

(Stock code: 3)







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P We share the concerns of our stakeholders and are taking action to address the global challenges we face today by contributing towards a greener, brighter future. 99 We at Towngas recognise that a company's long-term success is closely connected with how it acts on matters of social responsibility, environmental stewardship and ethical corporate behaviour. Today, sustainability should no longer be an option but the main focus of every company's way of thinking.

Ever since the founding of Towngas in Hong Kong in 1862 and our entry into mainland China, we have placed the highest priority on sustainability and have incorporated social, environmental and economic considerations into our core strategy as well as day-to-day operations.

As one of the largest city-gas suppliers and operators in mainland China, we fully support the government's coal-to-gas policy. In line with this policy, we have been improving access to

Alfred Chan Wing-kin Managing Director



natural gas and, as a result, sales have increased by 30% over the past two years alone. With the commissioning of Towngas' Jintan salt-cavern gas storage facility during the year, we believe that we can provide an even more secure supply of gas, even at winter peaks, in support of the national government's environmental policies and efforts to promote growth in the natural gas market.

> Today, sustainability should no longer be an option but the main focus of every company's way of thinking.



In addition to our existing piped gas business, we have begun exploring distributed energy systems as they are more energy efficient and economical, hereby enabling China's aim to reduce reliance on coal-fired power. This new venture is growing rapidly, and we are now building up a dedicated team to staff this business with such great potential for the future.

As a leading energy supplier, we also acknowledge the importance of planning for the transition towards renewable energy by investing in research and development. One example is our new hydrotreated vegetable oil (HVO) plant in Zhangjiagang, Jiangsu province, where we are converting low-grade inedible bio-oil into the latest generation of biofuel, which offers a nearly 90% reduction in greenhouse gas emissions as compared with traditional petroleum-based diesel. In 2018, we shipped our first two batches of HVO, amounting to 7,000 tonnes, to customers in Europe.

Several other renewable energy projects are currently being commercialised and in various stages of implementation utilising technologies developed by our own R&D team. Given their successful track record so far, we are confident in their ability to make major contributions towards China's transition to a clean energy future.

Contributing to the Sustainable Development Goals

During the year, we redoubled our commitment to sustainability by adopting four of the Sustainable Development Goals (SDGs) of the United Nations. The SDGs we selected are the ones most relevant to our business strategy and where we can add the greatest value. Among these are *6: Clean Water and Sanitation, 7: Affordable and Clean Energy, 11: Sustainable Cities and Communities,* and *13: Climate Action.*

To meet these goals, we will continue to supply clean energy and water to our customers, develop new environmentally friendly energy solutions, provide access to basic services, and support the building of sustainable cities.

Emerging Sustainability Issues +-

As extreme weather events such as heat waves, storms and flooding become more frequent, the damage they cause and their ecological impact are all too evident. Consistent with the SDG on climate action, we recognise that climate change is a sustainability issue of utmost importance.

Hence, we have been moving away from an emphasis on disaster recovery to climate resilience. Our ability to adapt rather than just recover from a disaster was on full display during the most severe typhoon in Hong Kong's recorded history — Typhoon Mangkhut. Although this storm caused widespread damage throughout Hong Kong, we were fortunate not to experience any gas leakages or personal injuries, thanks to the precautions we took, our ability to adapt and the efforts of our professional staff.

Another approach for tackling climate change is to reduce carbon emissions through initiatives such as carbon trading. Since China's launch of the world's largest carbon trading scheme, we have been looking for opportunities to reduce our carbon emissions and to generate potential carbon credits from our green projects. We have also committed to fully supporting the Hong Kong Feed-in Tariff Schemes and, in 2019, will install solar panels at our premises to help create a greener city through the widespread use of renewable energy.

Internationalising Industry Standards +-

As we see it, one of our obligations as a socially responsible company with over 250 joint ventures (JVs) in mainland China is to raise industry standards, especially those concerning safety.

Since the 1990s, we have been carrying out Regular Safety Inspections in Hong Kong every 18 months at the premises of our customers. This practice was introduced in mainland China when we began providing natural gas there, and we are now also carrying out Regional Safety Patrols by high level managers every year as part of our commitment to maintain a high standard of safety. In 2018, we took the initiative to upgrade our occupational safety and health management system to meet the new, more stringent ISO 45001 standard and successfully obtained the certification in February 2019. We have also been supporting our JVs to obtain internationallyrecognised certifications.

In order to raise the standards of workmanship of gas technicians and contractors alike, we have brought our MasterCraft programme to the mainland, as well as our Three Courtesies programme, that encourages the practice of "manners", "etiquette" and "politeness" among our staff who interact with customers.

Caring for Stakeholders -

In response to the trend of an ageing society and the challenge of a declining labour force, we have been developing a corporate succession strategy through retraining as well as supporting related efforts to deal with these issues in Hong Kong.

To attract new hires to our company and prepare young managers for future leadership roles, we have organised a variety of training courses and activities. We have also been cooperating with various educational institutions to offer advanced programmes for training new talent for the gas industry, such as the Professional Diploma course in Gas Engineering, which is the first of its kind in Hong Kong.

What's more, we have developed a wide range of programmes designed to meet the needs of an ageing society. These include cooking classes for early retirees and people with Mild Cognitive Impairment, the development of smart appliances that meet the needs of elderly people, and the Mad Dog Café programme through our donations of electrical washlets and thermo ventilators at their toilets. Building trust and long-term relationships with our customers is critical for the sustainability of our company. As more of our businesses go online, we understand the importance of managing the risk of data breaches, an increasingly common problem in today's world, and carefully handling customers' personal information to ensure cyber security. In 2018, there were no incidents of data loss or breaches of privacy at Towngas.

Next Year and Beyond -

This is a critical time to be in the energy business, as growing numbers of stakeholders demand solutions that lead to a low-carbon future. Although we see challenges ahead, we remain highly optimistic in our ability to provide these solutions. Today, we have earned the reputation of a leading supplier of reliable, clean energy in Hong Kong and mainland China, and yet our focus on innovative new technology is already yielding promising results with the development of renewable energy products for the future.

In 2019 and the years beyond, we see remarkable opportunities to help Hong Kong and China reduce their carbon emissions, and we look forward to working with our partners and other stakeholders to make the transition into a new era of clean energy.

Alfred Chan Wing-kin Managing Director







Financial and Operation	nal	Governance and Risk	Society	
	5 projects ide Hong Kong	Introduced a Anti-Fraud Policy to maintain a high standard of corporate governance and ethical operations	Employees	Number of employees 2,418 (Hong Kong) 49,478
Customer account		Sustainability Committee prioritised		(outside Hong Kong)
 1.9 million for town gas (Hong Kong) 27.5 million for city-ga (Mainland China) 2.2 million for water bu (Mainland China) 	as business 6	Sustainable evelopment Goals: CLEAN WATER AND SANTATION T AFFORDABLE AND T AFFORDABLE AND T AFFORDABLE AND T SUSTAINABLE CITIES T AFFORDABLE AND T SUSTAINABLE CITIES T AFFORDABLE AND T SUSTAINABLE CITIES T AFFORDABLE AND T SUSTAINABLE CITIES T SUSTAIN	Customers	99.99% supply reliability rate in Hong Kong
Environment Carbon intensity of gas production 0.564 kg CO₂e / unit of town gas ↓ 26% compared with 2005 baseline	Green busine • over 20 distributed e system projects under • First two batches amo 7,000 tonnes of hy	energy rway ounting to		5,912 customer compliments received in Hong Kong
Health and Safety Health and Safety Successfully upgraded from OHSAS 18001 to ISO 45001	vegetable oil sold to E Accident fr rate (Hong 0.15 employee 0.22 contractor accidents per 100,000 m	equency Kong) Serious gas-related accidents (Mainland China) ↓ 29% in the last five years		Volunteer hours 91,628 hours by employees and customers in Hong Kong 238,000 hours by mainland utility employees

Average of 28.6 hours of training per employee in Hong Kong Launched Hong Kong's first **Professional Diploma** course in Gas Engineering with Vocational Training Council Introduced **new technology** for enhanced customer service and convenience • Smart metering • Virtual assistant • Augmented reality • Faster Payment application for System cooking appliances Established the first-of-its-kind Towngas Chef Anchor Volunteer Team to serve elderly with Mild Cognitive

Impairment

2018 Highlights 9

2.2 O Major Corporate Awards and Recognitions in 2018

A comprehensive list of our major awards in 2018 is available at our corporate website.

Governance +

Hong Kong Business Sustainability Index

by The Chinese University of Hong Kong

Towngas was ranked first on the fourth Hong Kong Business Sustainability Index, a list compiled by The Chinese University of Hong Kong Business School's Centre for Business Sustainability. Selected from among 50 Hang Seng Index constituent companies, Towngas was the first company to score above 90 points out of 100, and to be ranked as an "Exemplar". Scoring was based on companies' CSR values, process management and practices, as well as their impact on the community and the environment.

Constituent Companies of the Hang Seng Corporate Sustainability Index Series (Towngas and Towngas China)

by Hang Seng Indexes Company Limited

Listed Company Awards of Excellence 2018

by Hong Kong Economic Journal

Best Corporate Governance Awards 2018

• Sustainability and Social Responsibility Reporting Awards

by The Hong Kong Institute of Certified Public Accountants

The **4th H**ong Kong Business Sustainability Index Recognition Ceremony



The Listed Enterprise Excellence Awards 2018

by Capital Weekly

IFAPC Outstanding Listed Company Award 2018

by The Hong Kong Institute of Financial Analysts and Professional Commentators Limited



Business and Service +-

2018 Hong Kong Awards for Industries: Innovation and Creativity Award

by The Hong Kong General Chamber of Commerce



Customer Service Excellence Award

- Digital Transformation Award (Gold Award)
- Contact Centre Service Team Award (Gold Award)

by Hong Kong Association for Customer Service Excellence

RÉA Greater China Awards 2018

- Best Kitchen Appliance
- Best Kitchen Design

by GoHome HK Company Limited

2018 Hong Kong Service Awards – Public Utilities

by *East Week*

Excellent Brand of Kitchen Solution

• Hong Kong Leaders' Choice 2018

by Metro Finance FM104





by Federation of Hong Kong Industries

HKIM Market Leadership Award

• Public Services and Triple Crown Award

by Hong Kong Institute of Marketing

2017 Quality Sub-contractor -Kitchen Cabinet

by Hong Kong Professional Building Inspection Academy Limited

Hong Kong Top Service Brand

by Hong Kong Brand Development Council

Environmental +---

Pacific Rim Regional Energy Project of the Year Award

by Association of Energy Engineers

Towngas received the 2018 Asia Pacific Rim Regional Energy Project of the Year Award by The Association of Energy Engineers (AEE), a non-profit professional society of over 18,000 members in more than 100 countries. The aim of the award is to recognise innovative energy projects in the Pacific Rim Region that have been in operation for at least six months and can demonstrate actual installation cost and operating savings. The award by AEE recognises Towngas for its project, the first Combined Heat and Power Generating System in hospital of Hong Kong, which has achieved total system efficiency of 87% as well as a reduction in greenhouse gas emissions.



Hong Kong Green Awards 2018

Green Purchaswi\$e Award

by Green Council

- Large Corporation (Platinum)

- 2017 Hong Kong Awards for **Environmental Excellence**
- Flame at Towngas Avenue - Restaurants (Silver Award)
- by Environmental Campaign Committee

Safety -

The 17th Hong Kong Occupational Safety and Health Award

- Safety Promotion Award (Gold)
- Safety Culture Award (Gold)
- OSH Annual Report Award (Gold)
- Safety Performance Award
- (i) The Hong Kong and China Gas Company Limited
- (ii) The Hong Kong and China Gas Company Limited Gas Production Stream
- (iii) Towngas Telecommunications Company Limited
- (iv) U-Tech Engineering Company Limited

by Occupational Safety and Health Council

Social +

Champion of Highest Service Hour Award 2017 (Private Organisations -**Best Customers Participation**)

by Social Welfare Department

Industry Cares 2018 CSR Recognition Scheme

- The Grand Caring Award (Enterprise Group)
- The Most Innovative Award (Enterprise Group)

by The Federation of Hong Kong Industries



The 6th Asia Pacific Eldercare Innovation Awards

• Best Dementia Care Programme

by Ageing Asia

At the 6th Asia Pacific Eldercare Innovation Awards, Towngas won an award in the Best Dementia Care Programme category for its Chef Anchor programme, organised with the Hong Kong Sheng Kung Hui Welfare Council Limited. The award, which recognises support programmes that "enable rehabilitation and happiness for older adults with dementia," was presented at a ceremony in Singapore.

Community Chest Platinum Award

by The Community Chest

Talent-Wise Employment Charter and Inclusive Organisations **Recognition Scheme**

- Friendly Employment Award
- Outstanding Inclusive Team Award

by Labour and Welfare Bureau

Best Corporate Volunteer Service Project - 1st runner-up

by Social Welfare Department

2017/18 Family-Friendly Employers Award Scheme

- Family-Friendly Employers Grand Award
- Special Mention (Gold)
- Awards for Breastfeeding Support

by The Home Affairs Bureau and the Family Council

第 前 永 芬 朝 主 男 助 計 Tamily-Triendly Employers Award Scheme



The 9th Hong Kong Outstanding Corporate Citizenship Awards

- Gold Award - Enterprise Category
- Gold Award - Volunteer Team Category

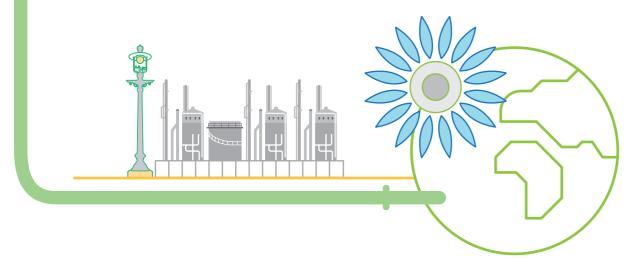
by The Hong Kong Productivity Council





3 ABOUT THIS REPORT

As an organisation that is responsive to global challenges and the concerns of stakeholders, The Hong Kong and China Gas Company Limited (Towngas) has been reporting on its sustainability performance for more than a decade. For 2018, we describe the progress we have made towards achieving our sustainability targets, while acknowledging areas where further improvements can be made.



3.1 Scope of the Report

This report examines the material topics that arose at Towngas and its subsidiaries (the Group), during the period from 1 January 2018 to 31 December 2018, unless otherwise stated.

