
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

2018

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 2018.

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 maintained moderate growth in 2018. Favourable overall employment conditions and growth in the number of inbound visitors, driven by the commissioning of cross-boundary infrastructure, helped gas business development in the restaurant and hotel sectors. Benefiting from a rise in residential, commercial and industrial gas sales, total volume of gas sales in Hong Kong for 2018 reached 29,550 million MJ, an increase of 1.7 per cent compared to 2017, whilst total number of appliances sold in 2018 was over 283,000 units, an increase of 3 per cent compared to 2017.

During the year under review, the Company invested HK\$1,259 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 1.7 per cent in 2018, while our customer base further expanded to a total of 1,908,511 accounts, an increase of 25,104 over the previous year. In terms of total gas sales volume, residential customers accounted for 52 per cent while commercial and industrial customers accounted for 48 per cent. 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 2018 amounted to HK\$2,996.6 million.

(b) *Sales and Marketing*

Our overall business performance during the year remained satisfactory. The core gas business in Hong Kong continued to grow steadily as a result of the cooler weather and increase in tourist visits. Our branded appliances enjoy a high level of consumer acceptance, owing to their quality, innovative features and the backing of our service professionals. More than 283,000 appliances were sold during the year, representing a 3 per cent growth over 2017, in large part due to the supply of new public housing estates in 2018 and the concerted efforts of our marketing team.

New appliances developed by our in-house product research team included a hotplate equipped with Regenerative Electric Energy Module that converts heat energy to ignite the burners, without the need for battery replacement. Since batteries contain heavy metals and toxic chemicals that create a serious risk of soil contamination and water pollution, the introduction of this first-of-its-kind appliance in Hong Kong represented a breakthrough in environmentally-friendly cooking.

Our premium Mia Cucina kitchen line remained especially popular with customers, and in December 2018 we unveiled a new Mia Cucina display area at our North Point showroom. Mia Cucina also continued to be well-recognised by property developers in Hong Kong.

The use of gas absorption chillers continued to grow in 2018. These dual-function chillers offer space cooling and heating as well as hot water while saving energy costs. Among the customers for this technology was Ocean Park, which commissioned a gas absorption chiller for its Ocean Theatre in the first quarter of the year to maintain stable pool water temperatures.

We searched for potential new customers for our landfill gas technology, which is based on the green concept of turning waste into energy. Two projects currently employ this clean energy. One is our combined heat and power system at the Alice Ho Miu Ling Nethersole Hospital in Tai Po, which began utilising processed landfill gas from the North East New Territories (NENT) landfill site in 2017. The other is our Towngas Telecom Data Centre at Tseung Kwan O, which in 2018 started harnessing processed landfill gas from the South East New Territories (SENT) landfill to fuel a gas absorption chiller. We looked forward to installing similar landfill gas systems for other clients.

(c) Serving Our Customers

The success of our business depends on our ability to provide a safe, reliable and secure supply of gas to customers, who depend on us for the energy they use to cook meals for their families and water heating for their homes. Our one-stop shop services and frontline staff earned high customer satisfaction, as evidenced by the approximately 6,000 complimentary letters we received in 2018.

For the greater convenience of customers, we launched a virtual assistant, which makes use of AI technology to answer customer enquiries instantly. We also offered two more electronic payment options, including the new Faster Payment System (FPS) and eWallet – AlipayHK for customers to settle their bills, in line with the market trend.

Continual innovation has helped us to improve productivity and service delivery. One of the innovations we developed was the Portable Multi-Tester, which allows our frontline technicians to quickly diagnose defects in gas water heaters. We also launched our digital mobility solution, which has changed the way we perform our inspection and maintenance services. Relaying service orders electronically to tablet devices carried by our frontline technicians, the system replaces traditional printed

service orders and allows for instant retrieval of customer service records and data analysis.

During the year, we organised two MasterCraft contests to encourage our staff to achieve a higher standard of installation. For these contests, we invited technicians and contractors from Hong Kong and mainland China to demonstrate their expertise in installing Mia Cucina cabinets and appliances.

In recognition of the outstanding service quality provided by our customer service teams, we won gold awards in the categories of Digital Transformation and Contact Centre Service under the Customer Service Excellence Award 2018 organised by Hong Kong Association for Customer Service Excellence. We were also honoured to receive the Sing Tao Daily's Sing Tao Service Awards – After Sales Services Award for a tenth consecutive year and East Week's Hong Kong Service Awards – Public Utilities for the eighth year.

(d) *The Gas Infrastructure*

At Towngas, we have a proactive maintenance and inspection regime that ensures our gas network remains highly reliable, with a low seepage rate and minimal disturbance from third-party construction activities. In 2018, we were pleased to note that we had achieved the best safety performance in our gas pipeline network. Additionally, we brought down the number of public reported leaks to the lowest in 30 years. Third-party damage incident was also reduced to eight, a single-digit figure for the second time in our record.

If any event demonstrated the robustness of our gas infrastructure and the professionalism of our people when handling extreme weather events, it was super typhoon Mangkhut, one of the most powerful storms to hit Hong Kong since 1946. All of our operation staff were either at work ready to deal with the situation or on standby during the typhoon. Fortunately, there was no serious gas stoppage or damage to our network or plants thanks to the precautions we had taken beforehand.

