
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

2021

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 the Corporate Information Booklet annually.

Supported by visuals, the Booklet presents an update of the Company's latest developments, ranging from its business and operational review to financial status.

Prominent in the Booklet is information on the Company's safety measures and practices. This reflects the heavy emphasis placed by the Company on these aspects, which 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. Hence, complementary to the 24-hour Customer Service Hotline, the Customer Focus Team continues to serve as an effective direct communication channel between the Company and its customers.

Furthermore, the Company has continued to strictly adhere to its green policy to ensure an environmentally friendly operation.

Going forward, Towngas will continue to seek ways to further improve its operations and provide the people of Hong Kong and beyond with more efficient and high-quality service.

For enquiries, please contact Towngas' Corporate Affairs Department at 2963 3432.

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OPERATIONAL INFORMATION

1. Annual Business Review

Hong Kong continued to be impacted by the COVID-19 pandemic in 2021. Inbound tourism has come to a standstill for two years. With a steady increase of the vaccination rate, alongside related epidemic prevention and control measures, as well as the distribution of consumption vouchers to the public in several batches by the HKSAR Government since August 2021 to stimulate local consumption, the business environment of the catering sector slightly improved. The local epidemic situation gradually subsided during the fourth quarter last year. As a result, the volume of commercial gas sales increased. Nevertheless, as the average temperature in Hong Kong during 2021 was higher than that in 2020, the volume of residential gas sales was affected. Overall, the total volume of gas sales in Hong Kong for 2021 was approximately 27,677 million MJ, a slight decrease of 1 per cent.

During the year under review, the Company invested HK\$1,001 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 decreased by 1 per cent in 2021, while our customer base further expanded to a total of 1,964,937 accounts, an increase of 21,160 over the previous year. In terms of total gas sales volume, residential customers accounted for 58 per cent while commercial and industrial (C&I) customers accounted for 42 per cent. Although the Company has been implementing cost saving measures and optimising work flow, increasing operating expenses and manpower costs influenced by the business environment 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 2021 decreased by 4 per cent to HK\$2,812.1 million.

(b) Sales and Marketing

In 2021 we introduced a Smart (IoT) Anti-scorch Built-in Hob that alerts users if the appliance is still operating after they leave their homes, and also enables them to turn it off remotely via their mobile phones. Another smart device launched during the year was a meter that not only reports meter readings automatically but can detect abnormally high gas flow levels in the home. It will then cut off the gas and send an alert to our maintenance teams.

Our Towngas Fun membership programme launched in 2020 has also helped to build customer loyalty. By offering welcome rewards and the opportunity to earn points for redemption of our products, Towngas Fun succeeded in attracting 160,000 members by the end of 2021.

To promote our Mia Cucina kitchen products, we introduced new kitchen designs at the showroom in Causeway Bay as well as package deal promotions. For customers planning to renovate their kitchens, Mia Cucina created the first-ever Kitchen Visualiser On Your Own website, which allows them to create their own dream kitchen using different materials and colour combinations.

During the year, we helped our C&I customers improve their service delivery and reduce carbon emissions through the advanced technology solutions we offer.

We continued to convert steam boilers from diesel to town gas during the year. These boilers have gained widespread acceptance among users in the manufacturing, hospital, hotel and recreational sectors for their ability to produce stable, high-quality steam. They also provide significant reductions in maintenance costs and soot compared with diesel-powered boilers as well as much cleaner emissions.

Another solution with great potential is our combined heat and power (CHP) system, one of which is currently in use at Nethersole Hospital. In 2021 we linked the waste heat from the jacket water at the landfill gas power generator to the hospital's space heating system. The hospital now enjoys better temperature and humidity control as well as additional annual energy savings of 5.18 TJ and a carbon reduction of 336 tonnes. A new landfill gas 1.0 MW CHP is planned to go into service in 2026 at North District Hospital.

After Water World Ocean Park was inaugurated in 2021, we helped this major tourist attraction become Asia's first all-weather year-round water park. This was achieved by installing high-efficiency energy applications, such as our gas absorption chillers that provide chilled water for all indoor areas in summer and space heating water for indoor pools in winter. To maintain comfortable indoor humidity, we also installed a hot water desiccant dehumidification system.

(c) Serving Our Customers

Innovation continued to play a key role in improving our productivity and service quality. One such initiative is our artificial intelligence (AI) Chatbot that can handle customer enquiries and requests for gas services regardless of location and time. For the convenience of our customers, we introduced a new Wi-Fi/BLE (Bluetooth low energy) series during the year as an upgrade of our Smart Metering System. With this new device, meter readings can be done automatically and sent to our system via home Wi-Fi or Bluetooth.

During the year, we received over 6,170 compliment letters. In recognition of our service excellence, we received the Sing Tao Service Awards – After Sales Services

Award for the 13th year, and East Week's Hong Kong Service Awards – Public Utilities for the 11th year.

(d) The Gas Infrastructure

During the year, we continued to expand our gas supply network and maintain its high level of reliability. Our long-term plan to form a ring-feed transmission network in the New Territories concluded in 2021, with the commissioning of the last 9 km of transmission pipelines linking Tuen Mun and Tsuen Wan. With this "ring-up" of our transmission system, we can now provide further gas supply security to the New Territories including Lantau Island. We also completed the installation of a reinforcement pipeline to Ocean Park to ensure a steady gas supply to the theme park, especially the newly-opened Water World.

During the year, the Government announced its Northern Metropolis plan, which covers an area of about 300 sq km. Once the proposed development projects under this plan are completed, the population is expected to increase from around 960,000 residents to 2.5 million. To meet long-term gas demand in the new development areas, we started planning to lay new pipelines and modify off-take stations in 2021.

At our gas production plant in Tai Po, we commissioned our first gas heated reformer to enhance the capacity of one of the production trains by 20 per cent. This cost-effective approach for expanding our production capacity will help us meet the growing demand for gas that we anticipate in the years ahead.

