
T O W N G A S
C O R P O R A T E
I N F O R M A T I O N

2016

ENVIRONMENTAL
SAFETY & HEALTH
OPERATIONAL & FINANCIAL
INFORMATION



煤氣
Towngas

FOREWORD

The Hong Kong and China Gas Company Limited (Towngas), in its endeavour to enhance the transparency of its operations and services, publishes this Corporate Information Booklet 2016.

Supported by charts, the Booklet presents an update of the Company's accomplishments across a wide spectrum of activities which range from an annual business and operational review to its financial status.

Prominent in the Booklet is information on the Company's Safety measures and practices. These include prompt response to emergency incidents as well as proactive efforts to maintain gas safety at customers' homes and enhance their knowledge of gas safety.

Towngas is also well aware that liaison with customers is a priority issue. Hence, complementary with the 24-hour Customer Service Hotline, the Customer Focus Team serves as an effective direct communication channel between the Company and its customers.

Furthermore, the Company has achieved high performance in its "green policy" to ensure an environmentally-friendly operation.

However, Towngas does not intend to be complacent. Instead it will continue to seek further improvement and provide the people of Hong Kong with even better and more value-for-money service.

For enquiries, please contact our Corporate Affairs Department at 2963 3483.

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OPERATIONAL INFORMATION

1. Annual Business Review

The local economy grew slower in 2016 compared to 2015 amid a challenging global economy. During the year, tourism was hit by a strong Hong Kong dollar causing a decrease in the total number of inbound visitors for the second consecutive year and thus negatively impacting the food and beverage gas sales market. Conversely, as the average temperature in Hong Kong in 2016 was lower than in 2015, residential gas sales increased. Compared to 2015, total volume of gas sales in Hong Kong for 2016 increased by 1.4 per cent to 28,814 million MJ while appliance sales revenue increased by 24.9 per cent to HK\$1,634 million with a total of 275,361 units sold, mainly benefiting from newly completed residential projects.

During the year under review, the Company invested HK\$1,260 million in production facilities, pipelines, plants and other fixed assets for the further development of its gas and gas related businesses in Hong Kong.

(a) *Hong Kong Gas Business Profit*

The volume of gas sales increased by 1.4 per cent in 2016, while our customer base further expanded to a total of 1,859,414 accounts, an increase of 20,153 over the previous year. Although the Company has been implementing cost saving measures, increasing operating expenses and manpower costs have led to rising operating costs for businesses in Hong Kong. Net profit after tax from sales of town gas in Hong Kong for the year 2016 amounted to HK\$2,743.6 million.

(b) *Sales and Marketing*

New gas applications continued to take hold among our environmentally conscious customers, driven by our targeted marketing strategies. Both theme parks in Hong Kong now have our gas-fired absorption chiller plants and dehumidifiers installed in place of their electric counterparts. With more installations of gas-fired facilities in progress as the two parks move forward with their own expansion plans, we expect our commercial gas sales to continue on an upward trajectory in the coming years.

Catering to Hong Kong's evolving culinary tastes, we established stable growth this year in the restaurant trade through a range of new commercial western cooking appliances, programmable roasters as well as noodlecookers. For local restaurants, we introduced high-efficiency stockpots featuring technology that not only shortens boiling time by half compared to traditional stockpots, but also reduces heat and noise significantly for a better kitchen environment. Several large catering groups – including the popular Hong Kong Maxim's Group and Tsui Wah Group – have commissioned them for their restaurant chains. We also equipped local Korean barbeque chains with a series of new Korean-style gas grillers in light of the growing popularity of this cuisine among local diners.

Particularly well received among property developers was our Total Kitchen Solution, which combines our TGC appliances with our popular Mia Cucina kitchen cabinets and other branded products in a one-stop solution for retail consumers and commercial developers. Unit sales rose to 4,186 in 2016, bringing our market share

in the private development projects sector to 30 per cent. We expect this momentum to continue with the launch in early 2017 of our unified Mia Cucina kitchen series in tandem with the mainland market, offering one brand name that encompasses appliances and cabinetry. Additions to our line-up that will be introduced under the new Mia Cucina appliance brand include gas ovens, our new highly rated 8kW gas hob (the highest rated residential hob available in Hong Kong), range hoods and built-in refrigerators, amongst others. In recognition of their exceptional quality, our Mia Cucina projects were accredited by the Hong Kong Professional Building Inspection Academy in 2016, enhancing their competitiveness in the residential market.

Our robust performance in the face of a weak economy is attributable to more than mere marketing acumen. In addition to our promotions in home decor publications and websites, Mia Cucina continued to gain traction on the strength of our multifaceted customer engagement efforts. We also launched the international Reinventing Home Kitchen – Design Contest 2016, which drew in over 100 submissions created by design professionals and culinary talent alike from 17 different countries. Winning entries will come to fruition through the Mia Cucina brand, providing us creative ideas of reinventing kitchen design.

To drive gas sales, we continued to promote flame cooking, particularly among a younger segment of consumers. Taking our message to social media, we produced a series of popular cooking videos featuring celebrity chefs who discussed the benefits of flame cooking, along with other light-hearted cooking segments that were launched online, rekindling the joy of healthy home cooking. Video interviews were also conducted with restaurant gurus and trade leaders from the food industry for the commercial sector, highlighting the superiority of flame cooking with Towngas.

Another focus of our promotional efforts was our gas dryer. Highlighting advantages like speed, fabric-friendliness and environmental benefits, our promotions extended across a range of promotional channels, including social media, where we launched a photo contest and referral programme. Dryer sales rose by 14.4 per cent as a result, attesting to the enduring appeal of our unique dryers.

(c) *Serving Our Customers*

We are a utility company offering services that directly impact everyday life. Customer satisfaction has been a key driver of our business and we were honoured to receive over 6,400 complimentary letters throughout the year as a testimony to our quality services and products.

The backbone of our customer service structure is formed by our technical teams. Customer service achieved new levels of efficiency this year with the expansion of our mobility solution to our maintenance teams. Our technicians are equipped with mobile devices to provide instant quotations, eliminating the need for paperwork. Information like appliance instructions, safety videos and product promotions could also be called up instantaneously to keep customers informed on ways to keep appliances running safely. Already in use by our Regular Safety Inspection Teams, Emergency Teams and Installation Teams, this system helps us save over 2 million pieces of paper per year. In 2017, we plan to introduce a number of

internet channels aimed at communicating with our new generation of customers.

In recognition of our dedication to service excellence, we also received the Sing Tao Service Awards – After Sales Service for the eighth consecutive year and East Week's Hong Kong Service Awards – Public Utilities for the sixth year running.

(d) The Gas Infrastructure

Keeping pace with new housing and commercial developments that are currently underway, our piped-gas network and infrastructure in Hong Kong continued to expand in 2016, supporting the growth of our gas business and enhancing supply reliability. New residential developments in Kai Tak, Sha Tin and Kwun Tong were connected to our gas mains this year, as were several large laundering facilities and Phase II of a theme park currently under development.