In 2018, we continued introducing innovative tools to improve our piping works. These included a coring machine for removing pipes, which helps us avoid unnecessary road openings, as well as auto-pilot drones for inspecting difficult-to-reach slope pipes in remote areas. When roadwork is necessary, we can provide contractors with an accurate record of the location of our pipes, including their depth. As contractors undertake roadworks, we will coordinate closely with them and deploy staff to detect any gas leakages while they are digging.

Additionally, we make use of an In-line Intelligent Pigging Inspection device that can be inserted into a pipeline without interrupting gas supply. During the year, it helped us to inspect 137km of our 35 Bar high pressure network and determine that the integrity of our transmission gas supply network was satisfactory.

Work on our pipeline network during the year included the extension of the network between Tuen Mun and Tsuen Wan, which we expect to finish in mid-2019. When completed, it will form a ring-feed system that will dramatically increase supply security for North West New Territories. Progress was also made in the extension of our network to handle the gas supply needs of the third runway at Hong Kong International Airport and the New Territories New Development Areas, as well as Water World and hotel developments at Ocean Park.

(e) *Towards a Sustainable Future*

A Sustainability Committee, headed by the Managing Director, appointed by the Towngas Board of Directors, has been set up to oversee the Company's strategies, policies and practices on sustainability matters. During the year, the Committee prioritised the four Sustainable Development Goals (SDGs) most relevant to Towngas as the foundation of its long-term business strategy. Among these are 6: Clean Water and Sanitation, 7: Affordable and Clean Energy, 11: Sustainable Cities and Communities, and 13: Climate Action. To promote the SDGs, we will continue to supply clean energy and water to our customers, develop environmentally-friendly energy solutions, provide access to basic services, and support the building of communities.

Consistent with the SDG on climate action, Towngas conducted a holistic Corporate Climate Change Risk Assessment to its operations in Hong Kong and mainland China to avoid business interruptions arising from major climate change risks. The assessment was carried out through the in-depth evaluation of potential climate change impacts such as extreme temperature, flooding, sea level rise and storm surge to the Towngas gas facilities, operations, resources availability etc. For Hong Kong operations, we conducted 39 interviews and four workshops that involved different disciplines and levels of Towngas operational staff to ensure a complete understanding and evaluation of the potential situations. The results showed that typhoons, heavy rainfall, flooding and storm surge were amongst the highest ranked climate change risks that Towngas faces.

Our unwavering commitment to environmental protection is reflected in the way we conduct our businesses. As an energy supplier, we strive to minimise our carbon footprints while developing clean energy for homes, businesses and vehicles, with the ultimate goal of creating a more sustainable future.

One of the highlights in our quest to become a green industry leader was the introduction of our first 10-year Green Bond in November 2017 through a HK\$600 million and a JPY2 billion transaction. We are the first energy utility to issue green bonds in Hong Kong. Proceeds from the Towngas Green Bond will be used to finance waste-to-energy initiatives, such as our landfill gas project at the SENT landfill site and other eligible green investments. After its launch, we will obtain post-issuance stage certification from the HKQAA under its Green Finance Certification Scheme in 2019, which helped to enhance its credibility and investor confidence.

The feedstock we use in Hong Kong, which includes a mix of natural gas, naphtha and landfill gas, is clean and has thus enabled us to reduce the carbon emissions per unit of town gas produced by 26 per cent compared with 2005. Our plan is to further reduce our carbon footprint, with a 30 per cent target reduction in the carbon intensity of our Hong Kong gas production by the year 2020, as compared with 2005. In addition, our avoided carbon emissions from our landfill gas utilisation projects were more than our carbon emissions from our gas supply related operations in Hong Kong in 2018.

To improve the effectiveness of our environmental initiatives, public engagement is essential. In 2018, we have carried out a range of activities to share our environmental experience with stakeholders. These included promoting environmental awareness through the Towngas Governors Beautification Project and a Virtual Reality Games Design Competition we designed for students.

(f) Empowering Our People

Our people are the backbone of our company and the most critical element in our business success. During the year, we initiated a wide range of programmes that helped them build their professional skills, ensured their safety and wellbeing, and made them feel valued as employees of Towngas.

To help us identify the right people for the right positions, in 2018 we developed the unique Growth = Innovation x Implementation Profile Analysis system for human resources planning. Under the system, we will be able to determine the best match for our people and place them in the teams where their abilities can be put to best use. This Profile Analysis tool is now being fine-tuned and will be rolled out in mid-2019.

In 2017, we developed the Young TLC+ programme for staff across different departments and locations who have five to ten years of work experience. The programme, which is based on our Towngas Leadership Competency (TLC) Model

for identifying and grooming future leaders for management positions, admitted 19 young staff members. They are expected to graduate in 2019.

Over the past ten years, we have also been organising executive development programmes in mainland China with Tsinghua University. In mid-2018, we developed a new training format, with top-rated professors and industry leaders from leading universities and businesses conduct sharing sessions with our managers, thereby deepening their understanding of the mainland market, political landscape and competitive environment.

In addition to providing professional training to our employees and contractors in Hong Kong and mainland China, the Towngas Engineering Academy strives to disseminate gas engineering knowledge to relevant external groups, including working adults in the associated trades and students.