(e) Towards a Sustainable Future

An Environmental, Social and Governance (ESG) Committee, headed by the Managing Director and appointed by the Towngas Board of Directors, has been set up to oversee the Company's strategies, policies and practices on ESG matters. Guided by our ESG framework, Towngas' commitment to ESG extends to Creating Business Opportunities, Ensuring Health and Safety, Protecting the Environment, Contributing to Stakeholders, and Strengthening Corporate Governance, with a focus on innovation.

During the year, our businesses continued to support four prioritised Sustainable Development Goals (SDGs) of the United Nations, as endorsed by our ESG Committee in 2018. The SDGs we have selected include SDG 6: Clean Water and Sanitation; SDG 7: Affordable and Clean Energy; SDG 11: Sustainable Cities and Communities; and SDG 13: Climate Action.

As climate change has become a global concern, stakeholders are expecting more information on how it could affect a company's assets, business operations and financial performance. Since 2019, we have disclosed relevant information to

align with the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and meet stakeholders' expectations. In 2020, we assessed our transition risks and opportunities across Towngas' energy-related businesses in Hong Kong and the Chinese mainland under various climate scenarios. In 2021, we completed another round of physical risk assessments for our critical facilities across the region. By deepening our understanding of how physical and transition risks could have a significant impact on our businesses, both positively and negatively, we are able to develop plans to mitigate risks and build resilience strategies.

Towngas is committed to become carbon neutral by 2050 through energy transition and innovation, including the development of renewable energy, waste-to-energy, green hydrogen, efficiency improvement, carbon management, and other collaborative projects with universities and research institutes. To demonstrate this commitment, we obtained the HKQAA Commitment to Net-Zero Certificate, which is developed with reference to PAS 2060 and other relevant national/international standards.

We understand that our greenhouse gas (GHG) emissions generated within our own operations and those of our customers are both important, we have therefore established two group-level medium-term carbon reduction targets – to reduce our group operational GHG emissions by 10 per cent by 2025 (as compared with the 2020 baseline), and to reduce 10 million tonnes of GHG emission for the environment per year by 2025.

Towngas is one of the pioneers in the development of renewable energy in Hong Kong and currently uses landfill gas from three sites. We also support Hong Kong Feed-in Tariff Scheme, which encourages the adoption of renewable energy including solar and wind. The amount of renewable energy generated from solar panels in our Hong Kong facilities reached over 306,000 kWh in 2021. We also made use of innovative technologies to maximise efficiency in capturing solar energy. The sun trackers and bifacial solar panels we installed can increase the energy yield by up to 20 per cent and 5 per cent respectively.

Our efforts to achieve greater sustainability in our operations have been widely recognised. In 2021, we were ranked first at the Exemplar level on three sustainability indices – the Greater China Business Sustainability Index, the Greater Bay Area Business Sustainability Index and the Hong Kong Business Sustainability Index, organised by The Chinese University of Hong Kong Business School's Centre for Business Sustainability. We also received three awards from The Hong Kong Management Association: Grand Award (Large Organisations), Hong Kong Sustainability Award (Large Organisations), and Most Respected Organisations

Award. Out of the many corporations in the awards competition, Towngas was the sole winner of the Grand Award in the Large Organisations category.

We will continue to focus on the five key areas in the ESG framework as well as innovation to drive our ESG performance and the development of our business. By setting clear targets, we shall monitor our performance and achieve long-term sustainability.

(f) Empowering Our People

As staff retire and leave the company, it is critical for us to train a new generation of employees so that we can ensure a sustainable talent pipeline. We address this challenge common to all companies by making Towngas an attractive place to work, providing internal and external training opportunities and encouraging optimal work-life balance.

We value diversity and inclusion within our workforce and make every effort to attract and retain women, the disabled and minority groups. We now have 14 disabled employees in our workforce. About 25 per cent of senior staff are female, and nearly half of our university graduate intakes are also female.

Measures to keep our people safe during the pandemic included holding job interviews online instead of face-to-face; implementing an online learning platform; and creating a new home-based part-time Customer Services Officer role for parents with children. We recruited working mothers under this latter arrangement.

We also offered a wide range of activities to help staff stay physically and mentally fit. These included online yoga, Pilates and fitness classes, health webinars and assessments, talks and recommendations on health products.

To ensure we have a sufficient pool of well-trained staff, we hold regular talent reviews that include a thorough discussion of our talent succession needs.

In 2021 we organised the 18-month Young Towngas Leadership Competencies Acceleration Programme (YTLC+) for young staff. During the programme, YTLC+ members will participate in a series of training programmes, mentoring, action learning projects and company visits. Additionally, more than 200 colleagues from Hong Kong and the Chinese mainland attended this year's Towngas Management Programme, which teaches supervisors and managers how to manage their teams for better performance.

The Towngas Engineering Academy provides professional training that supports our business by reinforcing our reputation for service excellence and gas safety and attracts young people to the industry. We also work with the Vocational Training

Council and local universities to help our technical employees acquire recognised qualifications, such as the DVE (Diploma of Vocational Education) in Gas Services Engineering and the Professional Diploma in Gas Engineering. These programmes can also lead to higher academic qualifications, paving the way to professional engineering degrees.

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 2021, we held ten safety exhibitions and two safety talks, maintaining our long-standing and well-proven methods of taking our safety message directly to consumers. As always, appliance safety was a high priority: We conducted more than 1,150,000 Regular Safety Inspections of gas facilities in customers' homes. This safety-driven programme has proven extremely popular with our customers.

(b) Occupational Safety and Health

Employee safety and health is our priority. That is why we have implemented the Total Safety Management System to avoid accidents and improve safety and health performance continuously. We endeavour to ensure the implementation of health and safety policy and promote safety culture through organising training, seminars, promotion activities and more. In 2021, there were 12 industrial accidents, with an accident frequency rate of 0.23.

During the year we completed the upgrade of our occupational health and safety management system for accreditation under ISO 45001. It covers six areas, including occupational health and safety (OHS), workplace infection control, gas production safety, transmission safety, mental health and welfare, as well as business risk management.