With areas of the North East New Territories and Shenzhen River Loop coming into focus under the government's comprehensive development plans, we are preparing for a substantial expansion of our piped-gas network to cope with the anticipated surge in gas demand. Network design is currently in progress for development areas in Fanling North, Kwu Tung North, Hung Shui Kiu and Tung Chung East, while in Lantau, over 15 km of pipeline are being planned for the third runway project and the new commercial development in Chek Lap Kok. The new pipelines will be laid in conjunction with the government's road infrastructure.

Progress continues in the laying of a 9 km stretch of looped intermediate-pressure pipeline along Castle Peak Road, as well as the modification of our adjoining stations in Tai Lam and Tuen Mun North. This will enhance the stability of the gas supply to the North West New Territories once complete. The replacement of our medium-pressure ductile iron pipes for gas supply enhancement is also progressing, and is now in its final stages.

Our piped gas network has a reputation for reliability and a low seepage rate, which we achieve through diligent monitoring and the proactive maintenance of our infrastructure. In 2016, on a 10-year cycle, we carried out in-line assessments of our high-pressure pipelines using intelligent pipeline inspection gauges, enabling us to ensure the continued integrity of our pipeline system.

Our innovations also extend towards enhancing safety and efficiency in gas supply system maintenance and repair works. The Smart Jacket is a PVC sleeve developed to enclose targeted riser sections to halt corrosion, reducing the need to replace pipes that are otherwise uncompromised. Automation via the application of robotics this year saw our roadwork benefit from the introduction of our Little Swan, which is a fleet of mini excavators that can be controlled remotely and manoeuvred easily even in tight spaces, reducing our reliance on cumbersome equipment. Our rapid rock drilling and splitting machine likewise reduces the need for traditional manual rock splitting. Capable of drilling and splitting hard rock 20 times more quickly, it allows for a substantial reduction in manual labour.

We make effective use of technology to conduct remote monitoring of our pipe

system. Our computerised pipe replacement automated point system maps sections of pipe that need to be replaced based on a point system. Factors taken into consideration include the pipe's age, leakage history, material used, gas pressure, size and location, amongst others. Photogrammetry is another digital tool we use to measure the precise positioning of our pipelines, translating a series of images into engineering records that aid us in asset management.

(e) *Towards a Sustainable Future*

We are committed to protecting and improving the environment so as to ensure sustainable development. By developing innovative methods to conserve energy, supply competitive clean fuel alternatives and utilise wasted energy sources, we continually work on new standards in sustainable business practices.

Towngas is a significant initiator in terms of renewable landfill gas utilisation in Hong Kong. The landfill gas initiative is one of Hong Kong's most effective forays into renewable energy to date, delivering the dual benefits of offsetting the city's carbon footprint by harnessing greenhouse gas, as well as partially substituting fossil-based feedstock alternatives. Alice Ho Miu Ling Nethersole Hospital's combined heat and power generation (CHP) system is fuelled by our North East New Territories (NENT) landfill gas treatment plant. On top of this, the HK\$350 million South East New Territories landfill gas treatment plant is expected to be commissioned in the first half of 2017, and capable to reduce carbon emissions by 56,000 tonnes a year, equivalent to the planting of 2.4 million tree seedlings. This plant will produce enough treated landfill gas, together with our NENT landfill site and Tai Po Shuen Wan facilities, to constitute around 5 per cent of the feedstock for our local gas production.

Our commitment to the environment also guides the way we conduct our operations. Towngas headquarters is Hong Kong's first non-residential building to earn the Final Platinum rating under the BEAM Plus Existing Building Version 1.2 standard and was named U Favourite Hong Kong Green Building by U Magazine during the year.

To further reduce our carbon footprint, we began using old cast iron pipes as host pipes to renew gas pipes via trenchless technology, reducing construction waste by 90 per cent and carbon emissions by 60 per cent.

Towngas believes that for environmental initiatives to be effective, public education is essential. During the year, we continued to be active in environmental campaigns organised by community groups. Highlighting the issue of food waste in Hong Kong, for example, we partnered with Food Grace to organise workshops and a product design competition to educate the community on methods of recycling food waste. In Hong Kong, the quantity of paper towels sent to landfill matches that of plastic bags. To raise awareness of this issue, Towngas supported Get in Gear Volunteers, an event organised by the Junior Chamber International Lion Rock with the theme, "Green City, Green Life, Stop Using Paper Towels!". We also encourage our staff to use handkerchiefs instead of paper tissues.

On the mainland, Towngas organises an annual carbon reduction competition that has seen the creation of 195 projects since 2010. It was expanded to include projects in Hong Kong

in 2016, leading to a reduction in carbon emissions by about 120,500 tonnes annually.

In recognition of our efforts, Towngas was honoured with the BOCHK Corporate Environmental Leadership Awards 2015 – Gold Award (Manufacturing section), and named a Hong Kong Green Organisation by the Environmental Campaign Committee and the Environmental Protection Department. Moreover, Towngas was awarded the World Green Organisation's Sustainable Business Award.

(f) Empowering Our People

At Towngas, our employees are free to lead balanced lives, ensuring happiness at home and productivity at work. Towngas headquarters in Hong Kong hosts a library, fitness facilities and clinic, as well as a mother care room, which will double in size in 2017. In addition to annual, maternity, paternity and compassionate leave, the Company allows employees who are undertaking professional development courses to take time off for examinations. During the year, we received our second Distinguished Family-Friendly Employers 2015/16 Award and Special Mention 2015/16 (Gold) by the Home Affairs Bureau and the Family Council.

Talent development is a high priority at Towngas, as we require an ever-increasing number of highly skilled people to sustain our expanding business. To fulfil the management requirements of all our businesses, our comprehensive leadership learning curriculum offered a series of workshops on driving change, spurring team innovation and providing top quality customer service in regional hubs, including Qingdao, Jinan, Suzhou and Shenzhen, throughout 2016. Our flagship Executive Development Programme, a collaborative effort between Towngas and Tsinghua University, was organised in its ninth year with 46 senior executives from different business sectors graduate. The Towngas Leadership Competencies Acceleration Programme is designed to prepare middle management for future leadership. In 2016, 18 managers completed the programme, ready to assume greater responsibility in driving business forward while furthering their own careers within the Company. We plan to continue training high potential talent at all levels through similar schemes next year.

Towngas treasures graduates as the foundation for a powerful leadership pipeline. In 2016, we hired 26 graduate trainees from universities in Hong Kong, mainland China and overseas. The programme included work placement in different locations and cross-learning events, as an opportunity for trainees to collaborate and gain a wider view of the Group's operations. Since 2014, 41 staff members from Hong Kong have started or completed the short-term mobility assignment in China.

The Towngas Engineering Academy (TEA) offers technical training for our employees. Towngas is the first and only gas company in mainland China, accredited by the Hong Kong Institution of Engineers and the Institution of Gas Engineers and Managers (IGEM), to provide dedicated training schemes for gas engineers. Our Masters programme, offered in partnership with the Hong Kong Management Association and the University of Technology Sydney, saw 23 engineers graduate in Hong Kong and Shenzhen, some of whom are already applying for the globally recognised IGEM qualification.

