受培訓的石油氣車輛維修技工等。一個為鼓勵小巴轉用石油氣的類似計劃也於2002年推出，至今約有2,900部石油氣小巴在路面行駛。

LPG Taxi Scheme

The LPG taxi trial was launched in 1997 to help alleviate air pollution in Hong Kong. With its success, the Policy Address 1999 announced that financial assistance would be provided for taxi owners to replace their diesel taxis with LPG vehicles. To support the refilling of LPG taxis, the first batch of dedicated LPG filling stations was commissioned in 2000.

Today almost all the 18,000 taxis in Hong Kong run on LPG. The fleet is well supported by a territory-wide infrastructure of LPG filling stations and trained mechanics. A similar scheme to encourage light buses to switch from diesel to LPG was introduced in 2002. Some 2,900 LPG light buses are now on the road.

氣體安全先驅

Leading Role in Gas Safety



香港是國際氣體安全先驅之一，以每百萬人計的氣體相關死亡數字屬全球最低之列，而近年本港在引致死亡及嚴重氣體事故方面的數字也持續下降。

通過氣體標準事務處，香港積極參與及推動區內的交流合作，以確保在本港使用的所有氣體用具，包括進口氣體用具，都符合國際標準。我們也與國內及海外的規管機構緊密合作，推動發展氣體用具認證及協助業界符合要求。我們的合作伙伴包括：

中國國家質量監督檢疫檢驗總局

機電工程署與國家質量監督檢疫檢驗總局（國家質檢總局）已簽訂了第二輪為期4年的合作安排，由2007至2011年有效。合作安排的範圍很廣泛，包括機電及氣體安全和能源效益等各方面。國家質檢總局於氣體標準事務處籌備GU標誌期間，提出了很多寶貴的意見和協助，而多年來也就跨境通報機制及培訓工作提供持續支援。

中國城市燃氣協會

作為協會會員，機電工程署於籌備2002年推出的GU標誌計劃時，曾向協會尋求技術意見及支援。當年建立的工作關係現仍持續，並保持定期溝通。我們與協會的合作，包括有關不合標準氣體用具的相互通報、及人員的交流培訓等。

西太平洋地區燃氣用具認證會議

這組織舉辦定期會議，鼓勵西太平洋區內會員，例如來自中國、香港、日本、韓國、澳洲和新加坡等的氣體用具製造商、認證及批准機關及規管機構，進行交流和合作，目的是促進氣體用具認證行業的發展。機電工程署是會議的活躍會員，曾就適用標準及產品監察提供意見。

Hong Kong is a world leader in gas safety, with one of the lowest gas related fatality numbers per million capita in the world. The number of fatalities and serious gas incidents here has declined steadily in recent years.

Through the Gas Standards Office (GasSO), Hong Kong also actively promotes regional exchange to ensure that all gas appliances used here, including imported ones, comply with international standards. We work closely with our mainland and overseas counterparts to develop gas appliance certification and help ensure compliance. Our partners include:

China's General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ)

EMSD has entered a second four-year cooperation arrangement with AQSIQ, in effect from 2007 to 2011. The scope of the arrangement is extensive, covering E&M and gas safety as well as energy efficiency. AQSIQ provided the GasSO with valuable advice and assistance during preparations for the "GU Mark", and offered ongoing support for cross-border notification mechanisms and training.

China Gas Association

As a member of the Association, EMSD sought technical advice and support during preparations for the "GU Mark" approval scheme launched in 2002. The working relationship thereby established has continued, with regular communications. It now covers such areas as the mutual notification of sub-standard gas appliances and the exchange of personnel for training purposes.

Western Pacific Gas Appliance Certification Meeting

To promote the development of the gas appliance certification industry, this regular forum encourages mutual exchange and cooperation among gas appliance manufacturers, certification and approval organisations, and regulatory bodies from participating members, such as China, Hong Kong, Japan, Korea, Australia and Singapore. As an active member of the forum, EMSD has offered advice relating to applicable standards and product surveillance.