Information on our sustainability performance covers the principal activities of the Group, which include the production, distribution and marketing of gas, water supply and emerging environmentally friendly energy businesses in Hong Kong and mainland China. Our financial performance is discussed in <u>Chapter 4</u>, while a more comprehensive look at our financial data and businesses is available in the <u>Annual Report 2018</u>.

For more information on the sustainability performance of our mainland operations including case studies and key performance indicators—please refer to the <u>Towngas China</u> <u>Sustainability Report 2018</u> and <u>Hua Yan Water Corporate Social Responsibility (CSR)</u> <u>Report 2018</u>.

3.2 O Reporting Guidelines

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option and with reference to the GRI G4 Oil and Gas Sector Disclosures. It also fulfils the "comply or explain" provisions as well as "recommended disclosures" of the Environmental, Social and Governance Reporting Guide (ESG Guide), under Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited.

The GRI Content Index is provided on <u>P. 106</u> and the ESG Guide Content Index on <u>P. 112</u> of this report.

3.3 O Independent Verification

This report has been verified by an independent third party, Hong Kong Quality Assurance Agency (HKQAA), to ensure its accuracy and completeness, and to verify its adherence to the reporting guidelines. Its verification statement is on <u>P. 118</u>.

3.4 Acknowledgement

Compiling this report was made possible with the support of the Towngas Sustainability Committee, the senior management of the Company, and our many Towngas departments. We are sincerely grateful to everyone who contributed their time, knowledge and insights towards the preparation of this report. We also thank our staff, partners, customers and other stakeholders who share our vision of enhanced business sustainability.

3.5 Vour Feedback

The full version of this report is published on both the Towngas website and the website of The Stock Exchange of Hong Kong Limited.

We welcome all comments on this report and invite you to provide your feedback on our sustainability performance and reporting methods by completing the <u>online questionnaire</u> or emailing us at <u>cad@towngas.com</u>.





4 OUR BUSINESS

Towngas is a limited liability company incorporated and headquartered in Hong Kong and listed on The Stock Exchange of Hong Kong Limited (Stock Code: 3). As at 31 December 2018, the Group employed approximately 52,000 people in Hong Kong and mainland China. For details on the changes in our portfolio of businesses during the year, please refer to our Annual Report 2018.

4.1 Vision and Mission

In line with other socially responsible organisations throughout the world, we at Towngas are committed to upholding practices that protect the environment and creating value for the communities in which we operate. We believe it is also critical to maintain strong relationships with stakeholders and deliver long-term sustainable growth. Our vision and mission are part of this commitment and guide our evolving sustainability strategy for the benefit of future generations.



Vision

To be Asia's leading clean energy supplier and quality service provider, with a focus on innovation and environmental friendliness.



Mission

To provide our customers with a safe, reliable supply of energy and the caring, competent and efficient service they expect, while working to preserve, protect and improve our environment.



Commitment

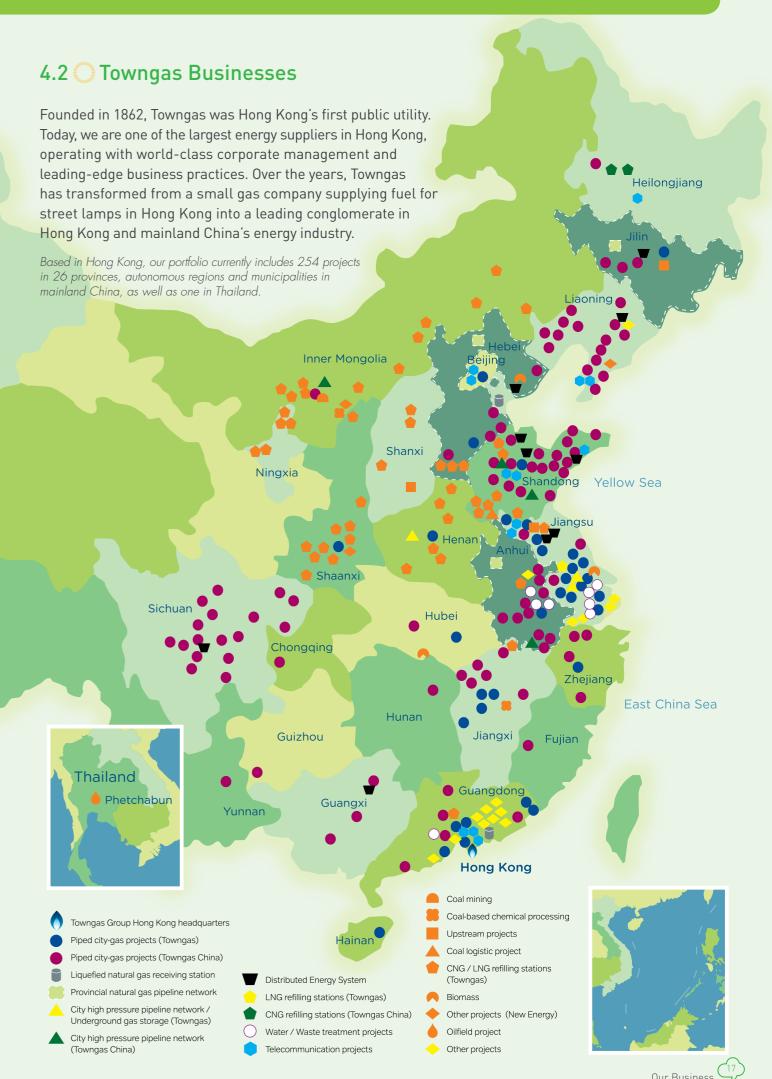
To conduct ourselves in an ethical and transparent manner so that all stakeholders know we are accountable to them for the decisions and actions we take to become a sustainable business.



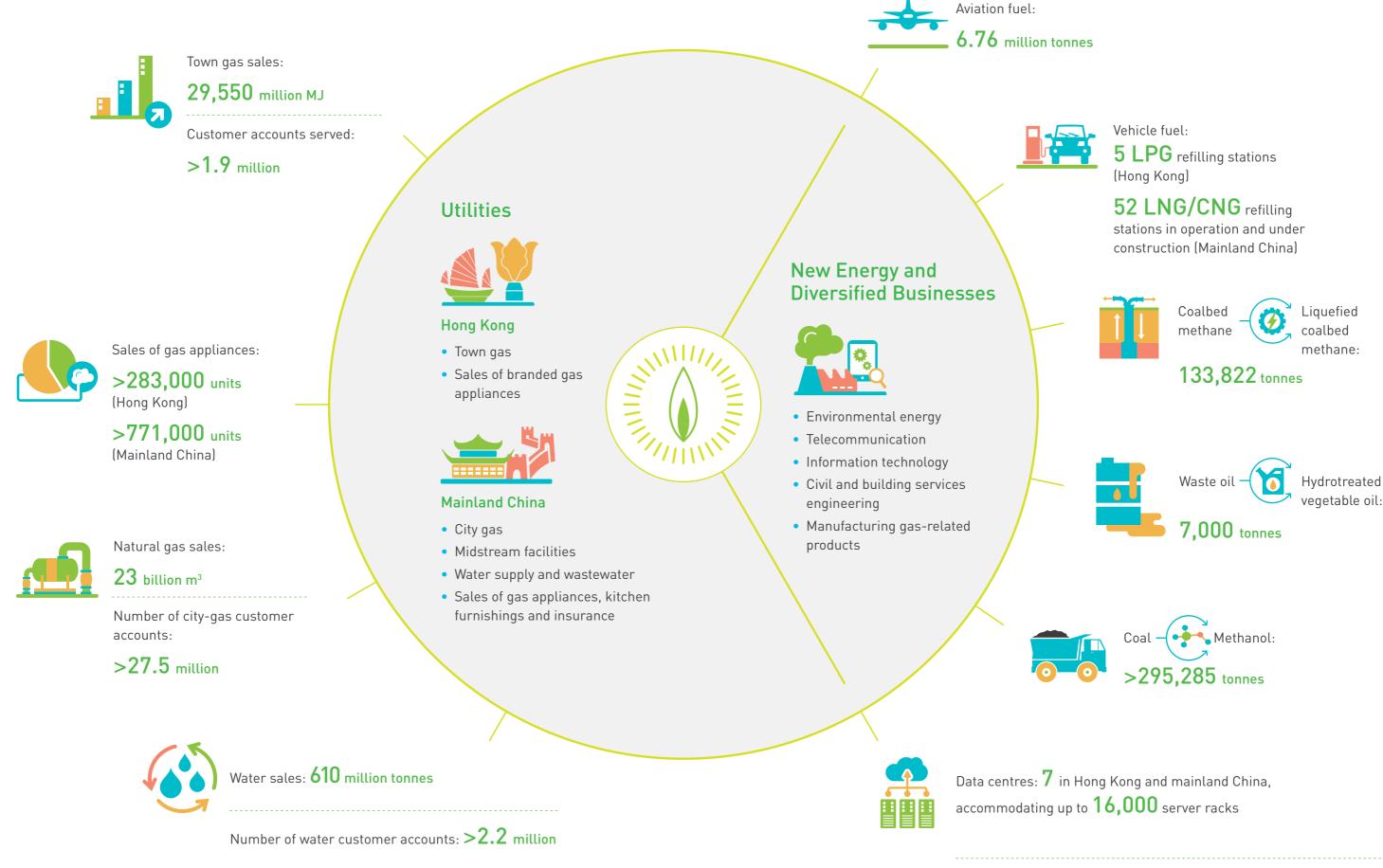
Responsibility

To recognise the importance of our employees and their contribution to the success of our business, and our responsibility to keep them safe, informed, engaged and equipped to undertake our mission.

in 26 provinces, autonomous regions and municipalities in mainland China, as well as one in Thailand.



4.3 Business Profile in 2018



Sustainability Report 2018

* For a full summary of Towngas' roles and services, please refer to Appendix I on P.115.

How We Responded: A New Venture for the Greater Bay Area

Towngas shares the Government of China's vision of transforming the Guangdong-Hong Kong-Macao Greater Bay Area into a new economic and technological powerhouse comparable with the existing bay areas of Tokyo, San Francisco and New York.

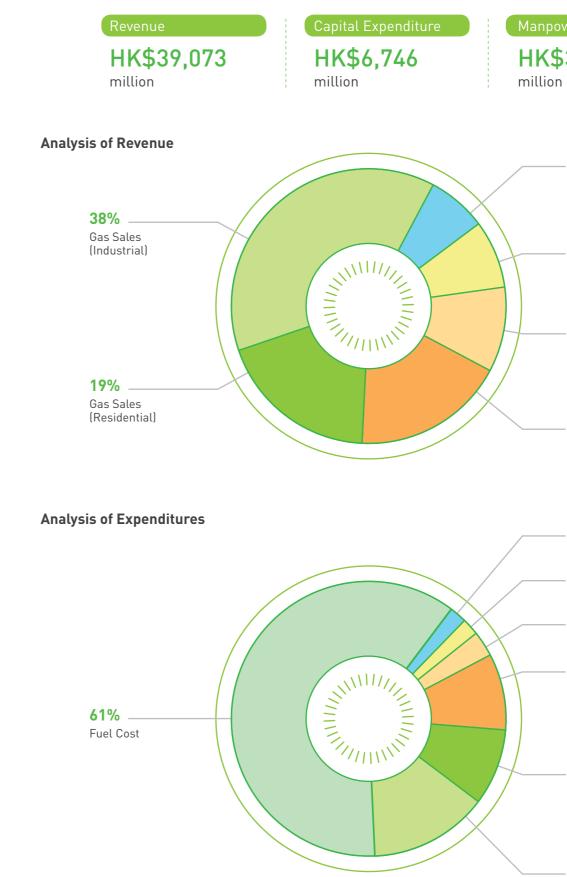
As one of the first companies to enter the Greater Bay Area, Towngas is well positioned to contribute to the development of this visionary project. Currently, we have more than 20 projects in the Greater Bay Area, covering six cities in the mainland and our home base in Hong Kong.

Towngas Projects in Greater Bay Area



Hong Kong, as an international centre of trade, finance and transportation, would play a pivotal role in the development of the Greater Bay Area project. Together with the expertise we can offer in supplying green energy and innovative technology, we at Towngas look forward to supporting the development of the Greater Bay Area in the years ahead.

4.4 🔵 2018 Financial Analysis



Sustainability Report 2018



HK\$3,295

7%

Equipment Sales and Maintenance Services

8%

Gas Connection Income

10%

Water. Oil. Coal-related Sales and Others

18%

2%

2%

3%

9%

Costs

9%

Corporate Administration

Distribution

Other Expenses

Marketing & Equipment

Gas Sales (Commercial)

Customer Service

14% Other Production Costs





Towngas Hall of Innovation

 What role does the Board play in leading Towngas towards a sustainable future?

A The Board has a strong commitment to maintaining high standards of corporate governance and has implemented an effective risk management system. This, in turn, creates long-term benefits for our stakeholders and hence the sustainable development of Towngas.

> Alfred Chan Wing-kin Managing Director, Chairman of Sustainability Committee

5.1 **Control Formulating a Sustainability Governance Structure**

Our approach to managing sustainability is built upon a strong foundation of corporate governance.

At Towngas, we recognise that a high standard of corporate governance is essential as it assures the interests of stakeholders are being protected. Businesses with sound governance principles and practices are known not only for providing better risk-adjusted returns over time but also for fulfilling their social responsibilities.

The Towngas Board of Directors (the Board), the Group's highest governing body, enforces the Company's standards of corporate governance and risk management through effective internal controls that enhance transparency and accountability.

The Board comprises nine members: two executive directors and seven non-executive directors, three of whom are independent. The Board is ultimately accountable for the Group's activities, strategies and financial performance. For details about the Board, its composition, operation and committees, please refer to our **corporate website** or our **Annual Report 2018**.

Sustainability Committee 🔶

A Sustainability Committee (the Committee) headed by the Managing Director appointed by the Board, has been set up to oversee the Company's strategies, policies and practices on sustainability matters.

The Committee is responsible for identifying and reviewing sustainability issues, risks and opportunities; tracking sustainability performance and recommending strategies to improve it; reviewing and evaluating the annual Sustainability Report and recommending to the Board/Executive Committee for its endorsement; and providing updates to the Board/Executive Committee on the latest relevant sustainability matters.

The Sustainability Committee comprises nine members—seven Executive Committee members and two members of senior management. Together, the members represent different areas of our business, including operations, finance, human resources, engineering, commercial, health, safety and the environment, and community engagement. The Committee is thus able to facilitate the decision-making of the Board and contribute to the sustainable growth of the Company.

In 2018, the Sustainability Committee met on two separate meetings.







Commitment to United Nations SDGs

In 2015, the United Nations introduced 17 Sustainable Development Goals (SDGs) as part of its 2030 Agenda for Sustainable Development to address global challenges related to "poverty, inequality, climate, environmental degradation, prosperity, and peace and justice."