During the year, we worked with the Vocational Training Council (VTC) to introduce the Professional Diploma in Gas Engineering programme, the first diploma programme of its kind in Hong Kong. This part-time programme, which has been specially designed for working adults, gives equal emphasis to both theoretical and practical knowledge. Senior engineers and managers from Towngas will act as lecturers, while learners will have the opportunity to gain practical work experience at the Towngas Engineering Academy. We also collaborated with the School of Energy and Environment at the City University of Hong Kong in September to launch a gas engineering academic unit as an undergraduate elective. Both the diploma and undergraduate programmes are designed not only to provide a talent pool for Towngas but to raise the standards and professionalism of the overall gas industry.

In 2018, we continued to promote our Three Courtesies programme, which since its launch in 2013 has become a key part of our internal corporate culture. This year, however, we began receiving requests from companies outside Towngas to teach their staff about this aspect of our culture. By spreading the messages contained in this campaign, Towngas can contribute to a more harmonious society.

We understand that many of our staff have family obligations, and therefore we provide flexible work arrangements for parents who have to attend their children's school activities during normal work hours. In addition, we set up a mother care room in support of our female employees who are breastfeeding after maternity leave.

We also regularly review and revise remuneration packages according to changes in social conditions and market trends. In 2018, for example, we enhanced

our medical benefits and leave entitlement to give our employees better health protection and work-life balance.

As well as providing extensive training options for improving technical and professional skills, we offer non-business-related training such as talks and workshops for first-time parents, wellness and skincare. We also have a library, fitness facilities, and a clinic where staff can enjoy free medical services and have their prescriptions filled.

In December 2018, we received the Family-Friendly Employers – Grand Award, recognising us as a multi-time winner of the Distinguished Family-Friendly Employer Award and for promoting innovative and creative family-friendly policies. We also won the 2017/18 Special Mentions (Gold) and 2017/18 Awards for Breastfeeding Support.

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 2018, 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 1,170,000 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 priority. Total Safety Management System has been implemented to avoid accident and improve safety and health performance continuously. We endeavor to ensure the implementation of health and safety policy and promote safety culture through organising trainings, seminars, promotion activities and others. The industrial safety performance in 2018 was satisfactory. There were seven industrial accidents with an accident frequency rate of 0.14.

In 2018, we successfully upgraded the OHSAS 18001 to ISO 45001 to become one of the first city gas companies in Asia getting the accredited certification. During the migration, we not only arranged trainings for stakeholders, but also organised conferences and campaigns to colleagues for familiarising the requirement of new standard.

To encourage colleagues to pay attention to the health and safety condition of working environment, HSE Suggestion Scheme, Near Miss Reporting Scheme and Instant Messaging HSE Reporting Channel were in place for safety and health reporting. Colleagues can report both good practices and malpractices through the schemes to improve safety standard, thus the safety culture.

Occupational Safety and Health promotion enhances safety culture of the Company successfully. In 2018, seasonal promotion programme were organised for colleagues and contractors, including Eye Protection at Work, Work Stress Management, Heat Stress Management, and Infectious Disease Control. Activities such as mini-games, seminars, trainings, information leaflet were included. Besides, Health, Safety and Environment (HSE) Month, our annual promotion event, was organised in November which attracted more than 2,000 numbers of participation. During HSE Month, HSE Quiz, Experience sharing, OSH visit and others were organised.

Effective and efficient emergency preparedness facilitates the Company to respond in a timely and effective manner. In 2018, numbers of joint fire exercises with Fire Services Department were organised, allowing our emergency response team to work closely with Fire Services Personnel in the operations.

“Growth = Innovation x Implementation” is one of our business strategies. We develop innovative products to enhance health and safety by reducing risk level of our operation at source, such as road work operations. A remote control excavator “Little Swan” equipped with self-developed “Mobile Muffler Box” was introduced for road work operation, it can reduce noise emitted from road excavation successfully and minimise the impact to workers, public and environment. Besides, LED automatic warning system was designed and installed on Lorry Tail-Lift and Light Van to enhance the awareness of road users and drivers to avoid traffic incident.

With the active participation of all levels and outstanding performance in innovation and safety culture, we received numbers of safety and health awards from the industry. We won seven awards in The 17th Hong Kong Occupational Safety and Health Award, including Safety Culture Award – Gold Award, Safety Promotion Award – Gold Award, OSH Annual Report Award – Gold Award and Safety Performance Award etc. In addition, we won four awards, namely Joyful@Healthy Workplace Best Practices Award - Grand Award, Innovative Award, Hearing Conservation Best Practices Award - Excellence Award and Innovative Improvement Award in the 14th Occupational Health Award.

(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 99.990% in 2018.

Our Company exerted great efforts in safeguarding the conditions and availability of the two gas plants. Ma Tau Kok gas production plant has over 41 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 32 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 0.24 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.

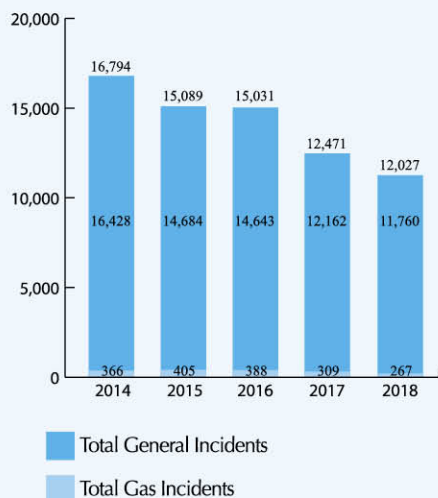
Emergency vehicles equipped with new tablets are now used in the handling of any gas emergency and the use of sensitive laser methane detectors for leakage surveys, as well as advanced technology which check the condition of the coating on steel pipes, were also introduced these years.