To encourage colleagues to pay attention to the relevant aspects of their work environment, we put in place the Health, Safety and Environment (HSE) Suggestion Scheme, Near-Miss Reporting Scheme and Instant Messaging HSE Reporting Channel for safety- and health-related reporting. Colleagues are invited to report both good practices and malpractices through the schemes to improve safety standard, thus promulgating our safety culture.

Our promotion of OSH principles have also enhanced our safety culture. In 2021, we organised seasonal promotion programmes for our colleagues and contractors

on topics such as lifting safety, fire safety, first aid, prevention of infectious diseases and managing stress during COVID-19, as well as health tips in office workstations.

In order to further improve the overall safety performance of Towngas and its subsidiaries, a variety of safety promotion events were held across the year - such as HSE Month, HSE Quiz, Contractor Safety Programme, Seasonal Influenza Vaccination (SIV) Programme, visits etc. to enhance the corporate safety culture. The responses were favourable with the active participation of our employees and contractors.

Effective and efficient emergency preparedness allows the Company to respond in a timely and effective manner. In 2021, we organised numerous joint fire exercises with the Fire Services Department, which provided opportunities for our emergency response team to work closely with Fire Services personnel in relevant operations.

Under the COVID-19 pandemic, we activated our Corporate Preparedness Plan for Infectious Diseases and set up teams to coordinate our response. Top management held regular meetings to facilitate decision making and ensure the timely implementation of COVID-19 measures. In 2021 we updated our preparedness plan for infectious diseases, published the latest information on COVID-19 for our staff and contractors, and provided protective equipment to all frontline staff. Other sanitation measures introduced in 2020 remained in force. We also continued to encourage our employees to get vaccinated.

With the active participation of staff at all levels and our outstanding performance in advocating innovation and safety culture, we received numerous safety and health awards from the industry. We won nine awards at The 20th Hong Kong Occupational Safety and Health Award event, including OSH Enhancement Program Award – Gold Award, OSH Innovative Award – Gold Award, OSH MVP Award – 15 Years Plus, OSHC Strategic Partner Certificate, Safety Performance Awards, and more.

(c) Gas Production Plant 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 among the utilities.

Our Company invested great efforts in safeguarding the condition and availability of the two gas plants. Our Ma Tau Kok gas production plant has over 44 years' history of safe and reliable production, while our Tai Po plant is equipped with modern computer control systems and sophisticated instruments, having run stably for 35 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 through 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 on the plants. The accident frequency rate of our gas production plants has always remained low, with about 0.64 case per 100,000 man hours. Nonetheless, in pursuit of the target of zero accident, our plant management team proactively review the root causes of each incident and implement every practicable preventive measure. There has been no major gas emergency at 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.

(d) Gas Network Safety

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

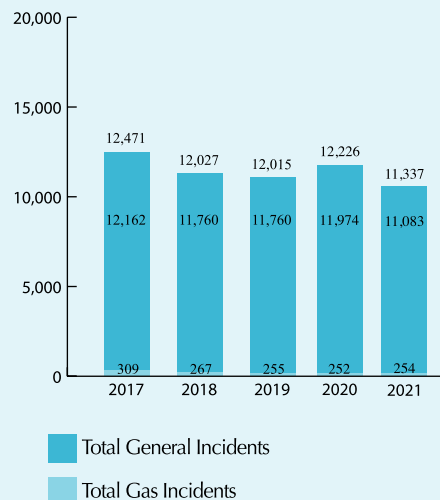
Emergency vehicles equipped with new tablets are now used in the handling of gas emergencies, while sensitive laser methane detectors are used for leakage surveys. Advanced technology was also introduced in recent years to monitor the condition of the coating on steel pipes.

In addition, we continue to check our pipes rigorously by conducting sophisticated leakage survey 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 2021, about 136,103 trench inspections covering 8,229 active sites were made.

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

(i) Number of Urgent Reports

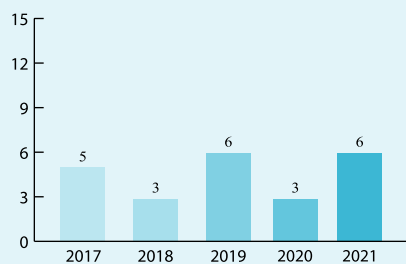


Urgent reports refer to incidents which require Towngas personnel to attend to immediately, whether the incident is gas-related or not.

Out of the 11,337 urgent reports received in 2021, only 254 cases were gas-related incidents. Town gas-related incidents are classified according to the following criteria:

- Reported by the Police or Fire Services Communication Centre
- Uncontrolled gas escape (which cannot 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 254 gas incidents in 2021, six 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 gas incidents has achieved a world class standard. We shall strive to continue improving our relevant performance in the upcoming year.

(iv) Number of Fatal Gas Accidents

Year	2017	2018	2019	2020	2021
No. of Fatal Gas Accidents	0	0	0	0	0

* Suicide cases are not included.

Thanks to Towngas' efforts to promote gas safety and respond promptly to emergencies, there were 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 at a relative low level, with only ten cases in 2021.

(vi) Trench Inspection

Total number of active sites inspected in 2021

Hong Kong Island	Kowloon	New Territories	Total
1,675	3,559	2,995	8,229

To minimise third-party damage to its network facilities, Towngas emphasises close coordination with road work companies. In addition to the provision of alignment drawings and safety advice to the relevant parties, the Company also organises safety talks for the construction industry. In 2021, a total of 287 members of the construction industry attended our safety talks. The Company also proactively sends 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, even gas seepage at very low concentration can be detected and rectified before they develop into reported gas leakages. Considering these surveys as effective precautions against major gas leakages, we conduct more leakage and pipeline surveys than our foreign counterparts every year.

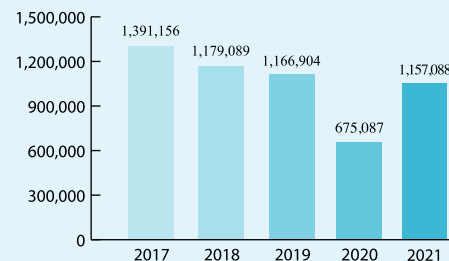
As a result of the stringent and proactive leakage survey and trench inspection programmes, the number of public-reported gas leakage incidents in networks totalled just 0.016 per km per year in 2021. Even if minor seepages located by the sensitive leakage survey were also included, the number came to no more than 0.076 per km per year, which is much lower than the figures in many other similar metropolitan cities.