As a provider of clean energy and quality services, the Group believes that it can contribute to the SDGs through its operations. During the year, the Sustainability Committee prioritised the four SDGs most relevant to Towngas as the foundation of its long-term business strategy.

To contribute to 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.



We also continued to expand our pipeline network, to

3,651 km in Hong Kong and 106,534 km in mainland China.

Limited access to adqueate supplies of clean water is becoming recognised as a worldwide problem. In China, our wholly owned subsidiary Hua Yan Water provides city water and develops domestic sewage and industrial wastewater treatment projects.

This company ensures that treated industrial and domestic waste water complies with stringent national standards and is recycled/reused where possible. Hua Yan Water also improves accessibility to clean water, particularly in rural areas where clean water is critical for economic development.

Looking to the future, we will continue to extend our water business to provide customers with safe and reliable drinking water. In October 2018, we committed to investing RMB550 million in Foshan Water Environmental Protection Co., Ltd, our first water services project in the Greater Bay

One of the critical challenges identified in the UN SDGs is access to non-polluting, renewable sources of energy.

Our commitment to meet this goal aligns with our vision "to be Asia's leading clean energy supplier and quality service provider." As a leading energy company, we supply a safe and reliable source of clean energy while also developing environmentally friendly energy businesses, such as a hydrotreated vegetable oil plant in Zhangjiagang and an ethylene glycol plant in Inner Mongolia. These new projects, along with other innovative green projects we will develop, can be multiplied in various locations.

Governance and Ris

5.2 Conducting Our Business Ethically

Our reputation as a trusted service provider and business partner depends on our staff operating ethically and with integrity. In the Towngas Code of Conduct, we provide guidelines on how to handle issues related to equal opportunity, fair practice, freedom of association, whistleblowing, conflicts of interest and corruption.

All of our people are expected to adhere fully to the principles set out in the Code of Conduct and will be subject to disciplinary action if those principles are contravened. Details on our Code of Conduct and ethical standards can be found on our <u>corporate website</u>.

Prevention of Bribery, Extortion, Fraud and Money Laundering +

According to the Prevention of Bribery Ordinance (Cap. 201 of the Laws of Hong Kong), Towngas is a public body. We therefore insist that our staff and business partners adhere to both the letter and the spirit of the law during the course of business. All our employees are strictly forbidden from giving or accepting bribes and must never offer an advantage to, or ask for an advantage from, customers, suppliers, contractors, regulators and legislators, authorities or other business partners. To reinforce this message, we provided 661.5 hours of anti-corruption training for our employees in 2018.

In August 2018, we introduced an <u>Anti-Fraud Policy</u> to promote integrity as a core company value and continuously enhance our anti-fraud controls and organisational behaviour that is consistent with our ethical culture. Under this policy, we are committed to preventing, detecting and reporting any actual or suspected case of fraud, irregularity, misconduct or malpractice, with zero tolerance for any case of corruption or related malpractice.

We have a <u>Whistleblowing Policy</u> in place that encourages employees and stakeholders to raise concerns about any misconduct, malpractice or irregularity, particularly in relation to violations of our Code of Conduct or our business ethics and principles. The policy provides formal channels and guidance on reporting possible improprieties. We also have a dedicated panel to deal with such cases, while staff grievances are handled by the Corporate Human Resources Department. When whistleblowing cases are reported, a summary will be sent to the Board Audit and Risk Committee twice annually.

Prevention of Anti-competitive Practices +

In our Code of Conduct, we set out our commitment to comply with the laws and regulations pertaining to anti-competitive practices, in line with the Company's nine core values. It also provides guidance to help staff members understand the requirements and importance of achieving compliance, as well as the disciplinary action and possible liabilities they will be subject to in cases of non-compliance.

We also closely monitor the Competition Ordinance (Cap. 619 of the Laws of Hong Kong) and report to management on any developments that could have a significant impact on Towngas.

In 2018, there were no legal cases regarding anti-competitive behaviour at Towngas.

Protecting Intellectual Property Rights +

Under our Code of Conduct, all employees must respect, not infringe, copyright work and comply with all applicable laws and regulations. We also require our suppliers to respect intellectual property. In any case of infringement of intellectual property rights, our suppliers will have the responsibility to defend and indemnify Towngas.

Prevention of Child Labour and Forced Labour

We respect and protect human rights and strictly prohibit child labour and forced labour in our operations. To ensure we are legally compliant with local laws and regulations such as the Employment Ordinance (Cap. 57 of the Laws of Hong Kong) in our recruitment process, we will check the applicant's identity including, but not limited to, his or her age and eligibility for employment. We also ensure that employees are given enough rest days and compensated for any overtime worked, as required by local regulators.

As we have also extended the concept of fair labour throughout our entire supply chain, we require our suppliers to apply the same standard in accordance with our <u>CSR Code of Practice for Suppliers</u>. Child labour and forced labour are two of our assessment criteria when we conduct an onsite CSR audit of our suppliers.

At Towngas, we comply fully with local laws and regulations in every jurisdiction where we operate. In 2018, there were no substantial cases of non-compliance in relation to our employment practices or those of our suppliers.

5.3 O Managing Our Risk

We consider risk governance to be among our top priorities at Towngas and have established a robust system of risk management and internal control. This contributes to our future success and helps to increase our value to key stakeholders over the long term.

Our risk management process covers all business units in the organisation and concerns all our people. As an ongoing process, risk management has become an intrinsic aspect of our day-to-day operations and part of the culture at Towngas. The Board has the overall responsibility to oversee risk management and evaluate and determine the nature and extent of risks it is willing to take in a manner consistent with its strategic business drivers.

To ensure proper risk reporting channels are in place, the Group Risk Management Committee recommends the risks and corresponding controls to the Executive Risk Management Committee and reports them to the Board for its endorsement. For further information about risk management, please refer to our <u>Annual Report 2018</u>.





5.4 O Building a Sustainable Supply Chain

Providing a reliable supply of energy and quality gas appliances to our customers is critical to the success of our business. Maintaining a good rapport with our suppliers and building long-standing relationships with them has allowed us to continue ensuring the safety, reliability and high quality of our products and services across the breadth of our portfolio.

We also require our suppliers to adhere to our ethical standards. We have therefore established five key principles for responsible supply chain management to ensure our suppliers can participate in a fair and competitive market:



the performance of the suppliers with whom we work. We also have a **Towngas Environmental Purchasing Policy** that spells out our environmental requirements for every purchasing decision.

To ensure suppliers follow our procurement standards and CSR performance requirements, we send them a self-assessment survey and, for selected suppliers, carry out onsite audits. In 2018, over 130 suppliers were assessed on their CSR performance.



More information on our vendor registration procedures and selection criteria is available on our **corporate website**.

How We Responded: Sustainable Procurement

Worldwide, consumers and investors are increasingly turning to companies that behave responsibly when making purchases from their supply chain partners. Sustainable procurement has thus become a key element in the sustainability strategy of many companies today.

Towngas supports this initiative and has committed to sustainable procurement. In 2018, we became one of the founding members of the Sustainable Procurement Charter, making reference to ISO 20400.

In keeping with the principles of the Charter and the new ISO standard, we source sustainable products such as feedstock (natural gas and landfill gas), pipelines for town gas/natural gas distribution, and environmentally friendly office supplies and equipment, including energy-efficient lighting and recycled/Forest Stewardship Council (FSC)-certified paper.



Engaging Our Suppliers +-

We value our suppliers and regularly engage them as partners in pursuit of our shared goals for sustainable development.

In addition to following 6S management principles promoting a safe and efficient workplace, we support our suppliers also follow this methodology to improve efficiency, productivity and product quality, as well as reducing the risk of industrial accidents.

We also share information about our business with suppliers during our Annual Supplier Meeting and Supplier Visits. In 2018, we held a Supplier 6S Conference in China where more than 75 mainland suppliers joined this event.



Mission

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6 STAKEHOLDER ENGAGEMENT

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How does Towngas engage in meaningful conversations with stakeholders on sustainability?

We listen to our stakeholders by engaging them in a variety of formal and informal dialogues. Through this ongoing process, we are able to identify the issues that matter most to them and improve our performance accordingly.

Peter Wong Wai-yee **Executive Director and** Chief Operating Officer – Utilities Business



6.1 Our Approach to Stakeholder Engagement

Stakeholder engagement is important for us to understand the environmental and social impacts of our businesses and the ways that stakeholders expect us to address the issues they have identified as being of greatest concern to them.

Our business activities involve a diverse range of stakeholders. To understand their concerns, we have identified key stakeholder groups who have a significant impact on our business or those who could be significantly affected by our operations. They included employees, contractors and suppliers, investors, regulators, customers, local communities and non-governmental organisations (NGOs).

Regular Engagement +

Engaging stakeholders at Towngas is an ongoing process that helps us to learn and understand the sustainability issues of greatest concern to them. In the table below, we outline the communication channels used by Towngas in 2018 to engage stakeholders. The concerns raised during these regular exchanges together with our responses are reflected in this report.



Employees

- Employee surveys and meetings
- Feedback channels (e.g. suggestion boxes, Talk to MD)
- Internal publications (e.g. bulletins, newsletters)
- Intranet
- Ambassador programmes/activities

Professional Bodies and

• Working groups and committees • Seminars, visits and workshops

Green partnerships and community

Regulators

NG0s

programmes Meetings

Questionnaires

• Social media platforms (e.g. Yammer in Hong Kong, WeChat and Weibo in mainland China)



Contractors and Suppliers

- Seminars and workshops • Supplier assessment system (e.g. factory audits)
- Management meetings and supplier conferences
- Mass communication





Customers

- Publications (e.g. newsletters and leaflets)
- Company websites, social media platforms, mobile phone networks and the Towngas app
- Regular maintenance visits, safety inspections and safety talks
- Customer Focus Team
- Surveys and focus groups
- Customer service hotline
- Customer centres



Investors

- Annual General Meeting
- Annual and interim reports
- Analyst and investor briefings for interim and annual results
- Company website (especially the Investor Relations Section and Publications)
- Non-deal roadshows
- Investment conferences
- Investor meetings and telephone conferences
- Meetings and regular communications with credit rating agencies (S&P and Moody's)
- Site visits



Local Communities

- District Council Focus Team
- Community programmes
- Working committees
- Towngas Volunteer Service Team

6.2 Materiality Assessment

To ensure our sustainability report addresses topics that reflect Towngas' significant economic, environmental and social impacts, we conduct a materiality assessment every year. In 2018, our assessment was carried out over a four-step process:



Identify relevant issues

- Compiled a list of issues through existing and previous engagement results, referring to global sustainability issues and local and international reporting standards
- 39 issues were identified and classified under five categories:
- Economic
- Environmental
- Employment and Labour Practices
- Operating Practices
- Community Investment



Validation

 The materiality matrix was reviewed and endorsed by senior management

Identify material issues

Step

• The materiality of each relevant issue was assessed by taking into account its importance to stakeholders and Towngas' impact in relation to the issue

external views

and external stakeholders

- Based on the survey results, we developed a materiality matrix as illustrated on $\underline{\mathsf{P.33}}$

Step

Collect stakeholder feedback

over 300 valid responses received

• Conducted a quantitative online survey, with

* This year, we invited external stakeholders to take part in the survey. External voices

accounted for over 30% of the total responses

of the survey. The results indicated that our

discussions were also carried out with internal

internal views were broadly aligned with

Qualitative interviews and focus group

Materiality Matrix +

This year's approach to stakeholder engagement has helped us to better understand the views of external stakeholders.

We have mapped the materiality of 39 issues, with the most important issues listed at the top right quadrant of the matrix, while less important issues are found at the bottom left. Issues shown in the middle of the matrix are those that we have identified as emerging in importance.

A total of 19 issues were prioritised as material for Towngas to address and report on.



Economic

- 1) Economic value generated and distributed for stakeholders
- 2) Financial risks associated with sustainability development issues
- 3) Financial opportunities associated with sustainability development issues
- 4) Contribution of the operation to the economic development of the local community
- 5) Indirect economic impact of the operation on the local community
- 6) Economic impact on the local community through supply chain decisions
- 7) Reserves and production

Environmental

- 8) Resource use and efficiency
- 9) Energy use and efficiency
- 10) Water resources use and efficiency
- 11) Protection of ecosystem services including biodiversity
- 12) Emissions of greenhouse gases and other significant gases
- 13) Discharge, handling and disposal of effluent and waste
- 14) Development of fossil fuel substitutes (biofuels)

Employment and Labour Practices

- 15) Employment management system
- 16) Employer-employee relations
- 17) A safe and healthy working environment
- 18) Training and development
- 19) Employee diversity and equal opportunities
- 20) Elimination of discrimination
- 21) Respect for the rights of association and collective bargaining
- 22) Prevention of child labour or forced labour

Towngas 2018 Materiality Matrix

Less Important

Important

Very Important

Operating Practices

- 23) Identification and prevention of direct and indirect negative impact of the operation on human rights
- 24) Measures to ensure that security personnel respect human rights when carrying out their duties
- 25) Respect for indigenous rights
- 26) Assess and manage actual and potential negative environmental impacts in the supply chain
- 27) Assess and manage actual and potential negative social impacts in the supply chain
- 28) Customer health and safety
- 29) Emergency preparedness
- 30) Asset integrity and process safety
- 31) Protection of customer privacy
- 32) Quality management and after-sales service
- 33) Fair and responsible marketing communication and information
- 34) Protection of intellectual property rights
- 35) Prevention of bribery, extortion, fraud and money laundering
- 36) Prevention of anti-competitive practices

Community Investment

- 37) Understand the needs of the community and manage the impact of the operation on the community
- 38) Avoiding, mitigating and compensating involuntary resettlement
- 39) Participation in public policy

Stakeholder Engagemen

The following are the 19 most material issues for 2018 and their corresponding boundaries where the impacts occur and Towngas' involvement with the impacts.