Keeping pace with advancing engineering standards, we opened a new Commercial and Industrial System Simulation Area, equipped with cutting-edge technology for interactive learning. Guided by our Growth = Innovation × Implementation (G=ixi) campaign, numerous initiatives fostering out-of-the-box thinking were developed. The TEA's Continuing Transformation Office published an internal newsletter, Innovation Headlines, in 2015, as an avenue for our joint ventures to exchange ideas.

Additionally, the Towngas Hall of Innovation at our Hong Kong headquarters continues to showcase employee innovations that have significantly improved workflow, safety and productivity. We are constantly seeking creative solutions because innovation is the cornerstone of our corporate DNA. We setup the G=ixi Laboratory to provide a technical platform for the rapid prototyping of creative ideas from our staff.

Our Total Quality Management programme continues to motivate employees in their pursuit of excellence, with emphasis on the "Three Courtesies": etiquette, politeness and care. We promoted the Three Courtesies culture in Hong Kong and mainland China, and have already seen marked improvement in work attitudes, service behavior and colleague relationships.

As a gas supply and infrastructure company, a large portion of our business relies on the quality of technical work. In 2016, the Group launched the MasterCraft programme to cultivate craftsmanship among our frontline technicians. The final competitions of MasterCraft Award were held in Hong Kong headquarters to recognise technicians who use innovative methods and tools with attention to aesthetic details to produce high quality installation work.

In 2017, we will provide more training programmes building the resilience and creativity of our employees, with topics centred on market awareness, innovative industry solutions, change management, stress management and social media understanding.

2. Safety

(a) Customer Safety

Our concern for safety underpins everything we do. We understand the need to educate and inform the public on the safe and responsible use of gas products and services. In 2016, we held 12 safety exhibitions, maintaining our long-standing and well-proven methods of taking our safety message direct to consumers. As always, appliance safety was a high priority: We conducted more than 1,310,000 Regular Safety Inspections of gas facilities in customers' homes. This safety driven programme has proved extremely popular with our customers.

(b) Occupational Safety and Health

Safety and health is our top priority. To continuously keep up with the safety and health standard and reduce the chance of accident systematically, Total Safety Management System has been implemented in the Company. We strive our excellence to promote safety culture and implement health and safety policy to employees, contractors and suppliers through occupational safety and health (OSH) trainings,

seminars and others. The industrial safety performance in 2016 was better than 2015. There were 12 industrial accidents with an Accident Frequency Rate of 0.24.

To ensure our colleagues respond to emergencies in a timely and effective manner, drill exercises were carried out regularly. In 2016, we held a number of joint fire exercises with Fire Services Department, allowing our emergency response team to work closely with Fire Services Personnel in the operations. Besides, we organised Fire and Risk Management Training Course in Fire and Ambulance Services Academy to enhance emergency handling. In order to enhance emergency management, we organised a Corporate Emergency Table-Top Exercise for Towngas Telecommunications Company Limited, a wholly owned subsidiary.

We introduced a variety of programme in 2016 to embed safety culture with our company. Activities including OSH Seminars, OSH Games and others were organised in Stay Health 2016, Health, Safety & Environment (HSE) Month, attracting active participations. Besides, we also organised Contractor OSH Forum and Contractor Site Safety Competition to enhance the safety standard of contractors.

With outstanding safety performance, Towngas won “OSH Annual Report Award – Gold Award”, “Pointing and Calling Award – Gold Award”, “Safety Enhancement Programme Award – Silver Award” and “Safety Performance Award” in 15th Hong Kong Occupational Safety and Health Award organised by Occupational Safety and Health Council (OSHC). Also, we won “Joyful@Healthy Workplace Best Practices Award - Excellence Award” in Occupational Health Award 2016 – 2017 organised by OSHC.

(c) Gas Production Plants Safety

We have strong confidence in the safety, reliability and management systems of our Tai Po and Ma Tau Kok gas production plants. Both plants were designed and built by reputable international project contractors, based on proven engineering and chemical processes. Manned by competent and experienced operation and maintenance crews, the two gas works did not have even one interruption to the gas supply since the first day they were commissioned. On this basis, our Company's supply reliability continues to be one of the best in the utilities and reached a level of 99.991% in 2016.

Our Company exerted great efforts in safeguarding the conditions and availability of the two gas plants. Ma Tau Kok gas production plant has over 39 years' safe and reliable production history, while Tai Po plant is equipped with modern computer control systems and sophisticated instruments, and the plant has been running stably for 30 years. Both sites implement strict work rules and procedures to control various high risk operations, with robust backup from automatic alarms and safety interlocks. A high degree of emergency response preparedness is achieved by a wide range of fire-fighting facilities, well trained response teams and frequent emergency drills. Our standards of safety control compare most favourably with other major utilities in Hong Kong and overseas.

Towngas abides by all legal requirements and cooperates fully with the various government departments responsible for enforcing stringent surveillance to the plants.

The Accident Frequency Rate of gas production plants has always been maintained at a low level, with about 0.47 case per 100,000 man hours. Nonetheless, in pursuit of the target of zero accidents, the plant management proactively reviewed the root causes of each incident and implemented every practicable preventive measure. No major gas emergency has happened in the plants for many years.

As a long term strategy, Towngas will continue to develop various hazard controls and risk mitigation measures to maximise the safety of its employees, the plants' neighbourhood and the plants themselves, guaranteeing 100% reliability in the whole lifetime of the plants.

(d) Network Safety

Ensuring network safety, we continue to monitor and enhance our pipeline infrastructure with an active maintenance and rehabilitation programme. Rigorous trench inspections and leakage surveys continue and the introduction of better equipment and technology also provide invaluable support in the maintenance of safety standards.

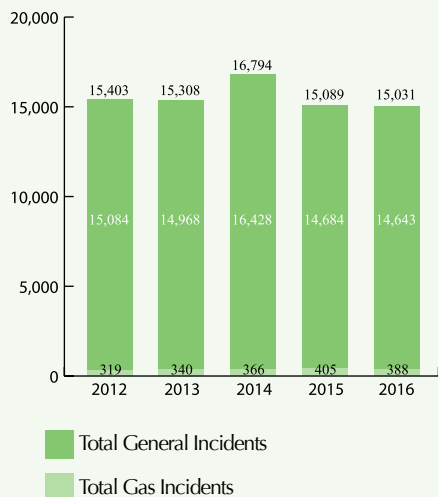
Emergency vehicles equipped with new tablets are now used in the handling of any gas emergency and the use of sensitive laser methane detectors for leakage surveys, as well as advanced technology which check the condition of the coating on steel pipes, were also introduced these years.

In addition, we continue to check our pipes rigorously by sophisticated leakage survey from anywhere between six times a year to once a year to ensure their integrity.

We also augmented the number of trench inspections of third party excavation sites to circumvent damage to nearby Towngas pipelines. In 2016, 176,925 trench inspections covering 12,606 active sites were made.

(e) Charts on Emergencies, Safety Inspections and Safety Promotion

(i) Number of Urgent Reports

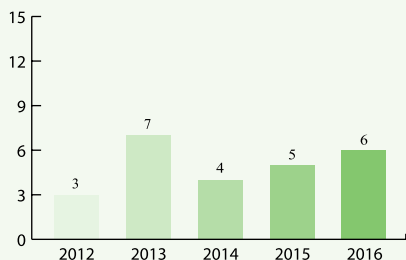


Urgent Reports refer to incidents which require Towngas personnel to attend immediately, whether the incident is gas-related or not.