(viii) Major Emergency Drills with Government Authorities in 2021

Type of Drill	Joint Fire Exercise				Emergency	
	Tai Po Plant	Ma Tau Kok Plant	Gas Network	Braemar Hill Tunnel	Tai Po Plant	Moon Lok Dai Ha
Venue						
No. of Exercises	2	2	1	1	1	1

(Government authorities include the Fire Services Department, the Electrical and Mechanical Services Department and the 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 service risers at intervals of 18 months.

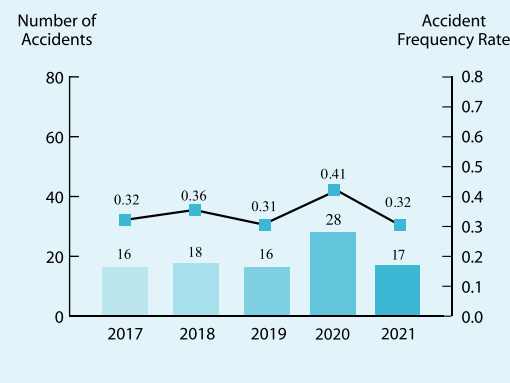
(x) Number of Sub-standard Appliances Upgraded

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 2021, 134 flueless (sink) and open-flued water heaters, and 182 cooking appliances without flame failure device 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 2021, we organised ten safety exhibitions and two safety talks in the community. Information panels were exhibited and information booklets on gas safety were delivered.

(xii) Safety Performance of Employees



Towngas is committed to providing a safe and healthy environment for its employees. From 2017 to 2021, there have been less than one 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.

* Safety inspections may be conducted earlier or later than planned depending on respective situations. Thus, the number of inspections conducted may differ from year to year.

3. Service Pledge

Initiated in 1994, the Towngas Service Pledge has set high targets for 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 27 years and pledges to continue improving its service and to set higher targets to ensure customers get the best possible level of service.

(a) Results of 2021

	Results
Reliability	
• Uninterrupted gas supply (over 99.99%)	99.996%*
• In case of supply interruption on account of maintenance or engineering work: customer notification 3 days in advance	100%
• Restoration of gas supply within 12 hours	100%
Safety	
• Emergency Team average arrival time (within 25 minutes)	Average 21.39 minutes
Appointments	
• Availability of maintenance and installation services within 2 working days	Average 1.16 days
Speed and Convenience	
• Customer Service Hotline (calls answered within 4 rings)	95.13%
• Connect or disconnect gas supply within 1 working day (upon customer request)	100%
• Deposit refunded at Customer Centres (2 hours after disconnection of gas supply) (upon customer request)	99.92%
Service Quality	
• Efficiency#	8.99
• Courteous and friendly attitude#	8.99
Handling Suggestions	
• Reply within 3 working days	100%
• Resolution, or a statement of how and when the matter will be resolved, within 2 weeks	100%

* Unplanned Gas Supply Interruption.

The result was based on monthly surveys conducted by an independent research company. Our target was to exceed a score of 8.5 out of 10.

(b) Service Pledge for 2022

Towngas pledges to continue providing our customers with the best possible service. The new Pledge has taken effect from January 2022, and the annual performance results will be announced in January 2023.

Pledges	Target
Reliability	
• Uninterrupted gas supply	- Over 99.99%
• In case of supply interruption (on account of maintenance or engineering work)	- Customer notification 3 days in advance
• 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	- 8.5 out of a total score of 10
• Courteous and friendly attitude	- 8.5 out of a total score of 10
Handling Suggestions	
• Written comments or suggestions	- Reply within 3 working days
	- Resolution, or a statement of how and 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 their cap-off service appointment. The maximum refund amount is HK\$2,000.

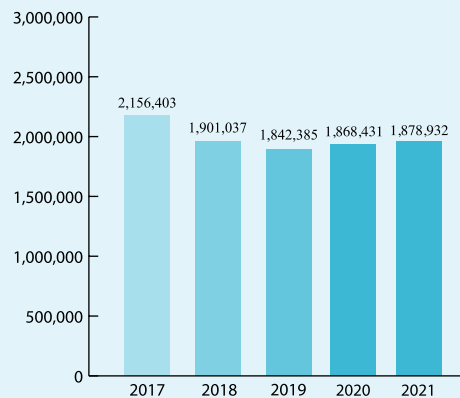
4. Customer Liaison

(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 public or private housing estates. 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 2021, due to the COVID-19 epidemic, the Customer Focus Team conducted several online safety talks.

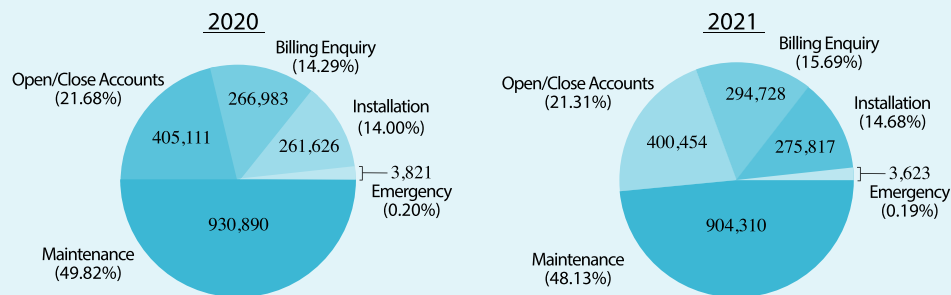
(b) Customer Service Hotline and Emergency Hotline

Total 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 for 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:

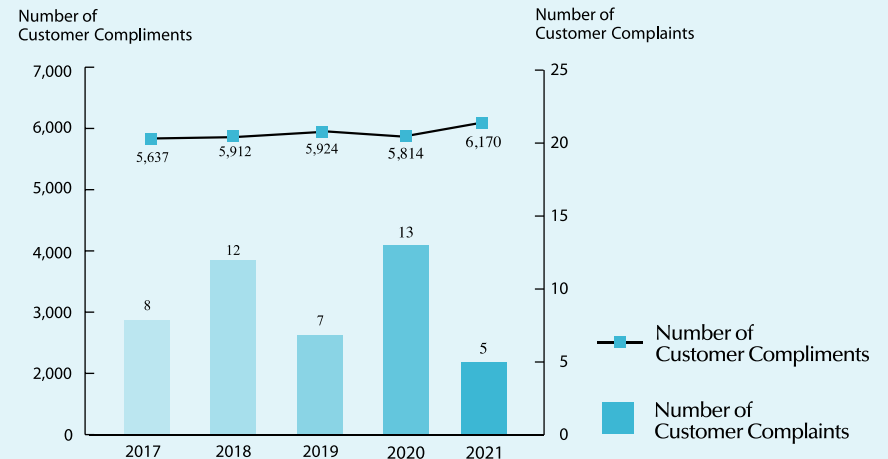


The largest category of incoming calls to the CSH and Emergency Hotline is maintenance, representing 48.13 per cent of total calls in 2021 while other categories include opening and closing accounts, billing enquiry, installation and emergency.

(c) Bill Inserts

Our bill inserts, which come enclosed with the bi-monthly gas bill, is an effective means to keep our customers informed. In 2021, a total of 36 information leaflets were sent to customers. The topics of these inserts were mostly related to Towngas services and products, including special offers on appliance, Towngas Avenue, Towngas Cooking Centre, Mia Cucina, Towngas Fun online redemption offers for members, green and health products, as well as ESG, gas safety and energy saving tips. Also, we have sent leaflets for ten non-governmental organisations without charges.

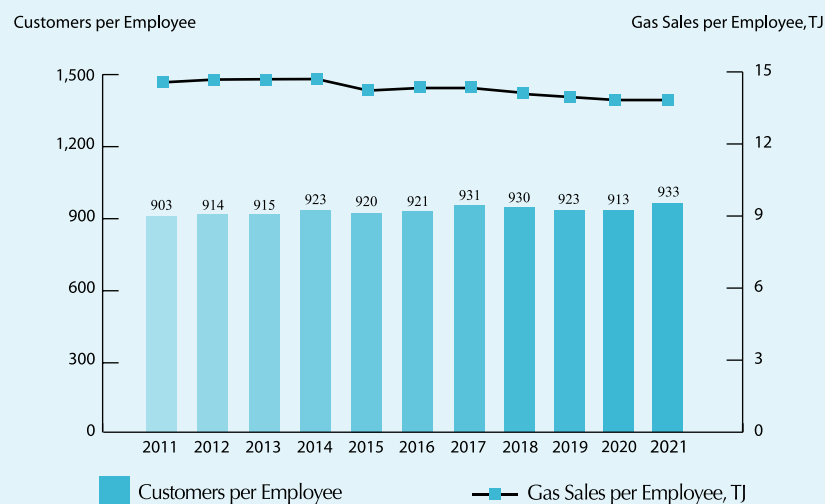
(d) Number of Customers' Compliments and Complaints



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 service. As a result, a total of 6,170 compliments on Towngas' service were received in 2021.

Towngas also received a total of 5 complaints in 2021. With 1,964,937 customer accounts as at 31 December 2021, the ratio is one complaint to every 392,987 customer accounts. Towngas is committed to taking proactive measures to improve product quality and the service of its frontline staff.

5. Efficiency (Products and Productivity)



In 2021, Towngas continued to develop innovative products which can enhance gas safety and customer convenience. Smart function is one of the key focuses. The first smart cooking appliance in Hong Kong, SIMPA smart (IoT) built-in hob, launched in Q4 last year. Customers can use the mobile app to monitor the appliance status, and shut off the burner remotely. Safety alerts would also be sent from an operating appliance to users if they leave home, or if the appliance has been continuously used for more than 30 minutes.

A smart gas meter is being developed for residential customers for gas safety monitoring. By adding an internal valve and an intelligent control logic unit, the smart gas meter can detect potential hazards such as serious and slight gas leaks, and lack of safety inspection over a prolonged period. This ensures the gas supply is automatically cut off and that Towngas is notified if any abnormalities are detected.

Besides, we also widened the application of big data and AI technology in customer services and sales marketing to enhance our operation efficiency and quality.

The productivity of Towngas is measured in terms of the number of customers served by each employee. As at the end of 2021, the number of employees engaged in town gas business was 2,106. In 2021, each employee served the equivalent of 933 customer accounts, and town gas sales averaged 13.1 TJ per employee. Towngas will continue to seek ways to ensure our customers receive the best and most cost-effective service.

Our innovative and environmentally friendly design of the Integrated Primary Air-handling Unit with desiccant wheel (Integrated D-PAU) with Solar Collectors that has been installed

at the new H Zentre on Middle Road not only improves the indoor air quality (IAQ) of the medical-oriented commercial building, but also brings a total of 12 per cent energy saving in HVAC system to H Zentre. This D-PAU system brought us the Innovative Energy Project of the Year Award 2021 from The Association of Energy Engineers (AEE) in the USA.

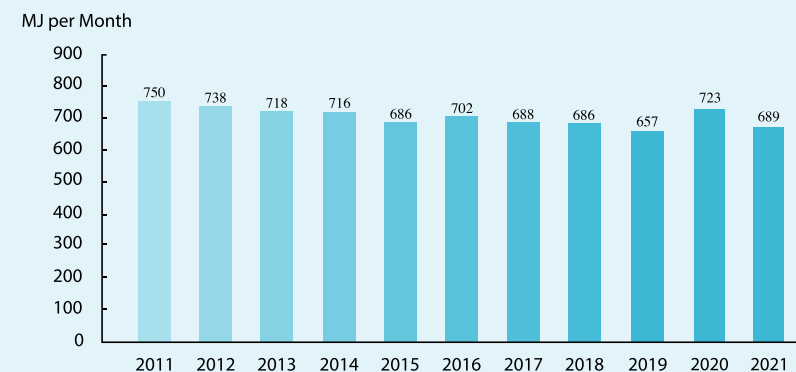
For the local catering trade, we continue to improve on the gas wok range to make it an ideal companion of the chef to produce all kinds of tasteful dishes. A new electronic controller for precise adjustment of the gas/air ratio has been developed for the wok range so that the combustion performance can always be kept at the optimal condition. The efficiency of the wok range can now be operated at its highest point even at the low to middle rating mode.