	Material Issues	Boundary			Impacts	
		Employees	Contractors and Suppliers	Customers	Community	
9	Energy use and efficiency	1	1	1		Creating a low-carbon future
12	Emissions of greenhouse gases and other significant gases	1	1	1	1	Creating a low-carbon future
13	Discharge, handling and disposal of effluent and waste	1	1	1	1	Managing our resources
15	Employment management system	1	1			Creating an inclusive and engaging workplace
16	Employer-employee relations	1	1			Employer-employee relations
17	A safe and healthy working environment	1	1			Employee safety and health Contractor safety
18	Training and development	1	1			Training and development
19	Employee diversity and equal opportunities	1	1			Employee diversity and equal opportunities
20	Elimination of discrimination	1	1			Employee diversity and equal opportunities
22	Prevention of child labour or forced labour	1	1			Prevention of child labour and forced labour
28	Customer health and safety	1	1	1		Public safety
29	Emergency preparedness	1	1	1	1	Planning for emergencies
30	Asset integrity and process safety	1	1	1	1	Public safety
31	Protection of customer privacy	1	1	1		Protecting customer data privacy
32	Quality management and after- sales service	1	1	1		Serving our customers
33	Fair and responsible marketing communication and information	1	1	1		Marketing communication and information
34	Protection of intellectual property rights	1	1			Protecting intellectual property rights
35	Prevention of bribery, extortion, fraud and money laundering	1	1	1	1	Prevention of bribery, extortion, fraud and money laundering
36	Prevention of anti-competitive practices	1	1	1		Prevention of anti-competitive practices

Responding to Stakeholders +

Interviews and focus group discussions were conducted during the stakeholder engagement exercise. What we learned has not only informed the content of this report but also provided us with further insights into the development of our evolving sustainability strategy.

Some highlights of their feedback and our responses are presented in this table:

Will Towngas take an active role checking pipelines in old districts?	checking pipelines in old districts?	Stal	keholder Fe	edback	
			-		
		<u>ر</u>		ties	
		4		ties	
		Stal	keholder Fe	edback	

I would like Towngas to support us in recycling used gas appliances.





Stakeholder Feedback

We need a new uniform for summer, with UV-protective, perspiration absorbent and breathable materials.

• Contractors and Suppliers

Stakeholder Feedback

summer holidays.

✓ Employees



It would be great to have more support for working parents, e.g. flexible work

arrangements, a day care centre at the

office, especially during weekends and





Flexible work-hour arrangements will be considered on an as-needed basis.

Our Response

We will continue to monitor our pipeline infrastructure and inspect for leakages at least once a year. The frequency of our leakage surveys is based not on the districts but the type of pipes.

Older pipelines will be replaced, where necessary. For example, in 2018 we completed the replacement of pipelines totalling 450 km in length.

Our Response

There are increasing concerns about waste management in Hong Kong. In our operations, we have been offering free removal of customers' old appliances when installing new gas appliances since 2003. In 2018, we recovered around 1,800 tonnes of metal.

Our Response

We are conducting a trial of special uniforms designed for summer working conditions. These could be promoted or introduced to contractors if the trial is successful.

Our Response

We understand the needs of working parents and fully support them through the provision of mother-care facilities and time off during normal office hours for children's school activities.

Stakeholder Engageme







Safety: The Cornerstone of Our Business

We understand that our reputation as a reliable, trustworthy provider of gas services and related products is only as good as our safety record.

At Towngas, we have succeeded in gaining the trust of our customers and the community by adhering to well-established design, engineering and operating principles. By combining these principles with a rigorous maintenance regime, we are able to ensure our processes and assets are safe, reliable and in good working order.

We have also developed and implemented a comprehensive, proactive safety management system throughout our operations to avoid incidents and improve efficiency. What's more, we stay abreast of changes in technology and employ innovative tools, such as autopilot drones to inspect gas pipes in remote areas, to help improve our processes and ensure safer working conditions.

Further to this, we connect with stakeholders, including our employees, contractors, customers and the public, to enhance their safety awareness and build trust.



How does Towngas maintain safety in a competitive environment?

.....

Towngas, as one of the world's longest-serving utility companies, has a strong record of safety and reliability. To achieve this, we identify potential hazards and plan our operations carefully to manage risks at every stage and are constantly looking for innovative ways to protect our customers and the local community.

Simon Ngo Siu-hing Head of Engineering – Hong Kong Utilities





Achieve Zero Accidents

- Upgraded our occupational safety and health (OSH) management system from OHSAS 18001 to ISO 45001
- Conducted 159 safety/loss prevention inspections in Hong Kong

Accident frequency rate (Hong Kong)



- 0.15 accidents per 100,000 man-hours among employees
- 0.22 accidents per 100,000 man-hours among contractors

Promote Health and Safety Awareness

- Organised a series of activities:
- (i) Occupational health promotions, such as seasonal influenza vaccination and work stress management programmes
- (ii) Health, safety and environment (HSE) walk with over 150 joint venture companies
- (iii) HSE Month and an HSE Quiz
- Organised the Safe Foreman Award and Contractor OSH Forum to promote OSH culture
- Arranged one safety and risk management experience sharing visit and one practical firefighting and risk management training course for 24 and 19 mainland employees, respectively



- **21** community safety exhibitions and talks (Hong Kong)
- 836,813 safety training hours (Mainland China)

12,473 safety training hours (Hong Kong)





Ensuring Health and Safety



Reliable Supply of Energy

• Updated the Corporate Emergency Plan to the Corporate Crisis Management Plan to extend the coverage to non-operational crisis

Hong Kong







Mainland China





Provide Customers with a Safe and

- **99.99%** supply reliability rate
- 9,825 trench inspections
- 160,080 network inspections
- 1,179,089 regular safety inspections

- **51** city-gas business joint ventures (JVs) completed safety audits and scored "Excellent" on average
- **8** safety audits of ECO Environmental Investments Limited (ECO) mainland gas refilling stations
- 2 process safety management audits of ECO mainland chemical plants

Ensuring Health and Safet





Achieve Zero Accidents

• Keep 'Zero Accidents' as our focus for health and safety



• Extend ISO 45001 certification to subsidiaries to enhance the effectiveness and efficiency of our OSH management system

Promote Health and Safety Awareness

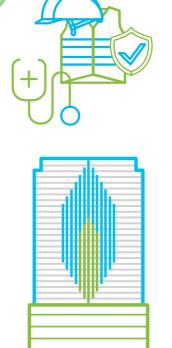
• Organise a tailor-made **OSH programme** for contractors to promote health and safety awareness



• Organise corporate events, such as HSE Day and the HSE Walk,

to improve our safety culture and promote safety awareness to the public

• Instil a safety culture among our mainland employees to enhance safety awareness and improve safety standards



Ensuring

Safety

Health and

Reliable Supply of Energy

- indices (KPIs)

(ii) Work to increase capacity by **20%**



Sustainability Report 2018

Provide Customers with a Safe and

• Conduct Corporate Crisis Management Exercise to enhance crisis handling skills

• Enhance ECO mainland chemical plants' safety performance by implementing an effective Process Safety Management (PSM) system and monitoring process safety key performance

• Modify gas production plants to handle increasing gas demand and improve gas supply reliability in Hong Kong, including

(i) Installation of a backup export gas line

• Make further connections between the existing medium-pressure networks in Tsuen Wan and Tuen Mun to enhance network security in the Western New Territories and Tsuen Wan

7.1 Safety Governance

At Towngas, our approach to safety management balances strategic, long-term planning with events and activities that promote safe practices among our employees and contractors, both in Hong Kong and mainland China. Towngas aims for a record of zero accidents and fully complies with all relevant health and safety legislation, including the Factories and Industrial Undertakings Ordinance (Cap. 59 of the Laws of Hong Kong) and Occupational Safety and Health Ordinance (Cap. 509 of the Laws of Hong Kong).

We have also put in place a <u>Corporate HSE Policy</u> and Corporate Security Policy, with appropriate guidelines to protect our staff, contractors, customers and the general public from health and safety risks. The health, safety and security performance of the Company is controlled by the Corporate Health, Safety, Environment, Security and Safety Risk Department as well as the Corporate Safety and Quality Management Steering Committee. The details of our HSE management structure are available on our <u>corporate website</u>.

OSH Management System +---

Our Occupational Health and Safety Management system in Hong Kong, including our gas production plants, gas transmission and distribution system, gas utilisation and refilling stations, is certified to the OHSAS 18001 international standard. In China, some of our JVs obtained OHSAS 18001 and GB/T 28001 certifications.

In 2018, we successfully upgraded the OHSAS 18001 to ISO 45001 to meet the international standard for enhanced OSH management. In the process of migrating to the new certification standard, we organised a series of internal auditor training sessions and briefed all relevant staff on its implementation.



7.2 Employee Safety and Health

We make every effort to provide a safe and healthy environment for our staff, including programmes that minimise the risk of physical and mental harm in the workplace.



Improving Safety Management +--

We have introduced guidelines and safety measures that help us to meet the highest international standards of safety in the industry. Moreover, we regularly review and update these guidelines so that our practices are in line with the latest industrial practices and government requirements. In 2018, for example, we replaced our Corporate Preparedness Plan for Influenza Pandemic with the Corporate Preparedness Plan for Influenza Pandemic with the Corporate Preparedness Plan for Influenza States to cover common infectious diseases.

To identify work-related hazards, we have implemented a comprehensive risk management system, involving risk identification, risk analysis and risk evaluation, with control measures for continual improvement. If an accident occurs, we will carry out an investigation, review all relevant documents, conduct a site visit and interview the personnel concerned. We will then undertake mitigation measures following the hierarchy of control framework to prevent a recurrence.

In 2018, we made 159 safety/loss prevention inspections to ensure safety measures are in place and to maintain a safe and healthy workplace. During the year, we also introduced a Pre-work Hazard Identification and Risk Assessment system for workers to check health and safety conditions according to human, machine, material, method and environmental criteria before commencement of work.

Safer Work Through Technology +

At Towngas, technology plays a major role in creating safer working conditions in accordance with our philosophy of Growth = Innovation x Implementation. For example, we have invested in new robotics technology such as an Automatic Guided Vehicle that assists employees in performing heavy lifting duties and enables our frontline staff to work more safely and efficiently. We also developed a tool to facilitate trenchless pipeline insertion device, which is a type of corer machine that allows syphon pipes to be removed without digging up roadways, thereby reducing the need for excavation work before pipe insertion.

Training and Publicity +

Promoting a culture of safety is important for embedding safe working practices at Towngas. We encourage a safety-focused culture in which everyone, including our employees and contractors, takes responsibility for their own safety as well as the safety of their co-workers. We also inform workers about safety and health concerns and the emergency handling procedures they should take during job briefings and training.

To familiarise our workers with best practices in safety management, in 2018 we held training and publicity programmes on working above ground and in confined spaces, organised an Emergency Service Work Safety Review course, and delivered talks on safety and health during hot weather. We also organised guarterly occupational health campaigns and introduced a series of programmes to promote Plan, Do, Check, Act. These covered eye protection, work stress management and infectious disease control. The total number of OSH training hours in 2018 was 12,473 in Hong Kong.

Moreover, we conveyed messages on safety management through various communication channels such as publications, emails and our online resources centre, as well as an HSE Quiz that was offered in an online and mobile platform for the first time to engage more employees.

To promote OSH reporting, we continued to provide our HSE Suggestion Scheme, Near Miss Reporting Programme and Instant Messaging HSE Reporting Channel. All of these have been set up so that employees and contractors can report work-related hazards, hazardous work conditions and near-miss cases for rectification and improvement. Employees who submit worthwhile cases will be rewarded.

The number of industrial accidents and the accident frequency rate in Hong Kong in 2018 were the same as the year before. Over the past five years, the accident frequency rate has declined by 32%.

Employee Safety Performance (Hong Kong)

	2018	2017	2016	2015	2014
Number of accidents – all industrial injuries	10	10	13	19	14
Accident frequency rate	0.15	0.15	0.19	0.29	0.22
Number of reportable accidents	7	10	12	15	12
Accident incidence rate	2.4	3.4	4.1	5.3	4.4
Fatal accidents	0	0	0	0	0
Number of industrial injury person – days lost	201	496	576	596	132

Remarks:

• Accident - an accident that results in an injury lasting one or more days

• Accident frequency rate - the number of accidents per 100,000 person - hours worked

• Reportable accident – an accident that results in incapacity for more than three days

• Accident incidence rate - the number of reportable accidents per 1,000 employees

• Towngas employees and the employees of its subsidiaries only

How We Responded: Working in Hot Weather

Summers in Hong Kong can be extremely hot and humid—especially with recent temperature rises due to global warming. Working under these conditions without proper precautions can lead to heat stroke, which can kill or cause damage to the brain and other internal organs.

Since some of Towngas' staff are required to work outdoors in hot weather, we held a six-part refresher training course in June 2018 on working safely outdoors in extremely hot weather. Topics in the course included what kind of weather conditions lead to heat stroke and other heat-related illnesses, as well as its symptoms and first-aid treatment. A total of nearly 350 staff attended the refresher course.

During the course, five steps for managing heat stress were introduced:





Assess Check the weather and assess the risk level of heat stress.

Cool down Use a fan or other means to lower body temperature or stay indoors or in the shade.



Job arrangement

Arrange working time and resting time. Also, avoid working alone.

Ingestion

Additionally, we prepared a Heat Stress Prevention and Emergency Tips card for staff and contractors and introduced various protective equipment for working in hot weather.

OSH in Mainland China

Recognising that the occupational safety culture in mainland China could be improved, we have taken the lead to promote OSH in mainland China. For example, we have enforced safety measures such as the use of gondolas for high-altitude work to reduce risk exposure for employees working at height.

To improve safety management in the mainland, Towngas' JVs have been making an effort to obtain internationally recognised safety certifications. We have also helped them to establish in-house corporate safety standards and guidelines and organised regular safety training courses, workshops and activities designed to promote a safe working culture.

In 2018, we issued a set of Corporate Fire, Security, Disaster Prevention and Insurance Guidelines for our mainland JVs, which combine laws and regulations, national standards and best practices at Towngas to standardise our safety practices across the Group. Exchange activities are also organised so that our Hong Kong staff can share their experiences with their mainland colleagues.



How We Responded: Going the Distance for Safety

Individual programmes and activities can be effective in spreading the message of safety among relatively small groups of people. But how do you get the word out that safety is all-important across a large corporation, to many thousands of employees, and in multiple locations?

For Towngas, the solution has been the HSE Walk, which in 2018 was held for the first time with our JVs in the mainland. On 23 June, over 14,000 staff and their family members from more than 150 companies took part in the HSE Walk at various locations in Hong Kong and the mainland.

It is our hope that through this event we have raised awareness of the importance of a safe workplace and encouraged our JVs to improve their safety performance.



Security -

Towngas is committed to minimising potential security threats to the Company's facilities and its employees. In line with this commitment, we work with governments and partners to safeguard our assets and provide our employees and contractors with a secure working environment.

To ensure appropriate security measures are in place and functioning properly, we carried out 179 security surveys and/or audits in Hong Kong and 34 surveys and/or audits in mainland China in 2018. To reduce the operating risk of physical security at major facilities and abide by the Counter Terrorism Act, a total of ten security risk assessments on major facilities were conducted, with recommendations for better protection and security management.