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 2018, about 160,080 trench inspections covering 9,825 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 12,027 urgent reports received in 2018, only 267 cases 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

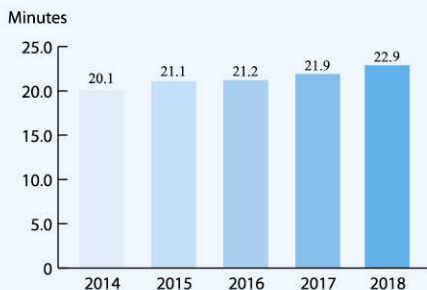
(ii) Number of Major Gas Emergencies



Out of the 267 gas incidents in 2018, 3 cases were major gas emergencies.

* *Nature of "major gas emergencies" 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.

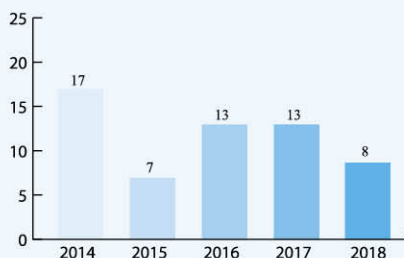
(iv) Number of Fatal Gas Accidents

Year	2014	2015	2016	2017	2018
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, there was 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 eight in 2018.

(vi) Trench Inspection

Total number of active sites inspected in 2018

Island	Kowloon	New Territories	Total
3,263	3,445	3,117	9,825

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 2018, a total of 469 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 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.

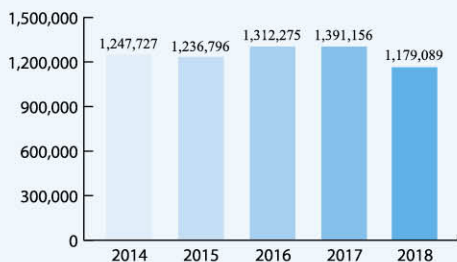
As a result of the stringent and proactive leakage survey and trench inspection programmes, the number of public reported gas escape incident in network was only 0.015 per km per year in 2018. Even if minor seepages located by the sensitive leakage survey were also included, the number was 0.080 per km per year only, much lower than the figures in many other similar metropolitan cities.

(viii) Major Emergency Drills with Government Authorities in 2018

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

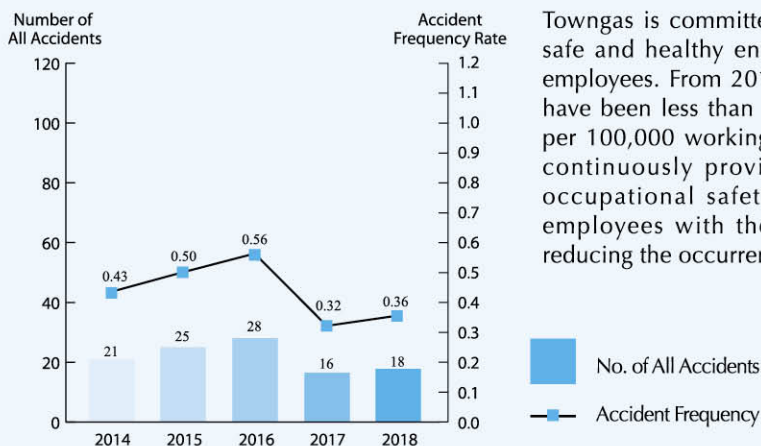
(x) Number of Sub-standard Appliances Upgraded

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 2018, 93 Flueless (Sink) and Open-flued water heaters, and 312 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 2018, we organised 12 safety exhibitions and 9 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 2014 to 2018, there have been less than 1 injury accident per 100,000 working hours. Towngas continuously provides training on occupational safety and health to employees with the aim of further reducing the occurrence of accidents.

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 24 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 2018

	Results
Reliability	
• Uninterrupted gas supply (over 99.99%)	99.990%
• 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 Team average arrival time (within 25 minutes)	Average 22.8 minutes
Appointments	
• Availability of maintenance and installation services within 2 working days	Average 1.1 days
Speed and Convenience	
• Customer Service Hotline (calls answered within 4 rings)	96.13%
• 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 *	8.92
• Courteous and friendly attitude *	8.88
Handling Suggestions	
• Reply within 3 working days	100%
• Resolution, or a statement of when the matter will be resolved, within 2 weeks	100%

* 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 2019

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 2019, and the annual reporting on performance results will be announced in January 2020.

Pledges	Target
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	- 2 hours after disconnection of gas supply*
Service Quality	
• Efficiency	- 8 out of a total score of 10
• Courteous and friendly attitude	- 8 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.

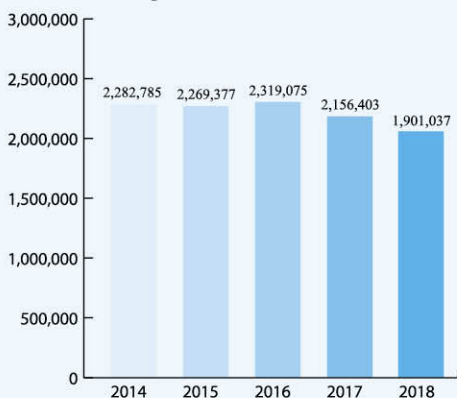
4. Customer Liaison

(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 2018, the Customer Focus Team made 24 visits to its customers.