Out of the 15,031 Urgent Reports received in 2016, only 388 were Gas Incidents. Gas Incidents are town gas-related and are classified according to any of the following situations:

- Reported by Police or Fire Services Communication Centre
- Uncontrolled gas escape (which cannot be ascertained that it can be stopped by turning off the meter control cock)
- Incidents involving injury to a person, whether fatal or non-fatal
- Incidents involving explosion or fire damage to property
- Supply defects

(ii) Number of Major Gas Emergencies



Out of the 388 Gas Incidents in 2016, 6 cases were Major Gas Emergencies.

* *Nature of "Major Gas Emergency" is defined in the Gas Safety Ordinance. Suicide cases are not included.*

(iii) Average Response Time for Gas Incidents



The promptness of Towngas' response to emergencies has achieved a world class standard and we will strive to continue improving the level of promptness in the coming year.

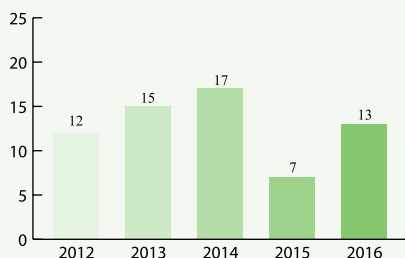
(iv) Number of Fatal Gas Accidents

Year	2012	2013	2014	2015	2016
No. of Fatal Gas Accidents	0	0	0	0	0

* *Suicide cases are not included.*

With Towngas' efforts to promote gas safety and respond promptly to emergencies, no fatal accidents from gas emergency incidents throughout the past five years.

(v) Number of Incidents Involving Third Party Damage



Towngas has been able to keep the third party damage in a relative low level. The number of third party damage was 13 in 2016.

(vi) Trench Inspection

Total number of active sites inspected in 2016

Island	Kowloon	New Territories	Total
4,482	4,400	3,724	12,606

To minimise third party damage to its network facilities, Towngas emphasises close coordination with concerned parties in any excavation work that may subject its pipelines to possible damage. Apart from provision of alignment drawings and safety advice for the third parties, the Company organises safety talks for the construction industry. In 2016, a total of 247 contractor personnel attended our safety talk sessions. Besides, the Company is possibly the only local utility to proactively send its technicians to work at sites to ascertain the alignment of its facilities for maximum safety.

(vii) Number of Leakage and Pipeline Surveys

Type of pipelines	Frequency of leakage surveys
Transmission pipelines: - All HP & IPB mains	At least once a year
Distribution pipelines: - PE or steel pipes over or enclosed within structures - Medium pressure ductile iron pipes or all galvanised iron pipes - Low pressure ductile iron pipes - Others	At least twice a year At least six times a year At least three times a year At least once a year

HP – High Pressure IPB – Intermediate Pressure B PE – Polyethylene

Under the Company's rigorous leakage survey programme, our qualified technicians perform regular leakage detection on our different types of gas pipes with the help of advanced instruments – including Flame Ionisation Detectors (FID) and Combustible Gas Indicators (CGI). With these sensitive instruments, very low level traces of gas seepage can be detected and rectified before they develop into reported gas escapes. Considering these surveys as effective precautions against major gas escapes, we conduct more leakage and pipeline surveys than our foreign counterparts every year.

As a result of the stringent and proactive leakage survey and trench inspection programmes, the number of public reported gas escape incident in network was only 0.018 per km per year in 2016. Even if minor seepages located by the sensitive leakage survey were also included, the number was 0.099 per km per year only, much lower than the figures in many other similar metropolitan cities.

(viii) Major Emergency Drills with Government Authorities in 2016

Type of Drill	Joint Fire Exercise					Bomb Threat Drill
Venue	Tai Po Plant	Ma Tau Kok Plant	Aberdeen Depot	Network (Yuen Long)	Braemar Hill Tunnel	Ma Tau Kok Plant
No. of Exercises	2	1	1	2	1	1

(Government authorities include Fire Services Department, Electrical and Mechanical Services Department and Police Force)

(ix) Number of Regular Safety Inspections



Towngas has taken proactive measures to maintain gas safety at customers' homes by initiating on-site safety inspections of their gas installations and external service risers at regular intervals of 18 months.

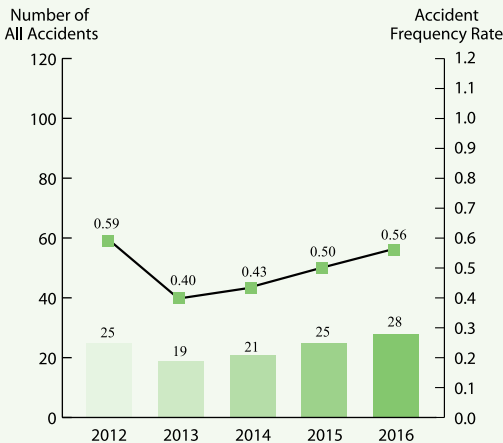
(x) Number of Sub-standard Appliances Upgraded

Towngas encourages customers to upgrade their sub-standard appliances through various educational and promotional programmes. In 1999, we introduced a discount scheme to encourage customers to upgrade their water heaters and cooking appliances. In 2016, 159 Flueless (Sink) and Open-flued water heaters, and 237 Non-FFD cooking appliances were removed or upgraded.

(xi) Number of Safety Exhibitions and Safety Talks

Towngas has been widely recognised for its continuing efforts in promoting home safety. Safety talks and safety exhibitions are major channels through which Towngas enhances the public's awareness and improves their knowledge of gas safety. In 2016, we organised 12 safety exhibitions and 10 safety talks in housing estates and elderly centres. Information panels were exhibited and information booklets on gas safety were delivered.

(xii) Industrial Safety Performance of Employees



Towngas is committed to providing a safe and healthy environment for its employees. From 2012 to 2016, there have been less than 1 injury accident per 100,000 working hours. Towngas continuously provides training on occupational safety to employees with the aim of further reducing the occurrence of accidents.

■ No. of All Accidents
— Accident Frequency

3. Service Pledge

Initiated in 1994, the Towngas Service Pledge has set high targets in major customer service areas: reliability of gas supply, safety, service attitude, the speed and convenience of service, appointments and complaint handling. Towngas has performed well in the past 22 years and pledges to continue improving its service and to set higher targets to ensure customers get the best possible levels of service.

(a) Results of 2016

	Results
Reliability	
• Uninterrupted gas supply (over 99.99%)	99.991%
• In case of supply interruption on account of maintenance or engineering work (3 days prior notification)	100%
• Restoration of gas supply within 12 hours	100%
Safety	
• Emergency teams average arrival time (within 25 minutes)	average 21.54 minutes
Appointments	
• Availability of maintenance and installation services within 2 working days	Average 1.14 days
Speed and Convenience	
• Customer Service Hotline (calls answered within 4 rings)	92.53%
• Connect or disconnect gas supply within 1 working day (upon customer's request)	100%
• Deposit refunded at Customer Centres (2 hours after disconnection of gas supply) (upon customer's request)	100%
Service Quality	
• Efficiency *	8.87
• Courteous and friendly attitude *	8.81
Handling Suggestions	
• Reply within 3 working days	100%
• Resolution, or a statement of when the matter will be resolved, within 2 weeks	97.92%

* The result was based on surveys conducted by an independent research company. Our target is to exceed a score of eight out of ten.