Briefings and training sessions were also provided for management, employees and contractors to bolster their understanding of security issues.

Enhancing Employee Wellbeing +

We recognise that the wellbeing of our employees depends not only on their physical but also their mental health.

To promote a friendly, more supportive and stress-free work environment, we offer free clinical medical services, fitness facilities and a mother-care room in Hong Kong as well as a wide range of mentally and physically stimulating activities in both Hong Kong and mainland China.



In addition to this, we subsidised the cost of seasonal influenza vaccinations, organise health seminars and provide tips on managing stress and preventing common infectious diseases so that our staff can remain healthier, happier and more productive.

Another major contributing factor in employees' wellbeing is finding the right balance between their work and home lives. To that end, we hold workshops on work-life balance, organise extracurricular activities for employees, and welcome their families to join a variety of corporate events and community service activities. Throughout the year, we organise activities such as a Halloween BBQ Party and a party at theme park to engage Hong Kong employees and their families.











7.3 Contractor Safety

Given the important role that contractors play in our business, we place equal emphasis on the safety of their staff while they are working on our projects and premises.

Our Contractor Safety Roadmap +



Prequalification

We normally select contractors based on a defined set of criteria, including their health and safety performance, applicable licenses, competency and experience.



To reduce manual labour, we provide contractors with innovative technology such as an electric soil cart, mechanical arm and fleet of remote-controlled mini excavators. During the hot summer months, we make sheltered areas available to workers to minimise their risk of heat stroke.



Incentive Scheme

We have a Pay for Safety, Quality and Environmental Appraisal System under which contractors must demonstrate responsibility, awareness and a high level of safety performance. Contractors with satisfactory safety, quality and environmental performance will receive a bonus.



Training/Support

The Towngas Contractor Safety Handbook is issued to contractors, and free safety briefings offered to their staff on issues such as carrying out work above ground and in confined spaces, or performing excavation work close to our gas pipelines. Contractors are also invited to join routine HSE Committee meetings, OSH training and other related activities. In 2018, we held a Contractor OSH Forum for more than 200 contractors with talks by the Electrical and Mechanical Services Department (EMSD), the Labour Department and Construction Industry Council.



and Post-evaluation

Monitorina

We conduct regular inspections of our construction sites and company premises to ensure a high level of safety. In 2018, a total of 159 safety/loss prevention inspections were carried out on these sites. We also monitor the safety performance of contractors according to their record of prosecutions and industrial accidents. During the year, we organised a Safe Foreman Award event recognising foremen or supervisors with outstanding safety performance and leadership abilities. In 2018, there were nine reportable accidents in Hong Kong. In order to increase safety standards among our contractors, we plan to organise an OSH programme in the year ahead. It will include a site safety competition, OSH training and briefings, as well as an OSH forum. The programme will pay special attention to the daily operations and high risk activities of contractors.

Contractor Safety Performance (Hong Kong)

2018	2017
9	12
0	0
0.22	0.30
	9 0 0.22

Remarks:

Reportable accident – an accident that results in incapacity for more than three days
Accident frequency rate – the number of accidents per 100,000 person – hours worked

How We Responded: Prevention of Tunnel Accidents

After a tragic incident in 2017 when three workers were killed while laying underground cables in Hong Kong, we carefully reviewed the work procedures at our own tunnelling projects and ensured safe tunnelling practices were being followed. These included monitoring toxic and explosive gases in confined spaces and issuing 4-in-1 gas detectors to every person working inside a tunnel. Escape packs were also provided inside tunnels for safer evacuations as well as walkie-talkies, lifelines and safety harnesses for each worker at the bottom and entrances of pits.

For small tunnelling works to lay pipes across busy roads, we have introduced a mini auger drill. This compact machine can be used in congested urban areas where many underground facilities are located, eliminating the need for manual tunnel work by our workers in confined underground spaces.

We have also been holding monthly safety committee meetings with our management representatives, contractors and consultants to monitor safety performance. Additionally, we published the Safe Working in Confined Space Guidelines handbook in 2018, outlining the procedures for operating safely inside tunnels and the proper use of safety equipment.



Ensuring Health and Safet

7.4 Public Safety

As a public utility company in Hong Kong and a leading energy supplier in mainland China, we must earn and keep the trust of millions of people in the markets we serve. Preventing major leaks and explosions at our production and storage facilities, in our pipelines, across our networks and at customer sites has always been our highest priority. In addition to the risk of causing personal injury, any incident could have serious knock-on effects such as a disruption to the gas services on which our residential and commercial customers depend.

Delivering Gas Safely to Customers +

We are committed to delivering gas safely and reliably, all the way from our production facilities to our customers' premises via our 3,600 km gas distribution network across Hong Kong.

This means making sure our equipment, networks and processes are in line with the highest standards of safety at all times. Working with the government regulator, EMSD, we have also created strategic plans that include a facilities utilisation framework and preventive maintenance index to ensure optimal safety.

Moreover, we collaborate with leading universities on gas-related research projects and the development of innovative technology, such as the use of infra-red for internal pipe inspections.

ISO 55001 standard across our gas production plants and our transmission and distribution network

Production

Process Safety Management System

- Process safety assured by an effective asset management system
- Vital equipment replaced on a regular basis
- Investment in new technology

Six-stage Process Hazard Analysis

- Establishes potential causes and results of incidents
- Identifies and records critical hazards
- Develops measures to manage and avoid critical risks

Capacity Enhancement Project

• Designed to enhance gas production reliability and increase capacity by 20% to meet demand during extreme weather and gas demand forecasts

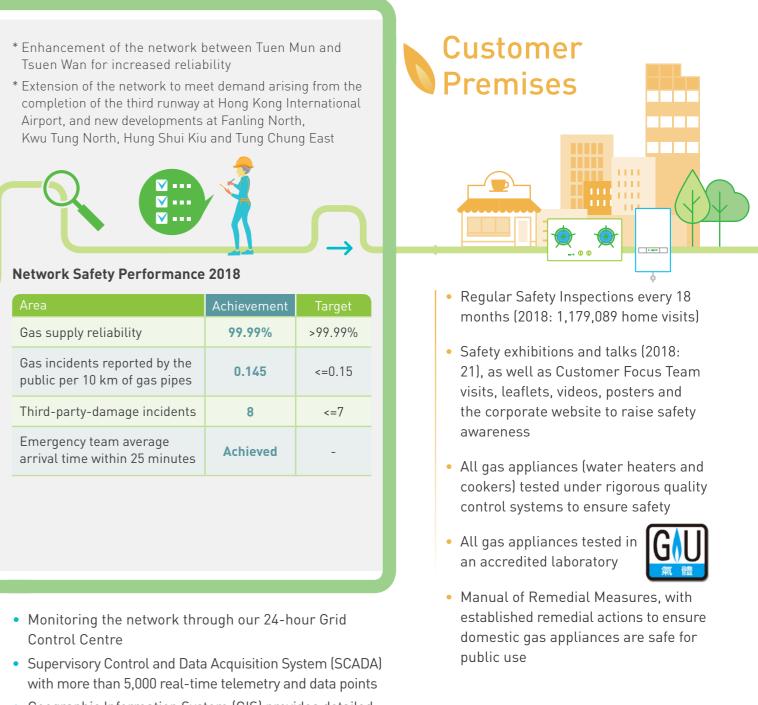
Distribution Network



- Real-time monitoring through telemetry and other sophisticated technology to identify and rectify problems before they develop
- Leakage survey at least once a year (2018: 6,851 km of pipeline surveyed)
- Regular trench inspections of gas pipes and other facilities by Towngas technicians (2018: 160,080 trench inspections across 9,825 sites)

Headquarters

- * Enhancement of the network between Tuen Mun and Tsuen Wan for increased reliability
- * Extension of the network to meet demand arising from the completion of the third runway at Hong Kong International Airport, and new developments at Fanling North, Kwu Tung North, Hung Shui Kiu and Tung Chung East



Area	Achievement	Target
Gas supply reliability	99.99 %	>99.99%
Gas incidents reported by the public per 10 km of gas pipes	0.145	<=0.15
Third-party-damage incidents	8	<=7
Emergency team average arrival time within 25 minutes	Achieved	-

- Geographic Information System (GIS) provides detailed, computerised images of all pipelines to handle gas emergencies swiftly

Mainland China +

In mainland China, we have projects in 26 provinces, autonomous regions and municipalities. In each of these locations, we make safety a top priority.

During the year, we continued to upgrade our gas facilities across the country. We also conducted the Annual Regional Safety Patrol in Anhui Province in May 2018. This exercise was carried out by two inspection teams, one led by our Managing Director, Alfred Chan Wing-kin, and the other by our Executive Director and Chief Operation Officer, Peter Wong Wai-yee, to show our commitment to maintaining a high safety standard.



Since 2006, we have been conducting safety and risk management audits of our utility JVs every two years, with 106 audits of our gas projects undertaken in 2017–2018. Their audit scores have been steadily improving since the implementation of our audits 12 years ago.

At ECO, we have implemented a PSM system and developed various measures to control or mitigate major risks. In 2018, we reviewed the PSM audit checklists to incorporate safety performance in the audit system for better performance monitoring, and conducted the PSM audit of our chemical plants in Shanxi province and Inner Mongolia. The audit covered 14 key process safety elements, which are the major tools for monitoring the PSM level of our chemical plants. We also conducted eight safety audits of our gas refilling stations in the mainland.

Regular Safety Inspections for our residential and commercial gas utility customers are organised every 12 to 24 months.

Planning for Emergencies +

As part of our commitment to minimise gas supply disruptions, we have developed a three-tiered approach for handling crises that enables us to respond to and recover from any emergency situation in a timely and effective manner.







The first tier, formerly the Corporate Emergency Plan, was upgraded in 2018 to a Corporate Crisis Management Plan to extend the coverage to non-operational crises. We also conducted regular training exercises and drills for all staff at various Towngas locations, including our gas production plants, gas refilling stations and our North Point Headquarters. To acquire the most up-to-date fire safety knowledge, we organised the eighth five-day Practical Fire Fighting and Risk Management Training Course with the Hong Kong Fire Services Department for 19 mainland safety & risk management staff at the Fire and Ambulance Services Academy in Tseung Kwan 0.

In Hong Kong and mainland China, we hold table-top exercises to improve our management team's ability to handle emergency situations and prepare staff to handle real-life disasters. These drills and exercises are usually carried out jointly with government bodies,

such as the Fire Services Department and the Hong Kong Police Force. In 2018, we held an integrated emergency exercise at our chemical plant in Inner Mongolia, which comprised both a table-top exercise and a practical fire drill. Both managerial staff and frontline operators took part in the exercise.

Community Involvement +

As a leading energy supplier in Hong Kong and China, we connect with outside community groups as part of our advocacy of health and safety.

In Hong Kong, we assumed the chairmanship of the Joint Utilities Safety and Occupational Health Policy Group during the year, with responsibility for communicating safety and health policies and organising safety seminars that will be delivered in 2019. Additionally, we discussed new OHS regulations and standards as well as best practices in safety management with representatives from a local public utility. We also shared our experiences and practices in safety management with governments and partners during visits and seminars.

In mainland China, we continued to contribute our expertise in gas safety. We have also taken part in the compilation and revision of relevant standards and specifications on both the national and industry levels and shared our experiences promoting the development of the gas industry in mainland China.













What is Towngas doing to limit the rise in global temperatures to 1.5°C by 2050?

A

The development of Hong Kong's green bond market has accelerated as a result of its continuous promotion by the Hong Kong Government. As the first energy utility company in Hong Kong to have issued a green bond, Towngas is delighted to help with the development of green finance in Hong Kong, which in turn will finance projects that meet the challenges of climate change.

A

John Ho Hon-ming Chief Financial Officer and Company Secretary

Our Response to Climate Change

In response to mounting concerns about climate change, we have been stepping up our efforts to reduce greenhouse gas (GHG) emissions in our operations and finding new ways to create a greener world.

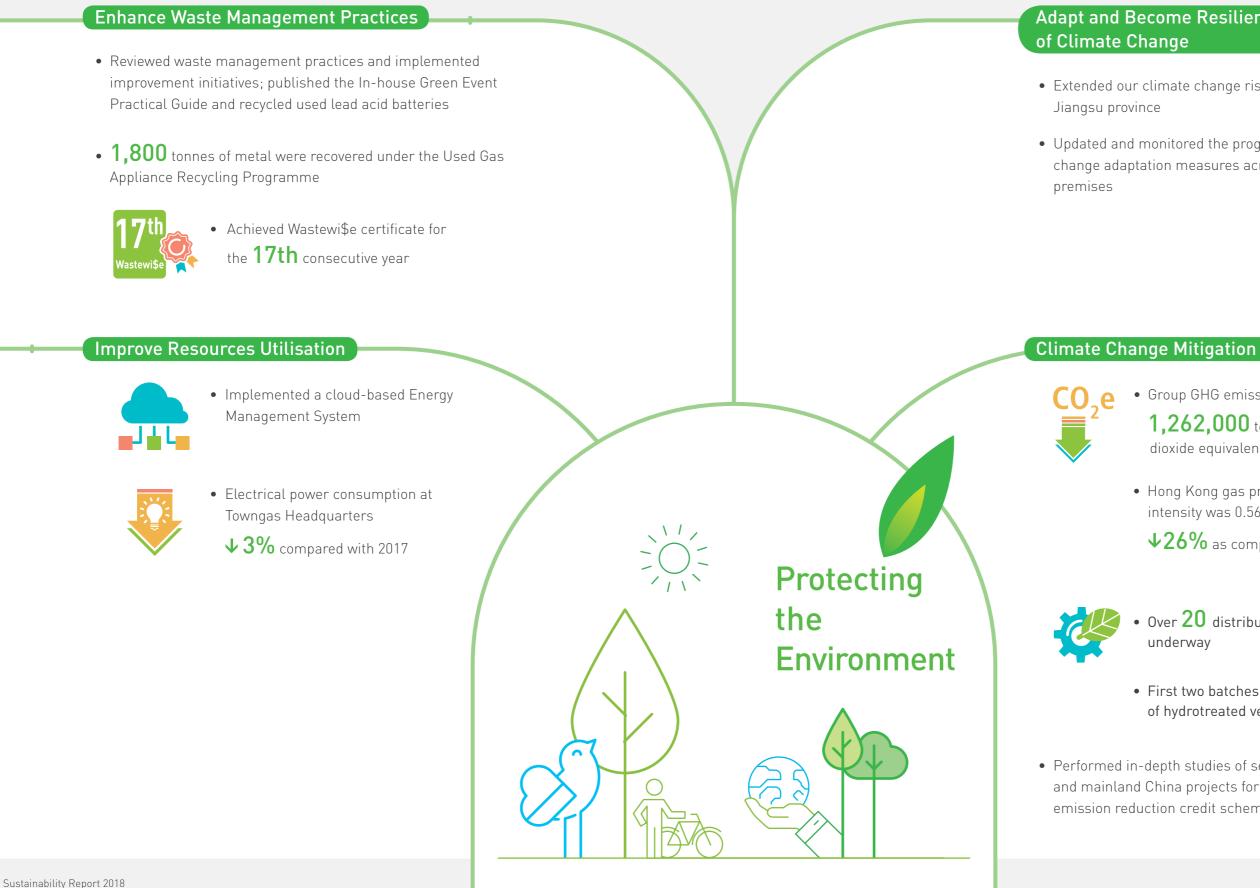
We believe that our commitment to a low-carbon future not only benefits our businesses but also our customers and the communities in which they live. In pursuit of this goal, we seek alternative sources of clean, renewable energy, including the use of solar energy and the conversion of biomass into clean fuel. In order to finance our green initiatives, in late 2017 we issued our first green bond in Hong Kong based on our Towngas Green Bond Framework. The success of this bond, which was heavily oversubscribed, has prompted us to consider other green financing opportunities in the future.