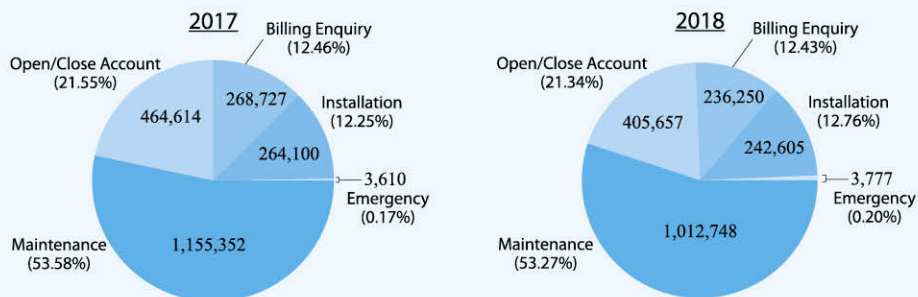
(b) Customer Service Hotline and Emergency Hotline

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:

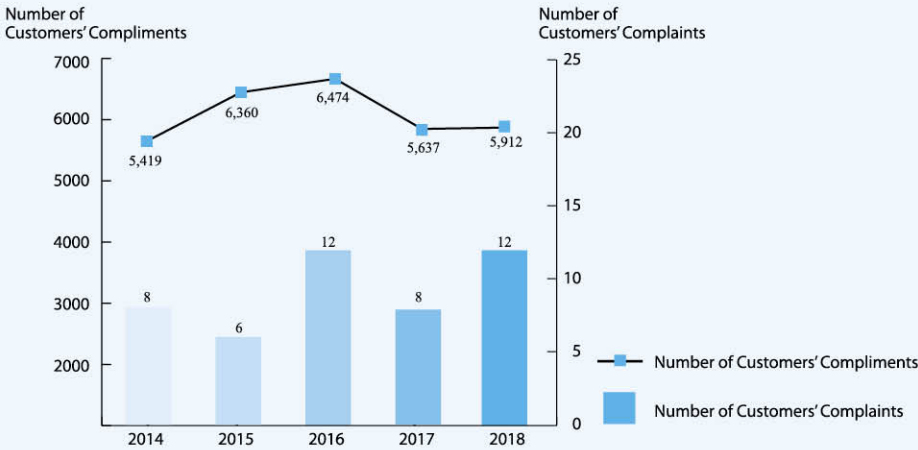


The largest category of incoming calls to the CSH and Emergency Hotlines is maintenance, representing 53.27% of total calls in 2018 while other categories include open/close account, billing enquiry, installation and emergency.

(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 2018, a total of 26 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, green and health products, etc as well as gas safety and energy saving tips. Also, we have sent leaflets for eight NGOs without charges.

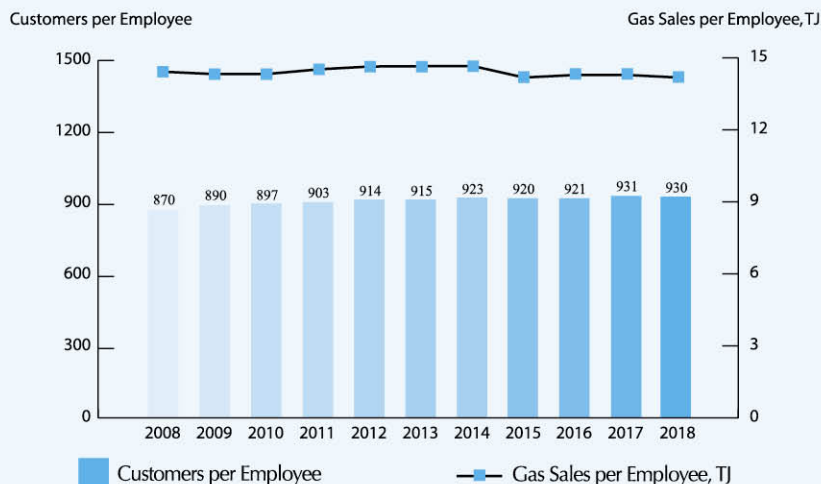
(d) Number of Customers' Compliments and Complaints



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 5,912 compliments about Towngas' service in 2018.

Regarding the number of customer complaints, Towngas received a total of 12 complaints in 2018. With 1,908,511 customers as at 31 December 2018, the ratio is 1 complaint per 159,043 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)



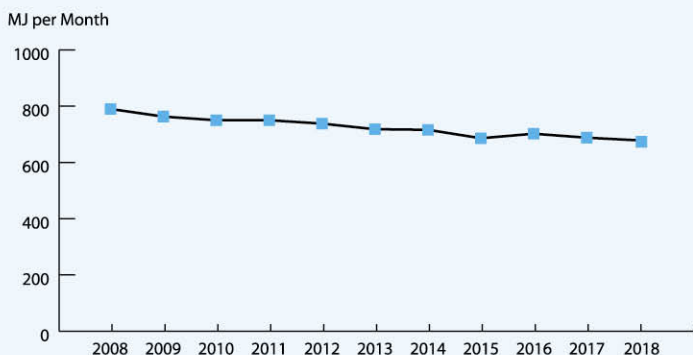
In 2018, Towngas continued to pursue and develop high quality and cost efficient products, including appliances, meters, accessories and installation materials. We introduced a new two-burner hotplate with a Regenerative Electric Energy Module. It can convert the residue heat of burner into electric energy for ignition. It not only saves the time and cost of customer for battery replacement, but also reduces the e-waste in our landfills. Besides, the existing meter reporting procedure was simplified by the launch of the new smart metering system AMR2.0. Customers can use a designated mobile app to collect the meter reading and send the data to Towngas via their smart device.