(b) Service Pledge for 2017

Towngas pledges to continue improving our service and to set higher targets, aiming at providing our customers with best possible service. The new Pledge has become effective from January 2017, and the annual reporting on performance results will be announced in January 2018.

<u>Pledges</u>	<u>Target</u>
Reliability	
• Uninterrupted gas supply	- Over 99.99%
• In case of supply interruption (on account of maintenance or engineering work)	- 3 days prior notification
• Restoration of gas supply	- Within 12 hours
Safety	
• Emergency Teams	- Arrive on site within 25 minutes
Appointments	
• Availability of maintenance and installation services	- Within 2 working days
Speed and Convenience	
• Customer Service Hotline	- Calls answered within 4 rings
• Connect or disconnect gas supply	- Within 1 working day
• Deposit refunded at Customer Centres supply*	- 2 hours after disconnection of gas
Service Quality	
• Efficiency	- 8 or above out of a total score of 10
• Courteous and friendly attitude	- 8 or above out of a total score of 10
Handling Suggestions	
• Written comments or suggestions	- Reply within 3 working days
	- Resolution, or a statement of when the matter will be resolved, within 2 weeks

* To enjoy this service, residential customers are advised to inform us of their request for refunds at the time of making cap-off service appointment. The maximum refund amount is HK\$2,000.

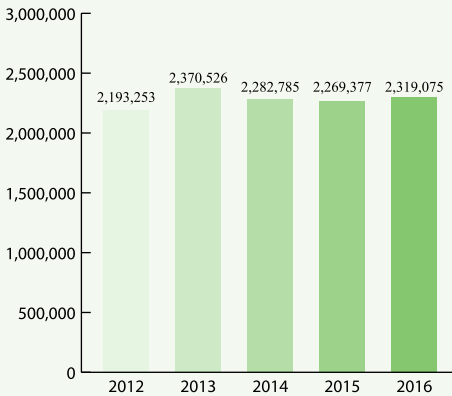
4. Customer Liaison

(a) Customer Focus Team

Since its inception in 1993, the Customer Focus Team has provided an effective communication channel between Towngas and its customers. It is a key factor in ensuring that our services meet customer expectations. The Team, comprising managers from customer related departments, visits two public or private housing estates every month. Issues related to Towngas service, gas safety, bill payment and gas appliances are discussed at the meetings. Comments from customers contribute greatly to the improvement of Towngas products and services. In 2016, the Customer Focus Team made 24 visits to its customers.

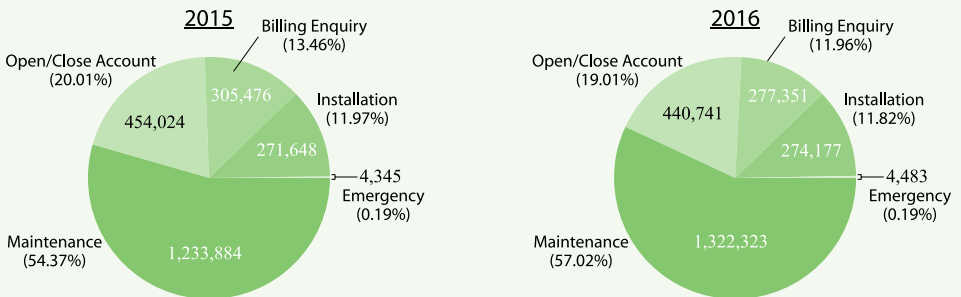
(b) Customer Service Hotline and Emergency Hotline

Number of Incoming Calls



The public can always keep in touch with Towngas through its Customer Service Hotline (CSH) and Emergency Hotline. The CSH – 2880 6988 – provides a convenient one-stop service for customers to enquire about and arrange the full range of Towngas services. The Emergency Hotline – 2880 6999 – operates around the clock, and responds to emergency calls immediately.

Number of Incoming Calls by Categories:



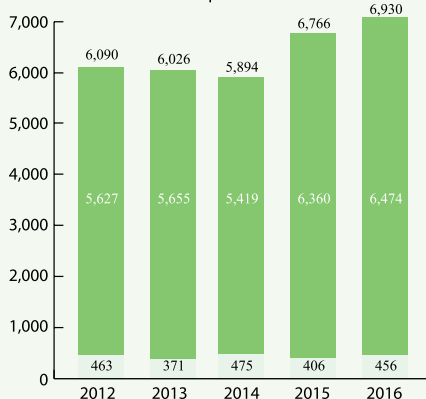
The largest category of incoming calls to the CSH and Emergency Hotlines is maintenance, representing 57.02% of total calls in 2016 while other categories include open/close account, billing enquiry, installation and emergency.

(c) Bill Inserts to Customers

A bill insert, which comes with the bi-monthly gas bill, is an effective means to keep our customers informed. In 2016, a total of 27 information leaflets on various topics were sent to customers. The topics of these leaflets were mostly related to Towngas services and products, including special offers on appliance, Towngas Avenue, Towngas Cooking Centre, Mia Cucina premium kitchen cabinet and appliances series, green and health products, etc as well as gas safety and energy saving tips. Also, we have sent 12 leaflets for NGOs without charges.

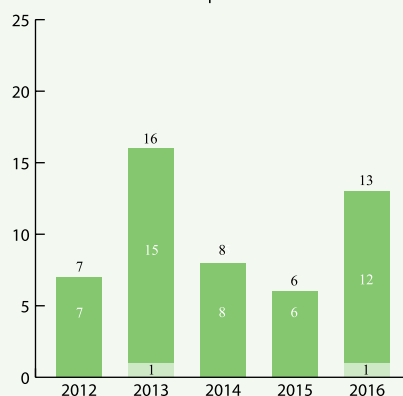
(d) Number of Customers' Compliments and Complaints

Number of Customers' Compliments



Written Compliments
Verbal Compliments

Number of Customers' Complaints

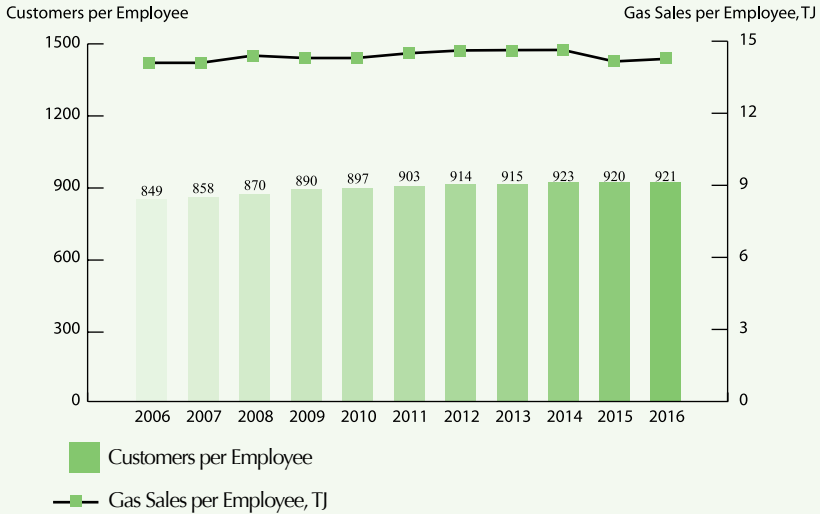


Written Complaints
Verbal Complaints

Delivering high quality customer service has always been a Towngas priority. We are more focused than ever on the continuous enhancement of customer satisfaction by providing superior quality service. As a result, there were a total of 6,930 compliments about Towngas' service in 2016, which included 6,474 written compliments and 456 verbal compliments.