死亡事故 每百萬人計 Fatalities per million capita

比較地方 Benchmark Locations	2006	2007	2008
香港 Hong Kong	0.29	0.14	0.00
國家/地區甲 Country / Region A	0.33	0.20	0.33
國家/地區乙 Country / Region B	0.00	0.38	0.00
國家/地區丙 Country / Region C	0.00	0.47	▲

*嚴重氣體事故 每百萬人計 *Serious Gas Incidents per million capita

比較地方 Benchmark Locations	2006	2007	2008
香港 Hong Kong	3.62	3.60	2.43
國家/地區甲 Country / Region A	2.46	2.25	3.24
國家/地區乙 Country / Region B	4.87	5.57	9.03
國家/地區丙 Country / Region C	1.91	2.60	▲

氣體洩漏事故 每公里喉管計 Gas Leakage Rate per km pipeline

比較地方 Benchmark Locations	2006	2007	2008
香港 Hong Kong	0.23	0.19	0.17
國家/地區甲 Country / Region A	0.64	0.64	0.62
國家/地區乙 Country / Region B	1.15	1.13	▲
國家/地區丙 Country / Region C	0.62	0.63	▲

安全表現比較

香港的氣體安全表現，與其他有指標作用的地方比較，毫不遜色。最突出的是我們極低的死亡及氣體洩漏數字，而嚴重事故數字也屬最低之列。

Safety Performance Benchmarking

Hong Kong's gas safety performance is on par with other leading places. Most notable are our very low fatality and gas leakage incident numbers, while the number of serious incidents is also among the lowest.

- * 嚴重氣體事故為所有涉及受傷或死亡之事故。香港採用了較嚴謹的計算方法，所有受傷事故，無論有否住院，都計算在內。
- * Serious gas incidents are those involving injuries or fatalities. Hong Kong has adopted a stringent approach which counts all injuries with or without hospitalisation.

▲ 數字於出版時暫缺。

▲ Data not available at time of publication.

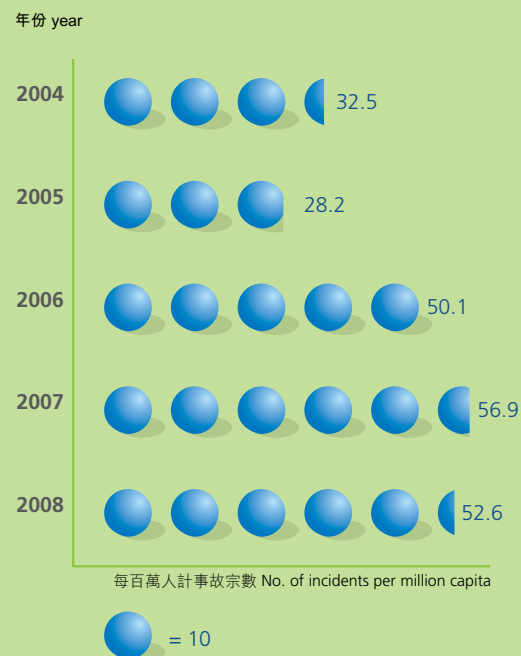


氣體安全數據

Gas Safety Statistics



氣體事故宗數 每百萬人計 Reportable Gas Incidents per million capita

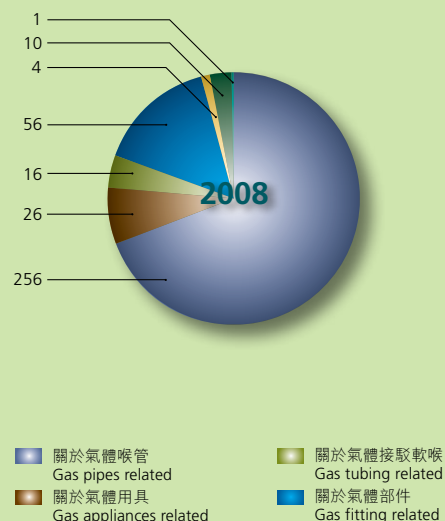


2004至2008年期間，本港氣體事故宗數時有起伏，近年則穩定在每年每百萬人約50宗左右。我們的目標是把氣體事故盡量再降低。

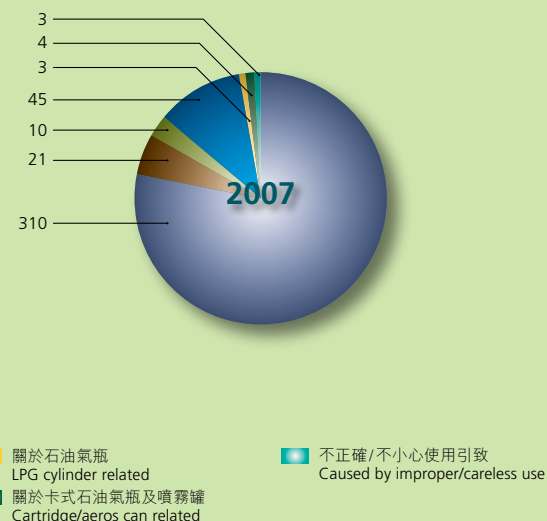
The incident numbers during 2004-2008 have fluctuated but recently steadied at about 50 incidents per million capita a year. Our target is to bring the number further down as much as possible.