The productivity of Towngas is measured in terms of number of customers served by each employee. As at the end of 2018, the number of employees engaged in town gas business was 2,052. In 2018, each employee served the equivalent of 930 customers, a similar level to 2017, and town gas sales averaged 14.4 TJ per employee. Towngas will continue to seek ways to ensure our customers receive the best and most cost-effective service.

Steaming is one of the most popular cuisines in Chinese restaurants. In the year, Towngas keeps improving our steam cabinets by optimising the heat recovery assembly and has succeeded to push the frontier of overall efficiency to over 95%. We also share this with our gas appliances providers so that they can adopt the new heat recovery assembly in their own steam cabinets. In fact, many steam cabinet manufacturers welcome the new feature because the additional cost of manufacturing is minimal but can achieve significant improvement in heating efficiency.

In addition, our pioneering activities in the use of landfill gas 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 East New Territories landfill gas utilisation project in 2007. In 2018, accounting for about 1 per cent of our production fuel, our aim is to grow this resource to 5 per cent. In addition to the facility in the North East New Territories, which has been operating for several years, a second landfill gas utilisation project in the South East New Territories has now been in operation for one year and is further helping to raise the proportion of landfill gas used by the Group, thus increasing its contribution to energy conservation and emission reduction in Hong Kong. The use of landfill gas not only cuts carbon emissions released into the atmosphere, our consumption of naphtha also fell by around 8,290 tonnes in 2018. These savings are equivalent to 1.1 million trees' CO₂ absorption per year.

With the efficiency improvement of gas appliances, the average monthly household gas consumption was reduced over the years.



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 510,000 on-demand maintenance works and more than 1,170,000 Regular Safety Inspections in customers' homes in 2018.

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\$1,108 million fuel cost adjustment in 2018 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 2018, fuel mix in terms of percentage of naphtha, natural gas and landfill gas used for gas production is as follows:

Feedstock	Percentage
Naphtha	38%
Natural Gas	61%
Landfill Gas	1%

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 2018, the overall average amount of annual savings per beneficiary customer under the Towngas Concession Schemes was about HK\$568. Over 45,000 households from Towngas Concession Schemes benefited from concessions totalling HK\$25.7 million.

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, our responsibility is not limited to our own operation, we promote environmental awareness amongst our stakeholders for sustainable development.

1. Environmental Promotional Programmes

We continue to offer our supports to green groups and government-led environmental protection programmes such as Energy Saving Charter and 4Ts Charter Schemes. In 2018, we supported and sponsored the Green Earth’s five-year Plantation Enrichment Project to build native tree woodland together, the Stop Using Tissue Paper Day by Junior Chamber International Lion Rock, as well as the No Straw Day organised by Ocean Park Conservation Foundation, Hong Kong. We also sponsored and participated in the annual Eco Rangers by the Conservancy Association, Mooncake Recycling Programme by Food Grace, Green Run by the Green Council, Green Power Hike by Green Power, the No Air-con Night by Green Sense, Lai See Recycling Programme by Greeners Action, Green Walk Campaign by World Green Organisation and Earth Hour and Walk for Nature by WWF.

2. Environmental Training and Education Programmes

In recent years, Towngas has provided a great variety of environmental trainings and educational activities to nurture a green culture among our employees and contractors. Programmes conducted in 2018 included the annual Outstanding Environmental Sub committee Award, seminar on waste management, tour to Tai Sang Wai Fish Pond and visit to the EcoPark, etc. Publication of three issues of the *Health, Safety, Environment & Security Bulletin* were distributed to all employees and our contractors. Green promotional messages were conveyed to employees via email and intranet on regular basis. A Low Carbon Cooking So Easy competition was organised to promote low-carbon lifestyle to customers and the general public.

3. Environmental Achievements

Towngas was conferred with the Pacific Rim Regional Energy Project of the Year Award, presented by the Association of Energy Engineers, and the 2017 Hong Kong Awards for Environmental Excellence (Restaurants – Silver Award) by Environmental Campaign Committee. The Wastewi\$e Certificate at Excellence Level which the Environmental Campaign Committee conferred upon us for the 17 consecutive years was testimony to our strong commitment to waste reduction.

4. Environmental Performance

In 2018, Towngas' 12 functional environmental sub-committees achieved around 40 environmental objectives, including the implementation of a cloud-based energy management system, which will allow us to access and monitor information on our power consumption automatically, and hence develop energy saving plan. In-house Green Event Practical Guide was published to help employees reduce waste for the events they organise. The 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 chiller plant 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 115,632 kg, equivalent to a daily average of 317 kg).
- Total SO_x output was 0.02 kg/TJ of town gas (Annual total of 521 kg, equivalent to a daily average of 1.43 kg).
- Total CO₂ output was 11.7 MT/TJ of town gas (Annual total of 338,727 MT, equivalent to a daily average of 928 MT).

Greenhouse Gas Emission

- Annual total greenhouse gas emissions of 347,489 MT in terms of CO₂ equivalent.