In addition, our innovative use of landfill gas has also been gaining momentum. From our first landfill gas utilisation project at Shuen Wan Landfill to the commissioning of our North East New Territories Landfill project in 2007, the application of this renewable energy has grown exponentially. In 2021, landfill gas accounted for about 1 per cent of our production fuel mix. In addition to treatment facilities in the North East New Territories Landfill site, which has been in operation for several years, another landfill gas utilisation project in the South East New Territories Landfill site is helping to further raise the proportion of landfill gas used by the Group, thus increasing our contribution to energy conservation and emission reduction in Hong Kong. The use of landfill gas has not only helped to cut carbon emissions released into the atmosphere, but also reduced our consumption of naphtha by more than 5,800 tonnes in 2021. These savings are equivalent to the annual carbon dioxide absorption of 0.79 million trees.

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

In 2020 and 2021, due to the exceptional social distancing restrictions and dine-in ban at restaurants for COVID-19, gas consumption for residential cooking and water heating increased.

Average Monthly Household Gas Consumption



6. Charges

The gas charge comprises the basic tariff plus fuel cost adjustment. The basic tariff is 26.05 cents per megajoule ("MJ") based on a consumption of 1,000 MJ per month with effect from August 2019. 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 repair, on-demand appliance check-ups, Regular Safety Inspection whereby customers' gas appliances, gas installation pipes and service risers are inspected by our fully-qualified, registered gas technicians at intervals of 18 months, and the 24-hour Customer Service Hotline. Towngas conducted more than 520,000 on-demand maintenance works and more than 1,150,000 Regular Safety Inspections in customers' homes in 2021.

However, the 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.

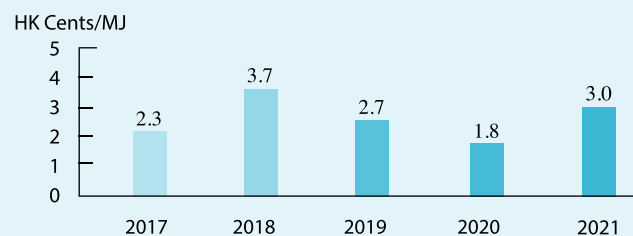
(b) Fuel Cost Adjustment

The fuel cost adjustment calculation is based on gas consumption and monthly 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.

In 2021, our customers saved a total of HK\$947 million in fuel cost adjustments due to our introduction of natural gas to the production of town gas.

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

Average Monthly Fuel Cost Adjustment



7. Fuel Mix Percentage

In 2021, our fuel mix in terms of percentage of naphtha, natural gas and landfill gas used for gas production is as follows:

Feedstock	Percentage
Naphtha	39%
Natural Gas	60%
Landfill Gas	1%

8. Towngas Concession Schemes

Seeking to make a difference for some of our society's disadvantaged groups, we have launched four concession schemes to offer quality gas service at a discount to eligible applicants. Under the concession schemes, beneficiaries enjoy a 50 per cent discount on basic gas tariff for 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 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 households receiving CSSA under the single-parent category.
Concession Scheme for Low Income Families	Applicants should be CSSA recipients who have or whose family member has a regular job income which is taken into account in the assessment of CSSA entitlement. (Their CSSA "Notification of Successful Application" or "Notification of Revision of Assistance" must bear the item of "Less net Earnings" indicated in two consecutive months out of the CSSA payment period.)

* All applicants should be registered Towngas account holders.

In 2021, the overall average amount of annual savings per beneficiary customer under the Towngas Concession Schemes was about HK\$581. Over 44,000 households from Towngas Concession Schemes benefited from concessions totalling HK\$26 million.

ENVIRONMENTAL PROTECTION

Our ESG Report clearly elaborates our ESG strategies and sets out the targets and standards that we encourage all employees, contractors and suppliers to work towards. As a responsible public utility, our duty is not limited to our own operation. We also promote environmental awareness amongst our stakeholders in support of sustainable development.

1. Environmental Promotion Programmes

We continue to offer our support to green groups and government-led environmental protection programmes. In 2021, we continued to support and sponsor The Green Earth's five-year Plantation Enrichment Project to build native tree woodland. We also sponsored and participated in the Earth Hour by WWF, Mooncake Recycling Programme by Food Grace and Hong Kong Green Day 2021 by Green Council.

2. Environmental Training and Education Programmes

Towngas has provided a great variety of environmental training and educational activities to nurture a culture of environmental awareness among our stakeholders. Programmes conducted in 2021 included the annual Outstanding Environmental Sub-committee Award, seminars on E-waste management, sustainable seafood and low carbon diet, workshops on toys upcycling and organic seafood cooking demo, and more. ESG Bulletins were also published and uploaded on our intranet for our employees. Green promotional messages were conveyed to employees via email and intranet on a regular basis. To raise employees' awareness of ESG, we produced nine in-house training videos on topics such as climate risks and opportunities and circular economy that all our staff and contractors are mandatory to complete the training.

3. Environmental Achievements

Towngas was conferred with the Gold Award in Manufacturing Sector and Sustainable Business Award of the BOCHK Corporate Environmental Leadership Awards 2020 by the Federation of Hong Kong Industries. The Excellence Level Wastewise Certificate which the Environmental Campaign Committee conferred upon us for the 20 consecutive years was testimony to our strong commitment to waste reduction.