Regarding the number of customer complaints, Towngas received a total of 13 complaints in 2016 (12 written complaints and 1 verbal complaints). With 1,859,414 customers as at 31 December 2016, the ratio is 1 complaint per 143,032 customers. Towngas is committed to taking proactive measures to improve product quality and the service attitude of its frontline staff.

5. Efficiency (Products and Productivity)



In 2016, Towngas continued to devise and implement measures to maintain high cost-efficiency without compromising the quality of our services to customers. In addition to bring down the costs of spare parts of gas appliances through vigorous research and development efforts, we have further promoted the use of information technology to attain a higher level of automation throughout our operations.

These measures, together with a range of other initiatives, resulted in a 0.1 per cent slightly increase in productivity in 2016, which is measured in terms of number of customers served by each employee. In 2016, each Towngas employee served 921 customers, and town gas sales averaged 14.3 TJ per employee. Towngas will continue to seek ways to ensure our customers receive the best and most cost-effective service.

For the popular steam cabinets in commercial kitchens, an energy efficient feature has been developed to minimize the generation of excess steam automatically. This can help to reduce the total energy used for food steaming processes.

Apart from offering kitchen design and consultation services, Mia Cucina will enrich its Total Kitchen Solution by proudly introducing a premium and energy efficient kitchen appliance collection in early 2017. For example, the Mia Cucina gas hobs are designed to meet the thermal efficiency requirements set by the Government and have already registered under the Energy Efficiency labelling Scheme.

In addition, our pioneering activities in the use of landfill gas (LFG) have also been gaining momentum. First diversifying into this area at the Shuen Wan Landfill, the use of this renewable energy grew exponentially with the commissioning of our North Eastern New Territories LFG utilisation project in 2007. In 2016, accounting for about 2 per cent of our production fuel, our aim is to grow this resource to 5 per cent. Extending these

activities to the South Eastern New Territories landfill site, agreement was signed with landfill operator in December 2014. Construction of the Plant is in progress and expect it is operational in the second quarter of 2017. The use of LFG not only cuts carbon emissions released into the atmosphere, our consumption of naphtha also fell by around 9,350 tonnes in 2016. These savings alone translate into the planting of some 1.2 million trees.

6. Charges

In addition to the gas charge, which is calculated based on customers' gas consumption, Towngas levies a fixed Monthly Maintenance Charge on residential customers which entitles them to reliable, efficient and comprehensive repair and maintenance services for all their gas appliances and installations. Towngas also adjusts the gas charge through a Fuel Cost Adjustment mechanism to reflect fluctuations in fuel prices.

(a) Monthly Maintenance Charge

The Monthly Maintenance Charge (MMC), which has been frozen at HK\$9.5 since 1998, covers the labour charges for appliance maintenance and repairs, on-demand appliance check-ups, regular safety inspection whereby customers' gas appliances, gas installation pipes and external service risers are inspected by our fully-qualified, registered gas technicians at regular intervals of 18 months, and the 24-hour Customer Service Hotline. Towngas conducted more than 640,000 on-demand maintenance works and more than 1,310,000 Regular Safety Inspections in customers' homes in 2016.

However, MMC does not include the costs of replacing spare parts, rubber hose, stainless-steel braided flexible hose or corrugated stainless steel tube for appliances, nor the costs of repair or replacement of gas installation pipes and external service risers, appliance disconnection and reconnection, or gas meter accuracy testing. To provide our customers with maximum protection, 24-hour emergency services are rendered free-of-charge.

(b) Fuel Cost Adjustment

The fuel cost adjustment calculation is based on gas consumption and each month's fuel costs. For every complete multiple of HK\$1 by which the effective feedstock cost* rises above (or falls below) the equivalent of HK\$1,420 per kilolitre of naphtha, the charge for gas will be increased (or reduced) at the rate of HK0.004 cents per MJ.

Customer saved a total of HK\$434 million fuel cost adjustment in 2016 with the using of natural gas in producing town gas.

* Effective feedstock cost is the weighted average cost (based on energy content) of different feedstock used for production of town gas.

7. Fuel Mix Percentage

In 2016, fuel mix in terms of percentage of naphtha, natural gas and landfill gas used as feedstock is as follows:

Feedstock	Percentage
Naphtha	37%
Natural Gas	61%
Landfill Gas	2%

8. Towngas Concession Schemes

Seeking to make a difference for some of the disadvantaged groups in society, we have launched four concession schemes to provide these groups in Hong Kong with additional service benefits. Under the concession schemes, beneficiaries may enjoy a 50% discount off basic gas tariff on the first 500 MJ (around 10.4 units) of town gas consumed, waiver of monthly maintenance charge, initial charge and security deposit, as well as free appliance maintenance and spare parts.

Towngas Concession Schemes	Qualified Applicants *
Concession Scheme for the Elderly	Applicants should be aged over 60 years, living alone or with other qualified senior citizens and living in self-care quarters within public housing estates, or qualified for the Comprehensive Social Security Assistance Scheme (CSSA).
Concession Scheme for People with Disabilities	Applicants should be receiving, or living with a direct family member who is receiving CSSA, and is classified as "100% Disabled" or "Requiring Constant Attendance" under CSSA.
Concession Scheme for Single-parent Families	Applicants should be single-parent family households receiving CSSA under the single-parent category.
Concession Scheme for Low Income Families	Applicants or his/her family member has a regular job income which is taken into account in the assessment of CSSA entitlement. (The "Notification of Successful Application" or "Notification of Revision of Assistance" bears the item of "LESS NET EARNINGS" indicated in two consecutive months of the CSSA payment period.)

* All applicants should be registered Towngas account holders.

In 2016, the overall average amount of savings per beneficiary customer under the Towngas Concession Schemes was HK\$561.

ENVIRONMENTAL PROTECTION

Our “Sustainability Report” has already clearly elaborated our sustainability strategies and set out the targets and standards that we encourage all employees, contractors and suppliers to work towards. Being a responsible public utility, we persistently put efforts to protect the environment and ensure sustainable development.