Volatile Organic Compounds (VOC)

- Estimated annual total VOC emissions was 5.5 kg/TJ of town gas (Annual total of 159,864 kg, equivalent to a daily average of 438 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 3.9 m³/TJ of town gas (Equivalent to a daily average of 308 m³).

Chemical Waste

- Total chemical waste output was 0.5 kg/TJ of town gas (Equivalent to a daily average of 38 kg).

Noise

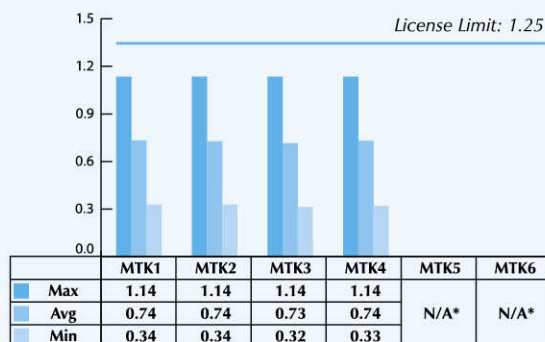
- All installations and operations complied with the statutory requirements. No noise abatement notice has ever been received.

(b) *Operation of Gas Production Plant for 2018*

Towngas is one of the energy suppliers in Hong Kong, we provide a safe and reliable gas supply to our customers every day. During the year, the availability of Tai Po plant was 84.6%, while the thermal efficiency reached 87.9%. The installed capacity of the two plants in Tai Po and Ma Tau Kok was a total of 12.596 million standard m³/day and the peak daily demand was about 7.255 million standard m³/day.

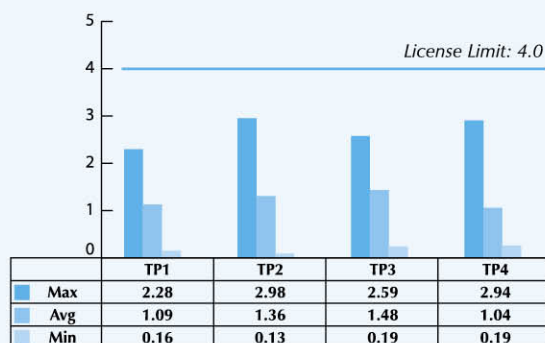
(c) Emission Level of Gas Production Plants for 2018

(i) NO_x emission level of Ma Tau Kok (MTK) gas making units (kg/hour)

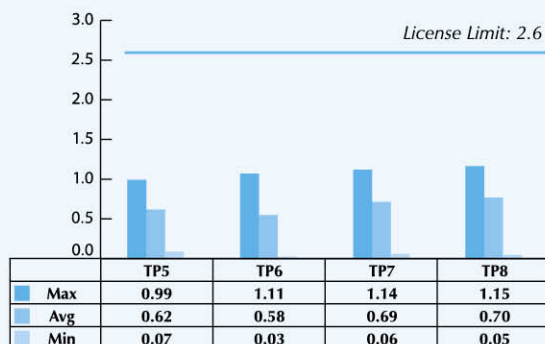


* MTK5 and MTK6 at cold standby in 2018

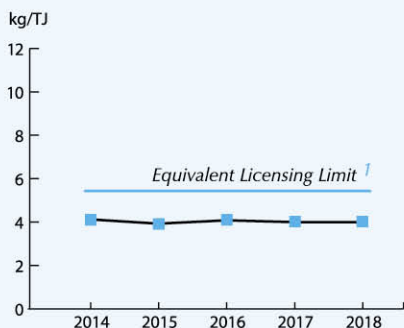
(ii) NO_x emission level of Tai Po (TP) gas making units Phase 1 (kg/hour)



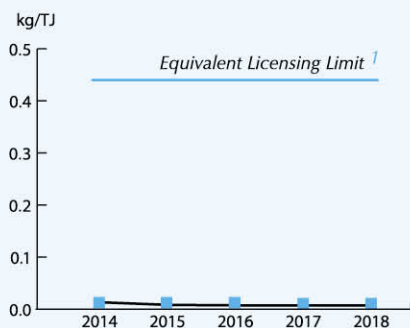
(iii) NO_x emission level of Tai Po (TP) gas making units Phase 2 (kg/hour)



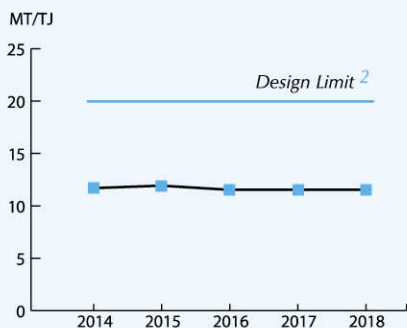
(iv) NO_x emission level



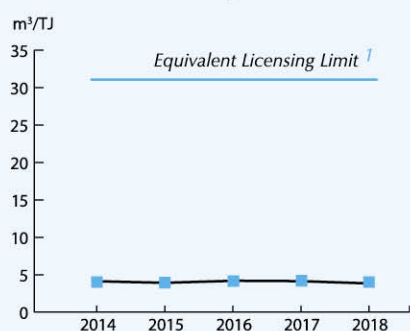
(v) SO_x emission level



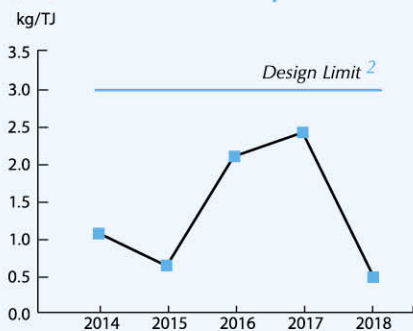
(vi) CO₂ emission level



(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 2018 (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 as shown in this section do not constitute the statutory annual consolidated financial statements of The Hong Kong and China Gas Company Limited (the “Company”) for the year ended 31st December 2018, but are derived from those financial statements. Further information relating to these 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 2018 in due course to the Registrar of Companies as required by section 662(3) of, and Part 3 of Schedules 6 to the Companies Ordinance.