With a strong commitment to protecting the environment, ECO has developed a wide range of environmentally friendly energy businesses and related technologies. By developing new sources of renewable energy, we believe we can make a significant contribution towards the reduction of global carbon emissions and global warming.

Philip Siu Kam-shing Chief Operating Officer – New Energy Business





Adapt and Become Resilient to the Impacts

• Extended our climate change risk assessment to

• Updated and monitored the progress of climate change adaptation measures across different

• Group GHG emissions were

1,262,000 tonnes of carbon dioxide equivalent (tCO₂e)

• Hong Kong gas production carbon intensity was 0.564 kgCO₂e/unit of town gas

 $\sqrt{26\%}$ as compared with 2005

Over **20** distributed energy system projects underway

• First two batches amounting to **7,000** tonnes of hydrotreated vegetable oil sold to Europe

• Performed in-depth studies of selected Hong Kong and mainland China projects for the Chinese certified emission reduction credit scheme (CCER)







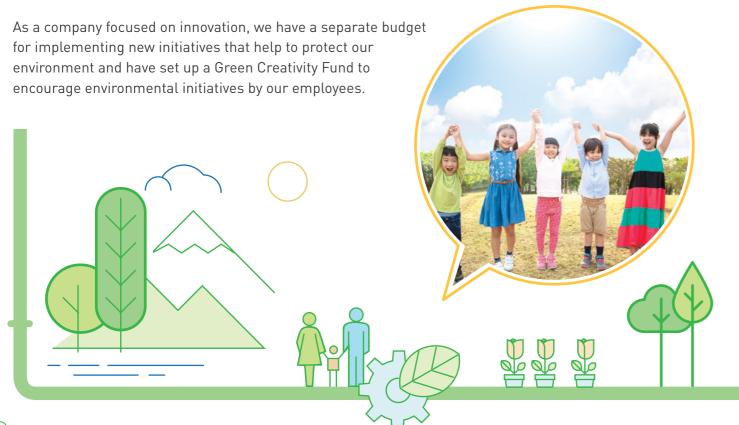
8.1 Environmental Governance

Our <u>Corporate Health, Safety and Environment (HSE) Policy</u> sets out the principles of our approach for responsibly managing the environmental impacts arising from our operations. We are dedicated to reducing our environmental footprint, by using resources efficiently, reducing emissions and waste, and mitigating our impact on biodiversity. Our environmental performance and initiatives are coordinated, monitored and controlled by the Sustainability Committee with the support of the Environmental Working Committee and Corporate Health, Safety, Environment, Security and Safety Risk Department. We also have 12 Environmental Sub-committees and green ambassadors who help to implement various environmental projects and spread environmental messages to stakeholders. Details of our HSE management structure are available on our <u>corporate website</u>.

We comply with the most stringent regulatory requirements and benchmark our operations against the highest international standards and codes of practice. On every new project we undertake, we will first do an environmental impact assessment (EIA), according to the Environmental Impact Assessment Ordinance or local legal requirements.

In addition, we have established an environmental management system (EMS) covering our operations in Hong Kong that also supports our joint venture (JV) partners in mainland China in improving their performance. Our gas production facilities at Tai Po have been certified to ISO 14001 since 1999, and our JVs in mainland China are in the process of achieving the same standard.

To verify the soundness of our Company's EMS, we conduct regular audits and inspections of our facilities to ensure they comply with all relevant environmental standards and to identify areas for improvement. Since 2011, we have also been performing environmental audits of our gas projects in mainland China and, in 2018, carried out 51 audits of their energy conservation, waste and wastewater management practices, as well as their noise control measures. No instances of non-compliance were found.



Green Bond

In November 2017, we issued our inaugural green bond — the first in Hong Kong's energy industry — to diversify our funding sources for low-carbon technology projects. The Green Bond was issued through a HK\$600 million (ISIN HK0000375300) and a JPY2 billion (ISIN XS1720566790) transaction.

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 enhance investor confidence.

To learn more about our Green Bond Framework, please refer to our corporate website.

Use of Proceeds

Proceeds from the green bond of HK\$734.4 million have been allocated to finance the following waste-to-energy projects:

Draiget Catagory	Location	Estimated	Amount and ratio allocated (HK\$ millions)		
Project Category	Location	Project Cost (millions)	ISIN HK0000375300	ISIN XS1720566790	
Landfill Gas Utilisation	Tseung Kwan O, Hong Kong	HK\$350	145.0 (24.3%)	35.0 (25.4%)	
Kitchen Waste Processing (Waste to Energy)	Suzhou, Jiangsu Province, PRC	RMB220	23.0 (3.9%)	24.0 (17.5%)	
Hydrotreated Vegetable Oil (Waste to Energy)	Zhangjiagang, Jiangsu Province, PRC	RMB610	400.0 (67.0%)	56.0 (40.7%)	
Agricultural Waste to Green Chemicals and Paper Pulp	Hubei Province, PRC	RMB170	28.9 [4.8%]	22.5 (16.4%)	

Project Update

Project Category	Estimated GHG reduction (tCO ₂ e/yr)	Pr
Landfill Gas Utilisation	6,400 ¹	•
Kitchen Waste Processing (Waste to Energy)	16,000	•
Hydrotreated Vegetable Oil (Waste to Energy)	350,000	•
Agricultural Waste to Green Chemicals and Paper Pulp	278,000	•

¹ The GHG emission reduction has been updated based on the actual synthetic natural gas sent to TKO Data Centre and blended into our town gas supply network in 2018. Please note that the actual performance greatly depends on the amount of landfill gas supplied from the landfill site.

oject progress

- Official operation started in February 2018
- Trial operation commenced in Q4 2018
- 90% of the construction has been completed and the expected starting date is Q2 2019
- Trial operation commenced in Q1 2018
- Due to optimisation of the engineering design,
- expected starting date is postponed to Q2 2019
- Received in International Sustainability & Carbon Certification (ISCC) for a second year
- Expected starting date is postponed to Q2 2020 due to plant site selection

Protecting the Environment

8.2 Responding to Climate Change

At the 2018 UN climate summit in Poland (COP24), the stage was set to implement the Paris Agreement's call for limiting world temperature rises to 1.5°C above pre-industrial levels. This was in response to the Special Report on Global Warming of 1.5°C published by the Intergovernmental Panel on Climate Change (IPCC), which warned that even this slight temperature increase could have severe consequences for our land and ocean ecosystems.

Mainland China has also reaffirmed its commitment to green development and has recently implemented the world's largest carbon trading scheme. As both a Special Administrative Region of China and a member of the international community, Hong Kong has taken a proactive stance in alleviating global climate change.

Stakeholders are also demanding measures that increase transparency on climate change management, including those recommended by the Financial Stability Board's Task Force on Climate Financial Disclosures. As a responsible supplier of energy, we recognise that we should support the Government's efforts on climate change and respond to stakeholders' concerns.

We also recognise the seriousness of global warming not only for its impact on our businesses but on the environment. Our response has been two-fold:

Mitigation—to reduce or prevent emissions of GHG (please refer to Chapter 8.3 Creating a Low Carbon Future)





Adaptation—to upgrade our infrastructure and strengthen our crisis management to become more resilient against the impact of

climate change



A changing climate has legal, market and reputational impacts on our business. The management of climate-related risks at Towngas is integrated into our overall approach to risk management.

Legal Risks

In the course of our business, we obtain permits, licenses and other relevant approvals. Failure to comply with these requirements could subject us to substantial penalties and fines and result in the significant curtailment of our operations.

Since our businesses are subject to evolving rules and regulations on GHG emissions, we make a concerted effort to keep abreast of the latest environmental policies in Hong Kong and mainland China.

The Chinese Government has introduced a nationwide carbon trading scheme, which could have an effect on our chemical plants. Although the current scheme announced by the Chinese Government in December 2017 concerns power generation only, we are closely monitoring its development. In the meantime, we are finding ways to reduce our GHG emissions to control the risks we are subject to. We also see an opportunity to earn CCER credits for our environmental projects under this scheme.

Market Risks

A related risk, market risk, can occur when there are changes in government policies, such as China's new coal-to-gas switching policy introduced in 2017. This led to a sudden increase in natural gas demand and gas shortages in many villages across the country during the winter of 2017/2018. However, with

the completion of our salt-cavern gas storage facility in Jintan district, Changzhou city, Jiangsu province in October 2018, a similar shortage is less likely to reoccur in the future. China's climate strategy and evolving energy mix could also lead to a shift in demand for our products and services.



Operational Risks

The physical risks of temperature and sea-level rises, drought, and the increased frequency of extreme weather can all have an impact on our operations. This is a key concern for us, as these risks are more immediate and unpredictable.

In 2015, we commissioned a comprehensive climate change risk assessment for our Hong Kong operations, with the aim of increasing our resilience in extreme weather. We also developed an adverse weather preparedness plan and conducted a corporate emergency table-top exercise. Since then, Towngas has been closely monitoring climate change issues and their possible impact on the business in addition to performing regular reviews of the plan.

As different regions of China experience different weather conditions, we visited the various project sites of our mainland China project companies to understand their location-specific risks and began extending the reach of our risk assessment into other regions. Where we believed our JVs were not prepared to meet these risks, we made improvements such as installing flood gates to protect against sea level rises and insulating pipes in the event of sudden drops in temperature. We also provided training in climate change awareness.

How We Responded: Typhoon Mangkhut

In September 2018, Hong Kong was hit by one of the most intense storms on record—Typhoon Mangkhut. In advance of its arrival, we took a variety of precautionary measures to reduce the impacts of the storm and ensure a safe and reliable supply of gas to the public. These included installing floodgates and auto-start submersion pumps in the switch rooms at our Tai Po Plant to prevent flooding, and fastening gas governors to prevent structural damage to doors and louvers.

Although Towngas suffered minor damage to several facilities, no gas leakages or personal injuries were reported. Equally important, the experience we gained dealing with Typhoon Mangkhut has taught us how to be resilient and prepare for extreme weather conditions in the future.





Climate-Related Opportunities +-

The changing climate situation, while serious, also creates opportunities to expand our business and deliver greater stakeholder value. One such opportunity is the growing demand for biofuel in Europe's transportation sector where, by 2020, 10% of the transport fuel of every European Union country must come from renewable sources such as biofuels.

We believe this accords with our vision of being Asia's leading clean energy supplier, providing environmentally friendly solutions as part of our quest to build a low-carbon society.

Natural Gas as the Low-carbon Alternative

To reduce global emissions, more countries are turning to low-emission energy sources, with natural gas (as the cleanest fossil fuel) expected to play an important role in this transition.

Through our expanding city-gas network in mainland China, we are able to offer customers cleaner fuel options with lower carbon emissions. In 2018, we extended our city-gas business to 23 provinces, autonomous regions and municipalities, and served over 27 million customer accounts.

From Diesel and Coal to Clean Gas

The widespread replacement of diesel and coal with clean gas is helping us to build greener cities in the markets we serve. As we aspire to be the leading clean energy supplier in Asia, we have been working with commercial and industrial (C&I) customers, such as hotels, hospitals and commercial laundries, to switch from coal/diesel to town gas/natural gas to help them lower their carbon emissions.

We have also been promoting distributed energy systems (DES) so that mainland China can reduce its reliance on coal-fired power and, hence, carbon emissions and smog. With more than 20 DES projects underway and the likelihood of more to come, the new method of supplying energy has become widely accepted in the market.

Clean Vehicular Fuel Supply

As vehicles are one of the major causes of global warming, we have been helping to promote the switch to low-emission vehicles from traditional diesel-operated vehicles. Our current portfolio comprises five liquefied petroleum gas (LPG) refilling stations in Hong Kong and 52 liquefied natural gas (LNG) refilling stations either in operation or under construction across mainland China. In 2018, we sold a total of more than 60,000 tonnes of fuel to over 3,000 LPG taxis and minibuses, representing approximately 18% of the vehicular LPG market share in Hong Kong.

New Energy and Unconventional Energy

To help mainland China meet its future energy requirements while simultaneously addressing its environmental concerns, we established ECO Environmental Investments Limited (ECO) in 2000 as the Group's platform for new energy projects.

The reputation of this company for conducting innovative research and developing alternative sources of energy is well founded. ECO's current product portfolio comprises clean fuels such as LNG and methanol, ethylene glycol and hydrotreated vegetable oil (HVO), with additional high-value, environmentally friendly fuel, chemical and material products continually added. Hong Kong and China Water Limited (Hua Yan Water) also branched out into the bio-waste treatment business to recycle food waste, greening waste and landfill leachate for conversion into natural gas, oil products, solid fuel and fertilisers.

High-value Products from Low-grade Feedstock



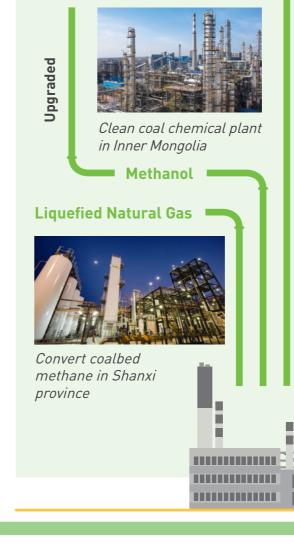
In Operation

Hydrotreated Vegetable Oil



Upgrade inedible waste oil in Zhangjiagang

Ethylene Glycol



The opportunities in new energy created by these and other businesses can be multiplied in various locations across mainland China as well as in other countries.