4. Environmental Performance

In 2021, Towngas' 12 functional environmental sub-committees achieved over 40 environmental objectives, one of which was to optimise the energy performance of our North Point Headquarters by lift modernisation, chiller optimisation, LED lighting replacement, etc. These energy saving strategies contributed to our achievement in obtaining Final Platinum BEAM Plus rating under Existing Buildings V2.0 – Comprehensive Scheme with a score of 100, and received a special award recognising our highest score on energy aspect – Outstanding Performance in Energy Use Aspect (Comprehensive Scheme). In addition, we also held the Used Gas Appliance Recycling Programme for over ten years to recover metals from unwanted appliances. In 2021, more than 1,600 tonnes of metal were recovered under this programme. For more details about our environmental performance and targets, please visit our corporate website to view or download our ESG 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 our North Point headquarters and Ma Tau Kok building operate with CFC-free and HCFC-free refrigerants.

Air Quality

- Total NOx output was 4.0 kg/TJ of town gas (Annual total of 107,778 kg, equivalent to a daily average of 295 kg).
- Total SOx output was 0.02 kg/TJ of town gas (Annual total of 409 kg, equivalent to a daily average of 1.1 kg).
- Total CO₂ output was 12.0 MT/TJ of town gas (Annual total of 325,764 MT, equivalent to a daily average of 893 MT).

Greenhouse Gas Emission

- Annual total greenhouse gas emission was 339,068 MT in terms of CO₂ equivalent.

Volatile Organic Compounds (VOC)

- Estimated annual total VOC emissions was 6.4 kg/TJ of town gas (Annual total of 174,906 kg, equivalent to a daily average of 479 kg).

* Before introduction of natural gas feedstock, estimated annual total VOC emission 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 3.6 m³/TJ of town gas (Equivalent to a daily average of 275 m³).

Chemical Waste

- Total chemical waste output was 1.8 kg/TJ of town gas (Equivalent to a daily average of 132 kg).

Noise

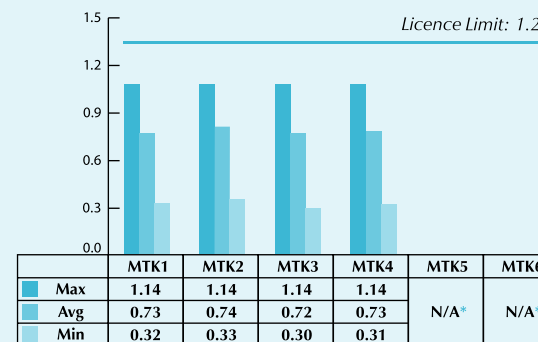
- All installations and operations complied with the statutory requirements. No noise abatement notice has ever been received.

(b) **Operation of Gas Production Plant for 2021**

As one of the leading energy suppliers in Hong Kong, Towngas provides a safe and reliable gas supply to its customers every day. During the year, the availability of Tai Po plant was 84.8 per cent, while its thermal efficiency reached 88.3 per cent. The installed capacity of the two plants in Tai Po and Ma Tau Kok totalled 12.820 million standard m³/day and the peak daily demand was about 6.493 million standard m³/day.

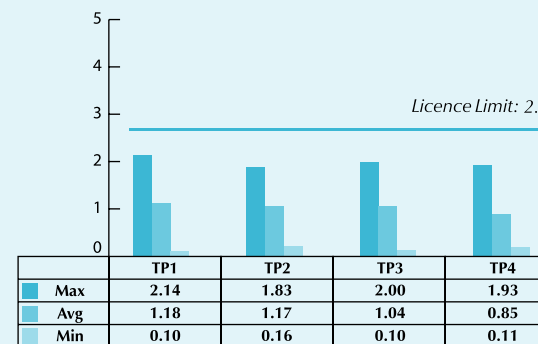
(c) **Emission Levels of Gas Production Plants for 2021**

(i) **NOx emission levels of Ma Tau Kok (MTK) gas making units (kg/hour)**

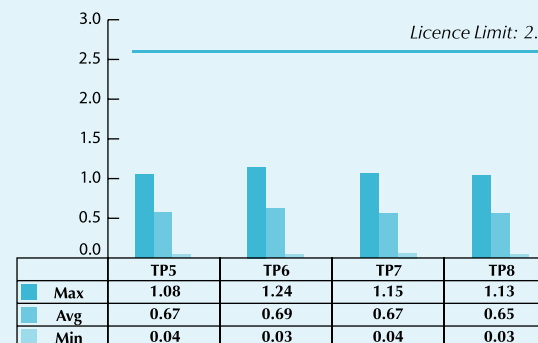


* MTK5 and MTK6 at cold standby in 2021

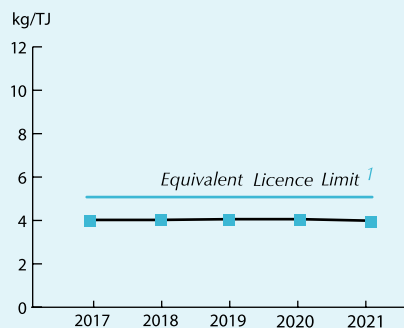
(ii) **NOx emission levels of Tai Po (TP) gas making units Phase 1 (kg/hour)**



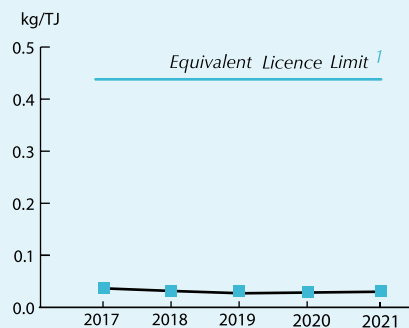
(iii) **NOx emission levels of Tai Po (TP) gas making units Phase 2 (kg/hour)**