The Company’s auditor has reported on these 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 reports; 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 2018	2018 HK\$’M	2017 HK\$’M
Revenue	39,073.0	32,476.5
Total operating expenses	(30,689.8)	(24,845.2)
	8,383.2	7,631.3
Other gains, net	20.0	630.1
Interest expense	(1,176.6)	(1,256.9)
Share of results of associates	3,589.5	2,604.3
Share of results of joint ventures	1,523.4	1,487.9
Profit before taxation	12,339.5	11,096.7
Taxation	(1,907.6)	(1,749.8)
Profit for the year	10,431.9	9,346.9
Attributable to:		
Shareholders of the Company	9,312.8	8,225.3
Holders of perpetual capital securities	107.4	111.2
Non-controlling interests	1,011.7	1,010.4
	10,431.9	9,346.9
Earnings per share – basic and diluted, HK cents	60.5	53.5*

* Adjusted for the bonus share issue in 2018

2. Consolidated Statement of Financial Position

as at 31st December 2018

	2018 HK\$'M	2017 HK\$'M
Assets		
Non-current assets		
Property, plant and equipment	57,978.8	55,827.4
Investment property	778.0	764.0
Leasehold land	2,214.5	2,229.3
Intangible assets	5,682.1	5,883.6
Associates	26,314.1	23,393.4
Joint ventures	10,950.3	10,889.2
Available-for-sale financial assets	–	4,289.9
Financial assets at fair value through other comprehensive income	1,127.0	–
Financial assets at fair value through profit or loss	3,506.7	–
Derivative financial instruments	55.4	269.9
Retirement benefit assets	–	60.4
Other non-current assets	3,474.0	3,089.0
	<u>112,080.9</u>	<u>106,696.1</u>
Current assets		
Inventories	2,480.7	2,578.3
Trade and other receivables	7,615.9	7,512.0
Loan and other receivables from associates	356.9	241.4
Loan and other receivables from joint ventures	822.6	939.7
Loan and other receivables from non-controlling shareholders	155.0	103.1
Financial assets at fair value through profit or loss	303.5	42.1
Derivative financial instruments	38.2	119.6
Time deposits over three months	338.6	2,071.0
Time deposits up to three months, cash and bank balances	8,500.8	10,758.6
	<u>20,612.2</u>	<u>24,365.8</u>

2. Consolidated Statement of Financial Position (Continued)

as at 31st December 2018

	2018 HK\$/M	2017 HK\$/M
Current liabilities		
Trade and other payables and contract liabilities	(13,929.4)	(14,269.8)
Amounts due to joint ventures	(1,049.5)	(1,137.9)
Loan and other payables due to non-controlling shareholders	(148.0)	(175.3)
Provision for taxation	(496.8)	(531.9)
Borrowings	(8,062.7)	(15,757.0)
Redeemable perpetual securities	(2,349.6)	–
Derivative financial instruments	(114.9)	(76.2)
	<u>(26,150.9)</u>	<u>(31,948.1)</u>
Total assets less current liabilities	<u>106,542.2</u>	<u>99,113.8</u>
Non-current liabilities		
Deferred taxation	(6,099.1)	(5,723.1)
Borrowings	(27,609.3)	(21,161.8)
Asset retirement obligations	(48.6)	(46.9)
Derivative financial instruments	(558.9)	(604.5)
Retirement benefit liabilities	(23.8)	–
Other non-current liabilities	(2,009.2)	(1,331.6)
	<u>(36,348.9)</u>	<u>(28,867.9)</u>
Net assets	<u>70,193.3</u>	<u>70,245.9</u>
Capital and reserves		
Share capital	5,474.7	5,474.7
Reserves	<u>56,926.0</u>	<u>54,964.1</u>
Shareholders' funds	62,400.7	60,438.8
Perpetual capital securities	–	2,354.1
Non-controlling interests	<u>7,792.6</u>	<u>7,453.0</u>
Total equity	<u>70,193.3</u>	<u>70,245.9</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 2018 are as follows:

	HK\$/M
Fees	4.2
Salaries, allowances and benefits in kind	11.4
Performance bonus	33.7
Contributions to retirement scheme	8.6
	<hr/> 57.9 <hr/>

Number of directors whose emoluments fell within:

<i>Emoluments band (HK\$/M)</i>	
0.0 - 1.0	7
16.0 - 16.5	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\$49.3 million and post-employment benefits of HK\$8.6 million paid to the Group's senior management during the year ended 31st December 2018. There were no other long-term benefits, termination benefits and share-based payment paid to the Group's senior management during the year.

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 2018 is as follows:

	HK\$/M
Residential maintenance revenue	209.0
Less expenses:	
Manpower costs	(152.3)
Other operating and administrative expenses	(112.8)
Net loss	<hr/> (56.1) <hr/>



香港中華煤氣有限公司
The Hong Kong and China Gas Company Limited
June 2019 www.towngas.com