氣體事故種類 Reportable Gas Incidents by Type

氣體事故宗數 No. of incidents



氣體事故宗數 No. of incidents



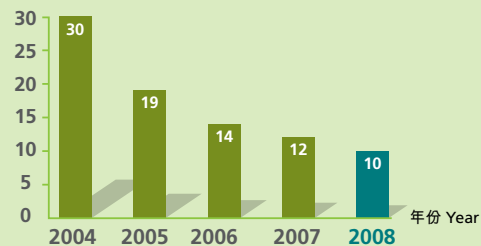
香港2008年的氣體事故數字不但比2007年減少了7%，而由於我們與氣體供應公司通力合作，加強巡查，再加上密集的安全宣傳工作，有關氣體喉管的事故同期內更大幅下降了17%。

Whilst Hong Kong achieved 7 per cent reduction in the number of reportable gas incidents in 2008 compared to 2007, there was also a significant 17 per cent reduction in gas pipes related incidents during the same period, due to concerted efforts with the gas supply companies to step up inspections and our intensive safety education.



第三者損毀地下氣體喉管事故 Third Party Damage of Underground Gas Pipes

事故宗數 No. of incidents



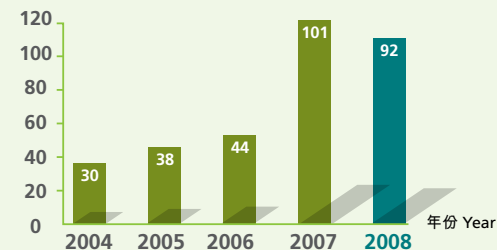
第三者損毀地下喉管事故近年持續減少，原因是《氣體安全條例》的修訂，並配合有效的巡查工作和業界宣傳。

Incidents of third party damage to underground gas pipes has continued to fall in recent years, as a result of amendments to the Gas Safety Ordinance, effective inspection and trade education.

紀律聆訊註冊氣體工程承辦商或註冊氣體裝置技工宗數 Disciplinary Action Taken Against Registered Gas Contractors or Registered Gas Installers

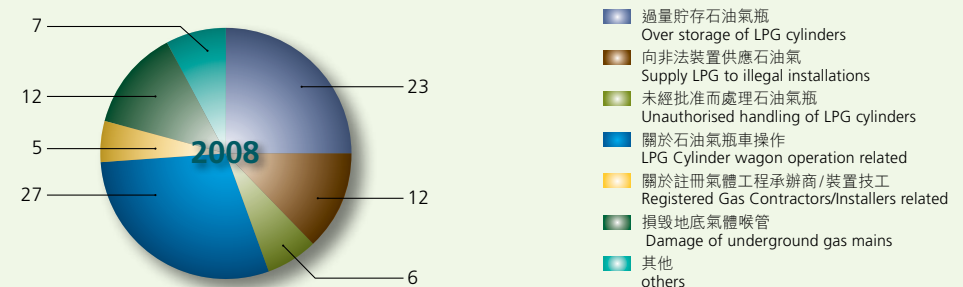
年份 Year	2004	2005	2006	2007	2008
註冊氣體工程承辦商 RGC	3	0	1	2	0
註冊氣體裝置技工 RGI	3	0	1	4	5
總數 Total	6	0	2	6	5

檢控宗數 Number of Prosecutions



檢控個案種類 Prosecutions by Type

檢控宗數 Figures represent no. of prosecution



2008年的檢控種類，有關石油氣瓶車操作、及過量貯存石油氣瓶的個案最多，而關於損毀地底氣體喉管、及向非法裝置供應石油氣的個案次之。檢控種類分析有助我們定出優次，向業界進行勸導守法的宣傳工作。

Cases related to LPG cylinder wagon operation, as well as over storage of LPG cylinders, are the key types of prosecutions in 2008, followed by those related to damage of underground gas mains and supplying LPG to illegal installations. The analysis helps us prioritise our compliance education work for the trade

剪影 Snapshots





團隊

The Team





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|-------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|
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