Trial Operation

Natural gas

Oil products and solid fuel

Fertilisers



Food waste processing and utilisation in Suzhou

Under Development

High-quality activated carbon

Meso-carbon micro-bead

Extracted from the bitumen part of high-temperature coal tar oil in Inner Mongolia

Green chemicals such as furfural and paper pulp

Convert agricultural waste



8.3 Creating a Low-carbon Future

We believe it is our responsibility to contribute to a low carbon future not just by reducing our own emissions but also by helping customers reduce emissions in their operations.

Reducing Carbon Emissions in Our Businesses +

By understanding our direct and indirect GHG emissions, Towngas is able to prioritise measures that strategically reduce these emissions.

We have committed to monitoring the Company's GHG emissions and devising carbon reduction strategies. In Hong Kong, we conduct regular company-wide carbon audits aligned with the ISO 14064-1 standard in order to quantify and accurately report our GHG emissions.

Group GHG Emissions

	2018	2017	2016	2015	2014
Scope 1 (tCO ₂ e)	807,000	822,000	834,000	898,000	700,000
Scope 2 (tCO ₂ e)	455,000	423,000	399,000	378,000	300,000

Remarks

• Scope 1 - Fuel consumption of production plants, vehicle fleets etc. The GHG emissions were adjusted to reflect the biogenic nature of landfill gas and its associated carbon emissions during use.

• Scope 2 – Electricity consumption of production plants, offices, customer centres, gas refilling stations, data centres, etc.

• Reported GHG emissions data cover Towngas operations within and outside Hong Kong. Data are consolidated on an equity basis.

Our GHG emissions are mainly from fuel consumption in our production processes. To reduce fuel consumption, and hence our GHG emissions, we have been looking for opportunities to implement reduction initiatives or improve our processes. For example, we have been using renewable energy sources (landfill gas) since 1999 and natural gas since 2006, which have significantly reduced air pollutants and GHG emissions.

We have also committed to increase the proportion of natural gas/biogas used for town gas production.

For more details on clean gas production at Towngas, please visit our corporate website.



2018 energy saving in gas production plants:

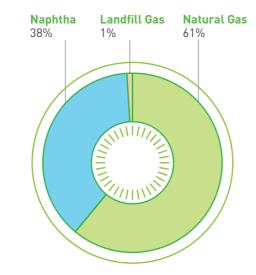
Naphtha saved 298,935GJ

Town gas saved 27,015GJ

Remarks

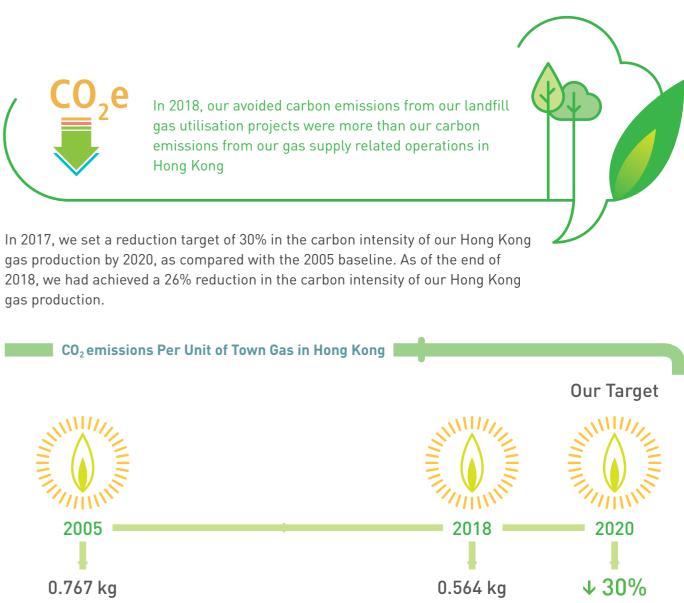
As compared with the data of a reference year before implementing the respective environmental initiative.

Fuel Mix for Town Gas Production





gas production.



Our China projects also conserve resources and reduce energy consumption to meet tightened requirements, such as the Cleaner Production Promotion Law.

In our property operations, we have attained green building standards such as BEAM Plus for our Towngas Headquarters and Leadership in Energy and Environmental Design (LEED) certifications for our data centres in Hong Kong and China. We are also planning to obtain ISO 50001 certification and renew BEAM Plus to the new version at our North Point Headquarters. Through our Green Office Practice Guidelines and internal audits, we help to improve our employees' environmental awareness and ensure appropriate actions are being taken.



2018 energy saving at North Point Headquarters and Ma Tau Kok office:

↓ 26%

Remarks

As compared with the data of a reference year before implementing the respective environmental initiative





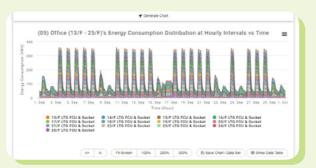


How We Responded: Improved Energy Management at Towngas

To improve our energy management performance in Hong Kong and thereby further reduce our GHG emissions, we implemented a comprehensive energy saving plan that involved setting up a monitoring system and encouraging employees to save energy at our North Point Headquarters.

We began this process with the installation of over 180 electricity meters at our Headquarters to monitor the power consumption of systems such as our chiller plant, mechanical ventilation

and air conditioning, lifts, lighting and sockets. We also developed a cloud-based energy management system, which will allow us to access and monitor information on our power consumption automatically. This system utilises Big Data with Artificial Intelligence (AI), which allows us to analyse and benchmark our performance.



In 2018, we utilised the building air conditioning energy profile created by the system to adjust the chiller plant parameters, such as water supply temperature, water pump speed and sequence control.



We also held an Inter-floor Energy Saving Competition for staff at our Headquarters from July to September 2018. Through this event, we not only raised staff awareness of the importance of energy conservation but also achieved energy savings.



2018 office energy savings > 20,000 kwh (↓ 5.5%)



In addition to our North Point Headquarters, we have selected four trial sites to implement the platform. Building performance and user behaviour will be tracked continuously, which could be used as a benchmark for future planning.

Supporting Customers with Low-carbon Solutions

Towngas was one of the pioneers in the development of renewable energy in Hong Kong using resources such as landfill gas. The amount of landfill gas in our town gas production was 325,950 GJ in 2018. We have also been supplying environmentally friendly landfill gas to customers over the past few years, including Alice Ho Miu Ling Nethersole Hospital for their Combined Heat and Power Generating System and Towngas Telecom Hong Kong Data Centre 2 for their gas absorption chiller.

How We Responded: Support for the Feed-in Tariff (FiT) Schemes

In 2018, the power companies in Hong Kong launched their FiT Schemes to support solar and wind systems as part of the Hong Kong Government's climate change policy.

Towngas fully supports this scheme as it will help to create a greener Hong Kong through the widespread use of renewable energy. PV systems will be installed in phases in our portfolio, starting with solar panels at our Towngas offtakes stations. We will continue to study the feasibility of installing PV systems at other premises.



compared with traditional diesel. In 2018, this plant sold 7,000 tonnes of HVO to Europe, where demand for clean biofuel is high.

We also offer more than 200 residential energy-efficient appliance models, which help customers to save costs and reduce energy. All eligible water heaters and cooking appliances bear the Electrical and Mechanical Services Department's Voluntary Energy Labelling Scheme label.

For our residential customers, we launch at least one energy-efficient appliance every year. In 2018, we introduced a new two-burner hotplate with a Regenerative Electric Energy Module that converts heat into electric energy for charging the battery. Since the hotplate does not require a battery replacement, customers can enjoy greater convenience while reducing the amount of e-waste in our landfills. For our C&I customers, one of the most recent appliances we launched in this market, a Heat Recovery Dishwasher, allows restaurants to reduce energy consumption for dish washing by over 30%. We also equipped our wok range with a low noise energy-efficient burner aleady in use on our stockpots to save more energy in the kitchen and provide a comfort working environment.

To help our customers conserve town gas, we provide information and energy saving tips via bill inserts, newsletters and our **Low Carbon Action!** website.

In addition to encouraging our customers to switch to gas or a co-generation system, we have been developing green products such as HVO at our plant in Zhangjiagang, Jiangsu province. The HVO produced at this plant, which has ISCC, offers a saving in GHG emissions of nearly 90% as sold 7,000 tonnes of HVO to Europe, where demand



8.4 Managing Our Resources

At Towngas, we are keenly aware of the need to conserve natural resources in our production plants, distribution network and office operations. We also seek to raise awareness of our environmental impacts among our staff as they are the key to the success of



our conservation programmes, and encourage our contractors, suppliers and customers to do the same.

Water and Effluents +---

Our business requires water, most notably in our production operations but also in our offices, customer centres and natural gas stations. How we draw, consume and discharge water not only contributes to water conservation but also sets an example for society as a whole.

Our water conservation initiatives include making improvements to our production processes with new technologies and processes, such as recycling more of the water we consume and implementing watersaving devices. These measures have yielded promising results. Using the reverse osmosis system at our Tai Po Production Plant, for example, we were able to conserve 112,121m³ water in 2018. We are also planning to install a third reserve osmosis system at our Tai Po Production Plant to generate treated water, which will further reduce effluent as compared with the traditional ion exchange method. All effluent from our town gas production plants is processed in compliance with existing regulatory discharge standards such as the Water Pollution Control Ordinance. In 2018, there were no reportable effluent spills in any of our operations.

In addition to our gas business, we have a water supply and wastewater treatment business, Hua Yan Water, in mainland China. To make effective use of water resources, we run a water supply operation in Suzhou, Jiangsu province that uses a sophisticated Supervisory Control and Data Acquisition System and Geographic Information System to detect pipeline leakages, a common problem for global water companies.

We also have an industrial wastewater treatment project for an international electronics plant at Suzhou Industrial Park, which treats high-concentration industrial wastewater and recycles around 50% of it back to the plant. All effluent and discharge from this project is treated in accordance with local regulations.

In our offices and customer centres where we consume only small amounts of water, we have implemented water saving devices such as dual flush toilets and automatic faucets. We also organise internal guidelines and activities to raise staff awareness of the importance of water conservation.

How We Responded: Zero Liquid Discharge System

Water pollution is a critical issue in mainland China, which was highlighted by the ecological disaster at Taihu Lake in 2007 when the household water supply to Wuxi, Jiangsu province was contaminated by industrial effluents.

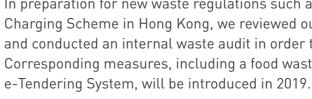
One example of the way we have responded to this issue is the Wastewater Zero Liquid Discharge (ZLD) system adopted by our HVO production facility at ECO HVO Zhangjiagang. In its operations, this plant produces effluent that contains high levels of biochemical oxygen demand (BOD), chemical oxygen demand (COD) and various metals. Using a number of treatment methods, the ZLD system processes the effluent so that it can be reused and recycled.

Waste Management +

At Towngas, we treat waste as a valuable resource as demonstrated by our landfill gas projects in Hong Kong and several waste-to-energy projects in mainland China.

Our waste management approach, which is underpinned by the '5R' principle of Replace, Reduce, Reuse, Recover and Recycle, has earned us a Wastewi\$e Certificate at the Excellence Level for the past 17 consecutive years, with more than 30 waste reduction and recycling targets completed to date. Since 2002, we have undertaken more than 20 waste reuse/recycling programmes and have encouraged the use of recyclables and waste separation at our offices and production plants.

Municipal Solid Waste



In line with the Government's 2018 policy address, we support waste reduction at source through measures such as a ban on plastic straws and poly-foam food containers at our restaurant. In addition, we published the In-house Green Event Practical Guide in 2018 that helps staff reduce waste for the events they organise. We also encouraged staff to "bring your own bottle" rather than rely on plastic bottles.

Our warehouse receives deliveries shipped in containers on wooden pallets, which has resulted in hundreds of pallets being stored in our warehouse or sent to landfill. To reduce waste in landfills, we began recycling these pallets into a renewable energy source by crushing, sieving and briquetting them at a waste wood recycler in EcoPark. The result is a wood pellet, a renewable energy product, that we expect will help to prevent around 2,000 wooden pallets from going to landfill each year.

Construction Waste



Excavated materials and construction waste generated during construction and pipeline works in Hong Kong are managed through the Government-regulated trip ticket system to ensure proper disposal.

For laying gas pipelines, we have adopted trenchless technology that significantly reduces the need for open trench work and therefore generates less waste. During the year, this technology was extended to Wujiang, Suzhou province for a pipeline repair project by Hua Yan Water.

Chemical Waste



All chemical waste handling procedures comply with the Waste Disposal Ordinance, and is handled by a waste collector licensed by the Environmental Protection Department. We also recycle and reuse materials such as metal chemical drums, spent catalysts, plastic chemical drums and used polyethylene pipes.

In November 2018, we legally exported 9,273 kg of used lead acid batteries overseas for recycling instead of disposal. We also liaised with the Hong Kong Battery Recycling Centre, which is expected to go into operation in 2019, for local recycling.

In preparation for new waste regulations such as the Municipal Solid Waste Charging Scheme in Hong Kong, we reviewed our waste management practices and conducted an internal waste audit in order to understand our waste streams. Corresponding measures, including a food waste composter and paperless

To promote the reuse/recycling habit, we hold a variety of waste seminars and activities. In 2018, these included a used goods exchange programme, with a collection point set up for items such as stationery, books, bags, home appliances and tableware for our Towngas colleagues. Through this programme,

we hoped to have our staff "think before they buy".





Waste Reduction at Customer Side

We have been offering customers our Used Gas Appliance Recycling Programme since 2003 as a way of reducing waste. Under this programme, unwanted appliances are sold to recycling contractors, with all proceeds going to support the environmental activities of the Company, our contractors and other green partners. As a result of this programme, we were able to recover around 1,800 tonnes of metal in 2018.

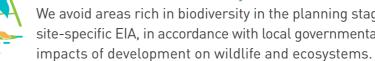
With more than 1.9 million customers in Hong Kong, we understand that our gas bills use a significant amount of paper. To reduce paper consumption, we have been encouraging customers to use our eBilling service. For every new Towngas eBilling application we received during a special promotion period in 2018, we donated HK\$10 to a green group chosen by applicants. The second phase will be launched in 2019 so that more customers will switch to this paperless online service.



8.5 Biodiversity

Since our gas processing and distribution operations can disturb the land or wildlife habitats, mitigating our impacts on biodiversity has become an essential component of our environmental management approach. Our biodiversity mitigation and enhancement planning is based on four principles:

Avoid Areas Rich in Biodiversity



Mitigate Our Impacts through Innovation

We take preventive and corrective measures to minimise the possible impacts of our works, including construction works, effluent discharges, and pipeline maintenance, on habitats and species of flora and fauna. These include innovative strategies and techniques such as the following:

• Trenchless Technology

This construction method devised by Towngas minimises environmental impacts and waste during pipeline construction and maintenance works.