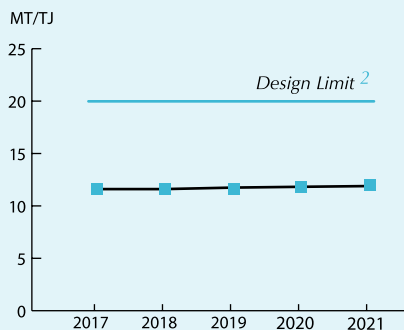
(iv) NOx emission levels



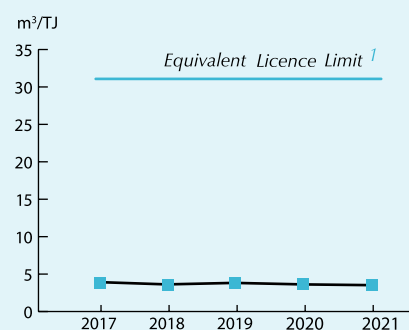
(v) SOx emission levels



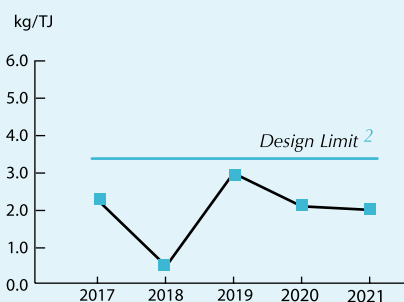
(vi) CO2 emission levels



(vii) Waste water output



(viii) Chemical waste output



1 "Equivalent Licence Limit" (kg/TJ OR m³/TJ) = "Weighted average of actual licence limit" (kg/hr or m³/hr) ÷ production rate of the plants for the year 2021 (TJ/hr).

2 As there is no Licence Limit for the discharge levels, we applied the design limit of our production plants as a reference point for the emission level.

FINANCIAL INFORMATION

The figures and financial information 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 31 December 2021, 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 31 December 2021 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 31 December 2021

	2021 HK\$'M	2020 HK\$'M
Revenue	53,563.7	40,927.0
Total operating expenses	(44,744.0)	(32,527.1)
	8,819.7	8,399.9
Other losses, net	(1,563.3)	(481.9)
Interest expense	(1,408.2)	(1,268.6)
Share of results of associates	1,885.6	1,187.0
Share of results of joint ventures	646.9	1,089.2
Profit before taxation	8,380.7	8,925.6
Taxation	(2,155.0)	(1,713.2)
Profit for the year	6,225.7	7,212.4
Attributable to:		
Shareholders of the Company	5,017.0	6,007.3
Holders of perpetual capital securities	110.9	110.3
Non-controlling interests	1,097.8	1,094.8
	6,225.7	7,212.4
Earnings per share – basic and diluted, HK cents	26.9	32.2*

* Adjusted for the bonus share issue in 2021

2. Consolidated Statement of Financial Position

as at 31 December 2021

	2021 HK\$'M	2020 HK\$'M
Assets		
Non-current assets		
Property, plant and equipment	72,221.5	68,133.7
Investment property	849.0	827.0
Right-of-use assets	2,938.7	2,802.4
Intangible assets	5,607.2	5,462.9
Associates	36,149.9	28,670.3
Joint ventures	12,575.2	11,981.2
Financial assets at fair value through other comprehensive income	2,170.5	2,492.8
Financial assets at fair value through profit or loss	5,047.6	4,687.3
Derivative financial instruments	331.8	305.0
Retirement benefit assets	184.0	111.9
Other non-current assets	5,804.1	4,649.1
	<u>143,879.5</u>	<u>130,123.6</u>
Current assets		
Inventories	3,140.7	2,671.0
Trade and other receivables	9,148.9	8,572.5
Loan and other receivables from associates	418.8	401.7
Loan and other receivables from joint ventures	535.9	442.9
Loan and other receivables from non-controlling shareholders	306.6	206.3
Financial assets at fair value through profit or loss	-	205.4
Derivative financial instruments	2.1	28.5
Time deposits over three months	77.9	173.3
Time deposits up to three months, cash and bank balances	10,557.0	7,455.0
	<u>24,187.9</u>	<u>20,156.6</u>

2. Consolidated Statement of Financial Position (Continued)

as at 31 December 2021

	2021 HK\$'M	2020 HK\$'M
Current liabilities	(18,487.6)	(17,031.1)
Trade payables and other liabilities	(189.5)	(486.3)
Amounts due to joint ventures	(159.4)	(108.3)
Loan and other payables due to non-controlling shareholders	(931.0)	(1,188.1)
Provision for taxation	(18,255.2)	(10,852.3)
Borrowings	(511.0)	(140.2)
Derivative financial instruments	<u>(38,533.7)</u>	<u>(29,806.3)</u>
Total assets less current liabilities	<u>129,533.7</u>	<u>120,473.9</u>
Non-current liabilities		
Deferred taxation	(7,225.4)	(7,059.1)
Borrowings	(36,855.9)	(31,286.3)
Derivative financial instruments	(856.9)	(478.6)
Other non-current liabilities	<u>(2,756.7)</u>	<u>(2,496.6)</u>
	<u>(47,694.9)</u>	<u>(41,320.6)</u>
Net assets	<u>81,838.8</u>	<u>79,153.3</u>
Capital and reserves		
Share capital	5,474.7	5,474.7
Reserves	<u>61,951.7</u>	<u>61,283.8</u>
Shareholders' funds	67,426.4	66,758.5
Perpetual capital securities	2,384.2	2,384.0
Non-controlling interests	<u>12,028.2</u>	<u>10,010.8</u>
Total equity	<u>81,838.8</u>	<u>79,153.3</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 31 December 2021 are as follows:

	HK\$/M
Fees	5.1
Salaries, allowances and benefits in kind	18.7
Performance bonus	44.8
Contributions to retirement scheme	13.0
Others	0.4
	<u>82.0</u>

Number of directors whose emoluments fell within:

Emoluments band (HK\$/M)

0.0 - 1.0	6
14.0 - 14.5	1
28.0 - 28.5	1
35.0 - 35.5	1

The above remuneration paid to directors of the Company also represents the amounts of short-term employee benefits of HK\$68.6 million, post-employment benefits of HK\$13.0 million and share-based payment benefits of HK\$0.4 million paid to the Group's key management personnel during the year ended 31 December 2021. There were no other long-term benefits and termination benefits paid to the Group's key management personnel 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 31 December 2021 is as follows:

	HK\$/M
Residential maintenance revenue	218.9
Less expenses:	
Manpower costs	(175.1)
Other operating and administrative expenses	<u>(125.3)</u>
Net loss	<u>(81.5)</u>



香港中華煤氣有限公司
The Hong Kong and China Gas Company Limited
June 2022 www.towngas.com

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