1. Environmental Promotional Programmes

We continue to offer our proactive support to various green groups and government-led environmental protection programmes. In 2016, we supported and sponsored Green Power's 5riday Green Challenges Programme, Get in Gear Volunteers organised by the Junior Chamber International Lion Rock, The Amazing Race organised by Clean Air Network, as well as collaborated with Food Grace to educate the community on methods of recycling food waste. We also sponsored and participated in the annual Green Power Hike by Green Power, No Air-con Night and Green Sense Walkathon by Green Sense, Lai See Recycling Programme by Greeners Action, the Green Walk Campaign by World Green Organisation, Eco Rangers by the Conservancy Association, Earth Hour and Walk for Nature by WWF and the Hong Kong Green Day by the Green Council, etc.

2. Environmental Training and Education Programmes

In recent years, Towngas has provided a great variety of environmental trainings and educational activities to enhance environmental awareness among our employees and contractors. Programmes conducted in 2016 included the Annual Outstanding Environmental Sub-committee Award, Green Ambassador training, seminars on food waste reduction, organic farming trainings and visit to the Community Green Station in Sha Tin, etc. Publication of four issues of the Health, Safety & Environment Bulletin were distributed to all employees and our contractors. Green promotional messages were conveyed to employees via email and intranet on regular basis.

3. Environmental Achievements

Towngas was conferred with the 2015 BOCHK Corporate Environmental Leadership Awards – Gold Award (Manufacturing Sector) presented by The Federation of Hong Kong Industries and the Bank of China (Hong Kong) Limited, U Green Awards – Public Utilities – (Excellence) and My Favourite Green Building – Towngas Headquarters presented by U Magazine, HSBC Living Business Awards – Sustainable Business Partner and Green Achievement Award – Certificate of Excellence (Towngas Telecommunications Company Limited) presented by The Hongkong and Shanghai Banking Corporation Limited. In 2016, the CarbonCare® ESG Label is attained. We also continue to join the World Green Organisation's GOALS Programme and awarded the Sustainable Business Award. The Class of Excellence Wastewi\$e Certificate which the Environmental Campaign Committee conferred upon us for the 15 consecutive years was testimony to our strong commitment to waste reduction. With the environmental measures in our headquarters, we are recognized as “Finalist” at the Green Building Award 2016.

4. Environmental Performance

In 2016, Towngas' 12 functional environmental sub-committees achieved around 50 environmental objectives. For instance materials procurement of the second rainwater collection system was completed in 2016. Lighting in lift lobbies, pantries

and warehouses was replaced with LED lights at headquarters. Used Gas Appliance Recycling Programme has been held over ten years which has enabled us to divert wastes from landfill sites. For more details about our environmental performance and targets, the public can access our website to view or download our "Sustainability Report".

(a) Environmental Performance Table

(All legal requirements relating to environmental protection were fully complied with)

Ozone Layer Protection

- All of our vehicle air conditioning systems now operate with refrigerant R134A.
- All BCF portable fire extinguishers have been replaced by dry powder extinguishers.
- The central MVAC system in North Point building and Ma Tau Kok building operate with HCFC-free refrigerants.

Air Quality

- Total NO_x output was 4.0 kg/TJ of town gas (Annual total of 114,856 kg, equivalent to a daily average of 314 kg).
- Total SO_x output was 0.02 kg/TJ of town gas (Annual total of 528 kg, equivalent to a daily average of 1.44 kg).
- Total CO₂ output was 11.6 MT/TJ of town gas (Annual total of 331,878 MT, equivalent to a daily average of 907 MT).

Greenhouse Gas Emission

- Annual total greenhouse gas emissions of 359,300 MT in terms of CO₂ equivalent.

Volatile Organic Compounds (VOC)

- Estimated annual total VOC emissions was 5.15 kg/TJ of town gas (Annual total of 148,069 kg, equivalent to a daily average of 405 kg).

** Before introduction of natural gas feedstock, estimated annual total VOC emissions was 9.83 kg/TJ of town gas (Annual total of 268,242 kg, equivalent to a daily average of 735 kg).*

Water Quality

- Total waste water output was 4.1 m³/TJ of town gas (Equivalent to a daily average of 321 m³).

Chemical Waste

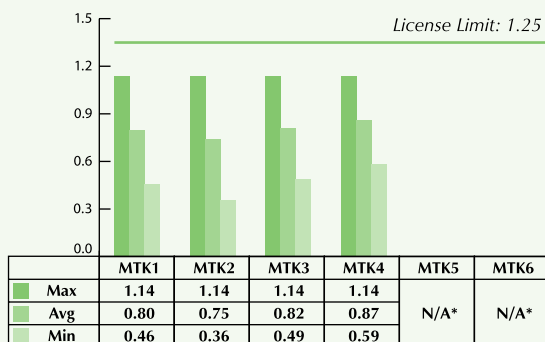
- Total chemical waste output was 2.1 kg/TJ of town gas (Equivalent to a daily average of 167 kg).

Noise

- All installations and operations complied with the statutory requirements. No noise abatement notice has ever been received.

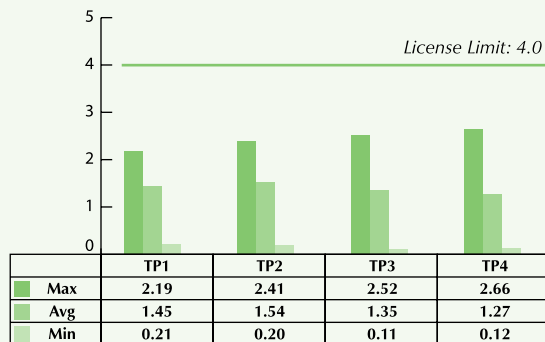
(b) Emission Level of Gas Production Plants for 2016

(i) NOx emission level of Ma Tau Kok (MTK) gas making units (Kg/hour)

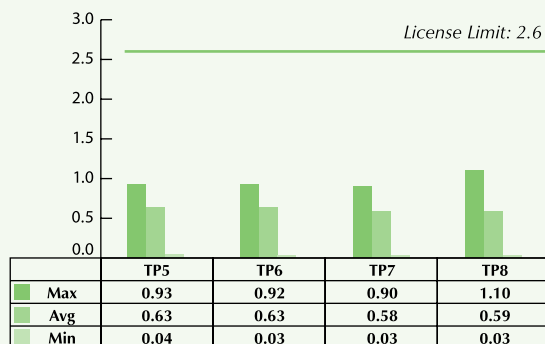


* MTK5 and MTK6 at cold standby in 2016

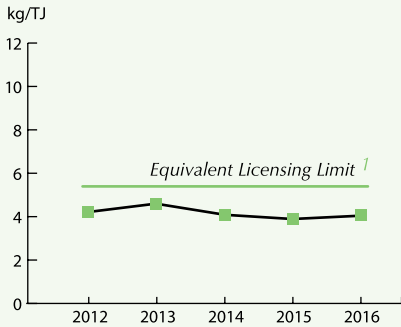
(ii) NOx emission level of Tai Po (TP) gas making units Phase 1 (Kg/hour)



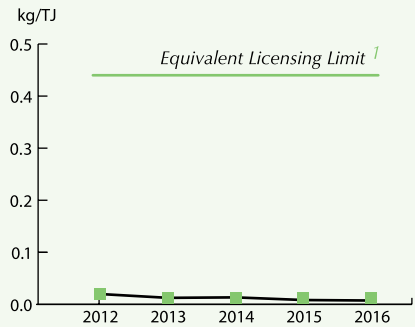
(iii) NOx emission level of Tai Po (TP) gas making units Phase 2 (Kg/hour)



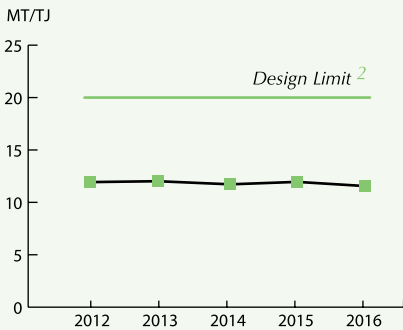
(iv) NOx emission level



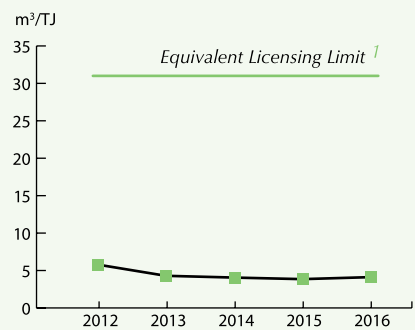
(v) SOx emission level



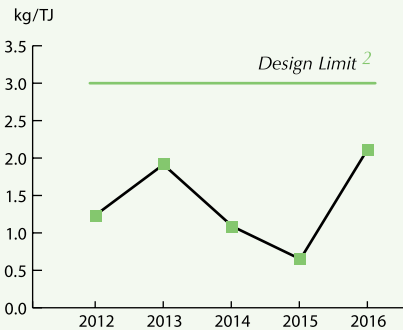
(vi) CO2 emission level



(vii) Waste water output



(viii) Chemical waste output



- 1 "Equivalent Licensing Limit" (kg/TJ OR m³/TJ) = "Weighted average of actual licensing limit" (kg/hr or m³/hr) ÷ production rate of the plants for the year 2016 (TJ/hr).
- 2 As there is no Licensing Limit for the discharge level, we apply the design limit of our production plants as a reference point for the emission level.

FINANCIAL INFORMATION

The figures and financial information relating to the year ended 31st December 2016 as shown in this section are not the statutory annual consolidated financial statements of The Hong Kong and China Gas Company Limited (the “Company”) for that year. Further information relating to those statutory financial statements required to be disclosed in accordance with section 436 of the Hong Kong Companies Ordinance (Cap. 622) (the “Companies Ordinance”) is as follows:

The Company will deliver the consolidated financial statements for the year ended 31st December 2016 in due course to the Registrar of Companies as required by section 662(3) of, and Part 3 of Schedule 6, to the Companies Ordinance.

The Company’s auditor has reported on those consolidated financial statements. The auditor’s report was unqualified; did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying its report; and did not contain a statement under sections 406(2), 407(2) or (3) of the Companies Ordinance.

1. Consolidated Income Statement

for the year ended 31st December 2016

	HK\$’M
Revenue	28,557.1
Total operating expenses	(21,387.2)
	<u>7,169.9</u>
Other losses, net	(29.5)
Interest expense	(1,207.4)
Share of results of associates	2,447.4
Share of results of joint ventures	1,465.3
Profit before taxation	<u>9,845.7</u>
Taxation	(1,575.9)
Profit for the year	<u>8,269.8</u>
Attributable to:	
Shareholders of the Company	7,340.7
Holders of perpetual capital securities	110.5
Non-controlling interests	818.6
	<u>8,269.8</u>
Earnings per share – basic and diluted, HK cents	<u>57.7</u>

2. Consolidated Statement of Financial Position

as at 31st December 2016

HK\$'M

Assets

Non-current assets

Property, plant and equipment	49,209.6
Investment property	729.0
Leasehold land	2,016.6
Intangible assets	5,572.4
Associates	20,485.0
Joint ventures	9,226.5
Available-for-sale financial assets	4,967.1
Derivative financial instruments	505.9
Other non-current assets	2,860.4
	<hr/>
	95,572.5

Current assets

Inventories	2,110.4
Trade and other receivables	6,329.6
Loan and other receivables from associates	153.4
Loan and other receivables from joint ventures	900.1
Loan and other receivables from non-controlling shareholders	65.4
Financial assets at fair value through profit or loss	67.3
Derivative financial instruments	87.5
Time deposits over three months	3,381.1
Time deposits up to three months, cash and bank balances	8,076.1
	<hr/>
	21,170.9

Current liabilities

Trade and other payables	(12,134.2)
Amounts due to joint ventures	(718.9)
Loan and other payables to non-controlling shareholders	(186.3)
Provision for taxation	(556.3)
Borrowings	(5,951.8)
	<hr/>
	(19,547.5)

Total assets less current liabilities

97,195.9

2. Consolidated Statement of Financial Position (Continued)

as at 31st December 2016

	HK\$'M
Non-current liabilities	
Customers' deposits	(1,302.8)
Deferred taxation	(5,067.3)
Borrowings	(27,296.1)
Asset retirement obligations	(39.4)
Derivative financial instruments	(542.2)
Retirement benefit liabilities	(50.1)
	<u>(34,297.9)</u>
Net assets	<u>62,898.0</u>
Capital and reserves	
Share capital	5,474.7
Reserves	<u>48,457.5</u>
Shareholders' funds	53,932.2
Perpetual capital securities	2,353.8
Non-controlling interests	<u>6,612.0</u>
Total equity	<u>62,898.0</u>

3. Directors' Emoluments

The aggregate amounts of emoluments payable to directors of the Company for their service on the Board of the Company and its subsidiaries undertaking for the year ended 31st December 2016 are as follows:

	HK\$'M
Fees	3.7
Salaries, allowances and benefits in kind	10.8
Performance bonus	33.9
Contributions to retirement scheme	7.7
	<hr/>
	56.1

Number of directors whose emoluments fell within:

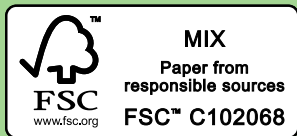
<i>Emoluments band (HK\$'M)</i>	
0.0 - 1.0	7
14.5 - 15.0	1
37.5 - 38.0	1

The above remuneration paid to directors of the Company also represents the amount of short-term employee benefits of HK\$48.4 million (2015: HK\$48.1 million) and post-employment benefits of HK\$7.7 million (2015: HK\$7.6 million) paid to the Group's senior management during the year ended 31st December 2016. There were no other long-term benefits, termination benefits and share-based payment paid to the Group's senior management during the year (2015: nil).

4. Analysis of Residential Maintenance

Net loss on residential maintenance of the Company under the Fixed Monthly Maintenance Charge for the year ended 31st December 2016 is as follows:

	HK\$'M
Residential maintenance revenue	204.1
Less expenses:	
Manpower costs	(146.7)
Other operating and administrative expenses	(112.3)
	<hr/>
Net loss	(54.9)



香港中華煤氣有限公司
The Hong Kong and China Gas Company Limited
June 2017 www.towngas.com

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