We have a management system in place, using specialised technology and our own pipeworks and fittings, to prevent gas leakages when laying or maintaining our pipelines. As a result, our gas network accident rate is among the lowest in the world. For more details, please refer to Chapter 7.4 Delivering Gas Safely to Customers.

• Glass-In-Gas (GIG) and Glass-Along-Gas (GAG) Technology communication services, thereby reducing our environmental impacts caused by excavation works.

Mitigation and Offset Measures during Construction

We implement a variety of mitigation and offset measures for our construction activities, which help to reduce pollution and the loss of topsoil. We also follow environmentally responsible forest management practices by using Forest Stewardship Council approved timber.

Additionally, we coordinate with local government bodies to preserve the greenery around our industrial sites and stations. We also sponsored customers and colleagues participating in The Green Earth's five-year Plantation Enrichment Project, which aims at increasing biodiversity of plantation in country parks.

Promote Biodiversity Awareness

biodiversity benefits of organic farming.

Other initiatives to promote biodiversity awareness among our employees have included eco tours of Tai Sang Wai Fish Pond and Mai Po Nature Reserve. This year, we organised a talk by Dr Ng Cho-nam (a member of the Task Force on Land Supply and an Associate Professor of The University of Hong Kong) on land use, biodiversity and sustainable development in Hong Kong.

Sustainability Report 2018

We avoid areas rich in biodiversity in the planning stage of our projects. We will carry out a site-specific EIA, in accordance with local governmental requirements, for addressing the

Towngas Telecommunication Company Limited installs optical fibres within gas pipes (GIG technology) or lays telecommunications cables simultaneously with gas pipes (GAG technology) to eliminate the need for digging underground to install network

We have been operating our organic farm in Yuen Long as well as a rooftop organic farm at our North Point Headquarters, both of which have been instrumental in promoting the





work.

We create value for employees by providing an inclusive and engaging work environment that allows them to reach their full potential. As stated in our human resources policy, we go beyond compliance with local laws and regulations to ensure equal opportunities, diversity in the workplace, anti-discrimination and the fair treatment of all staff through transparency.

To create greater value for our customers, we have established a Superior Quality Service (SQS) programme, which together with our Service Pledge helps us to provide first-class customer service. Ongoing innovations such as our online customer service channels have also become an integral part of our customer-centric culture.

In the community, we help to create value by participating in fundraising events and supporting sponsorship programmes in collaboration with non-governmental organisations (NGOs). Our staff members take part in these initiatives by joining the volunteer team that enable us to forge stronger links with the communities we serve.



At Towngas, we are committed to creating value not only for our investors but for all of our stakeholders and the communities in which we live and

Creating Value for the Socie





Foster Employee Development



28.6 average training hours for employees in Hong Kong * Revamped the data collection system to incorporate all types of training hours



Over **60,000** training hours in Towngas' MasterCraft culture among our employees and related contractors



- Organised **23** Continuing Professional Development (CPD) seminars, with **2.339** training hours
- Launched a Professional Diploma in Gas Engineering with The Vocational Training Council in July 2018, the first programme of its kind in Hong Kong
- Organised leadership development programmes for managers/potential managers at different levels

Offer Decent Work Opportunities

• Number of employees:





• Average turnover rate:

4.1% (outside Hong Kong)

- Provided a recognised Apprentice Programme and Graduate Trainee Programme; recruited 45 trainees and apprentices in Hong Kong
- Adjusted allowances and benefits for our staff, including work allowances and leave
- Engaged staff by reinforcing our inclusive, family-friendly culture and held the Fun Living Series for the sixth consecutive year

Create an Inclusive and Supportive Work Environment



Employed **14** people with disabilities



Refine the Customer Experience





• Augmented reality (AR) application for cooking appliances

• Smart metering

- **5,912** customer compliments were received in Hong Kong



• Volunteer service hours:







• Introduced new technology for enhanced customer service and convenience:



• Launched new products such as a Regenerative Electric Energy Module (REEM) hotplate, low noise commercial and industrial wok range and Heat Recovery Dishwasher; organised a second collaboration with the HELLO KITTY brand

Engage the Local Community to Enhance Quality of Life, Create a Sustainable Environment and Support Future Generations

• Donated HK\$4.8 million for community activities

91.628

(Hong Kong)

238,000 (Mainland utility business)

• 709,766 people benefited from our volunteer services in Hong Kong

• New community programmes:

• Green Flame Project



• Pilot Scheme on Corporate Summer Internship on the Mainland and Overseas

• Established the Towngas Chef Anchor Volunteer Team, a first-of-its-kind programme, serving elderly people with Mild Cognitive Impairment (MCI)

Creating Value for the Socie



Foster Employee Development

- Develop new training programmes focused on the transformation of our businesses and succession planning
- Continue launching high-potential talent programmes to prepare young managers for future leadership roles, thereby strengthening our talent pipeline and the Company's talent succession planning

Offer Decent Work Opportunities

- Continue strengthening initiatives conducive to talent attraction, retention and engagement
- Strengthen our employer brand and become the employer of choice for people who wish to join our diversified business portfolio

Create an Inclusive and **Supportive Work Environment**

- Continue supporting equal opportunities hiring
- Work with NGOs to provide job tasting and other job opportunities for disabled or minority groups
- Enhance our workplace for people with disabilities, such as improving the fire alarm system by adding flashing lights for the hearing impaired



Engage the Local Community to Enhance Quality of Life, Create a Sustainable Environment and Support Future Generations

Refine the Customer Experience

• Explore the needs of our customers and launch new products/methods, such as developing a more energy efficient steam cabinet and wok ranges, and utilising the power generated from water flow to replace the battery cells in our balanced flue water heater

- Continue supporting NGOs and identifying community programmes that benefit society
- Develop school and youth programmes that provide career and life-learning training and assistance



9.1 Creating an Inclusive and Engaging Workplace

What is Towngas doing to advance diversity in the workplace?

A

We are fully committed to supporting diversity and providing equal opportunities for people regardless of age, gender or ethnicity, not only during the hiring process but after they have joined us. Once they are on board, we make sure all employees feel included and encouraged so that they can thrive.

Fan Kit-yee Head of Corporate Human Resources

All matters pertaining to human resources issues, including recruitment and promotion, compensation and dismissal, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits, are overseen by our Corporate Human Resources Department and handled according to the Towngas Human Resources Policy Manual and Employee Handbook. We comply fully with local laws and regulations, including the Hong Kong Employment Ordinance.

In recognition of the importance of diversity and inclusion, we ensure new staff are integrated into our workforce and made to feel welcome as valued members of the Towngas team.

In order to create a sustainable workforce, we listen closely to the concerns of our employees, as part of our commitment to creating a harmonious work environment.

Employee Diversity and Equal Opportunities +-

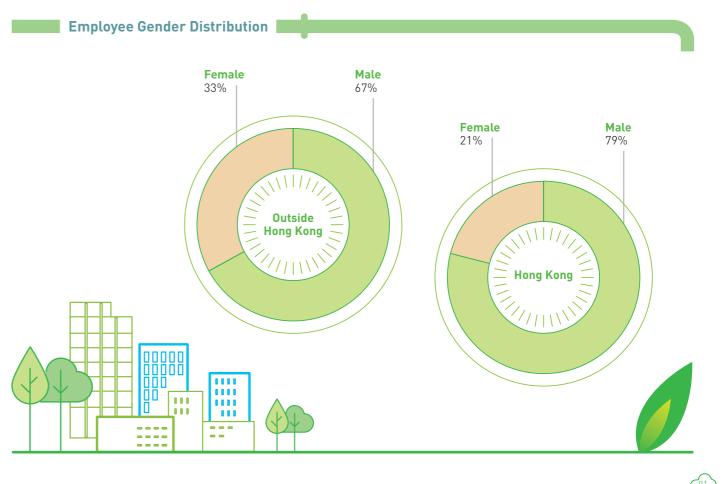
We provide equal opportunities for all existing and prospective staff and have zero tolerance for all forms of employment discrimination. Any employee found to be in violation of the Towngas Code of Conduct, Equal Opportunities Policy or relevant ordinance will be held accountable and subject to disciplinary action.

When recruiting new staff, we make hiring decisions without regard to age, gender, sexual orientation, race, colour, religious or political beliefs, marital status, ethnic background or social origin.

Although we make a strong effort to hire both men and women for various positions, the nature of our business means that the balance of our workforce has traditionally tilted towards male employees. We are attempting to redress this situation by taking steps to attract women to our industry and developing and retaining them within our ranks.

The disabled are also taken into account in our approach to workplace inclusiveness. Facilities for people with disabilities include automatic doors, adjustable office desks and toilets for wheelchair users. Specialised emergency evacuation procedures for the disabled have been implemented, and planning is now underway for improving the fire alarm system by adding flashing lights for the hearing impaired. During the year, Towngas employed a total of 14 people with disabilities, of which 12 were employees and two were summer interns.

In support of a harmonious workplace, we have established procedures and a fair and independent process for investigating complaints about discrimination, with assurance that the confidentiality of all parties will be respected. In 2018, no incidents of discrimination were reported at Towngas.



Sustainability Report 2018

How We Responded: Breaking Gender Stereotypes

The role of a Towngas technician has traditionally been regarded as a male-only occupation because of the heavy physical demands of the job.

As Towngas encourages diversity, we were delighted to welcome the first female mechanical technician apprentice at our Tai Po Production Plant in 2017. Although she often received offers of help from her male colleagues, she had already proven that women have the ability to handle physical work. After passing her first year apprenticeship in 2018, Kit-yee is looking forward to a rewarding career as a technician at Towngas after graduation.

To keep up the momentum, in 2018 we successfully recruited another female mechanical craft apprentice for our Tai Po Production Plant and plan to continue hiring more women for our workforce.

Employer-employee Relations +

We guarantee freedom of association for our employees, who may join the organisations and professional bodies of their choice. Members of associations are allowed to participate in association activities during working hours, reflecting the high degree of freedom they enjoy at Towngas.

Although there is no regulatory requirement in Hong Kong with regard to collective bargaining, we engage our staff in meaningful consultations through a variety of internal communication channels. When significant operational changes are to be implemented, we will send a formal notice to all concerned employees at least two to four weeks prior to the effective date. In mainland China, we comply with applicable legal obligations concerning freedom of association and collective bargaining. While the labour unions of our joint ventures have not entered into any collective bargaining agreements, we continue to maintain open communication with union representatives on staff-related matters.

Listening and Responding to Employees

We listen to our employees and carefully consider their opinions, as we believe this contributes to an atmosphere of trust between staff and the Company. In addition to creating a greater spirit of open dialogue, this approach has led to many positive suggestions that have improved the way we deal with employees and serve our customers.

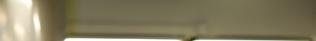
In 2018, we received over 200 submissions through various channels on how to enhance work processes and customer service through our Employee Suggestion Scheme, Managing Director's Award and Superior Quality Service Best Team Competition.

Other communication channels include suggestion boxes, our company intranet, employee surveys, focus groups, and social media platforms. We also provide a dedicated channel for staff to discuss their opinions and suggestions directly with our Managing Director.

Consulting Staff on Our Strategic Direction

To keep our employees fully informed about the future of the Company and our strategic direction, we established The Strategy Ambassador Club (The Club) 20 years ago. At Club meetings, we discuss Towngas' ongoing strategies and listen to the opinions of our staff. More than 70 staff representatives, ranging from those on the frontline to our managers in various departments and businesses, meet regularly in seminars, workshops and on tours of facilities to keep our workforce up to date on business developments and new opportunities for the Company.

Sustainability Report 2018





Attracting and Retaining Staff +

Our strategy for dealing with the challenges of an ageing workforce includes attracting younger workers and retaining older workers longer.

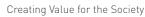
We have developed a broad range of responsible employment practices within our organisation, including family-friendly employment policies and competitive remuneration packages well above the regulatory minimum.

The remuneration packages are periodically reviewed and adjusted according to trends in the labour market. In 2018, we enhanced benefits related to work arrangements during rainstorms and typhoons as well as annual, maternity and paternity leave.





9.2 Succession Planning Along our Supply Chain



Training and Development +

To meet the challenges of an ageing society and our business expansion, we understand that the best approach for resolving these issues is to establish our own talent pool.

Towngas has its own professional training funtions: the Towngas Engineering Academy in Hong Kong and training centres set up in strategic regions of mainland China. These centres provide a wide variety of training and development programmes that not only help our staff to increase their professional expertise and managerial competence, but also prepare young people to pursue a career in the gas industry.

Learning and development is delivered via multiple channels as recommended by the Towngas Human Resources Policy Manual. Training sessions cover technical/engineering subjects as well as non-technical ones such as corporate culture, leadership development and interpersonal skills. In 2018, we strengthened the Towngas MasterCraft culture among our employees through activities such as a Microfilm Competition, the Mia Cucina MasterCraft Contest, and the 2nd Companywide MasterCraft Competition at Qingyuan. We also held company-wide Towngas MasterCraft Awareness Training for our employees and gas related contractors, over a period of 60,000 man-hours.



Hong Kong

Total training hours: 82,996

Average training hours:





Complementing these programmes is an eLearning platform with more than 180 online courses in areas such as corporate management, management skills, professional skills and corporate culture in Hong Kong and mainland China. As this self-learning programme is provided online, it can be accessed at any time and from any place, for the convenience of our staff.

We also encourage our employees to supplement their training through in-house programmes, external courses, seminars and conferences, in line with training needs that have been identified. Additionally, the Company provides eligible employees with subsidies for educational courses, academic programmes and other external skills-development opportunities. In 2018, a total of three employees from the first batch of graduates from the Diploma in Vocational Education on Gas Services Engineering course acquired Engineering Technician memberships in the Institution of Gas Engineers & Managers (IGEM) of the United Kingdom.

Developing Young Talent

We recruit new employees and help high-performing staff members progress in their careers in order to strengthen our talent pipeline and the Company's talent succession planning. In 2018, we recruited eight graduate trainees and 37 apprentices in Hong Kong.

Our Young TLC+ Programme continued to train selected staff with less than ten years' experience. They are prepared to become future leaders of the Company through various training programmes and direct contact with senior leaders, as well as by taking responsibility on strategic projects. We also offer a Network Supervisor Trainee Programme which prepares fitters for a career as a network supervisor. Its curriculum includes soft skills training, technical supervisory training, team building, job attachment, job shadowing and mentoring. Staff members participating in these programmes are expected to graduate in 2019.

Preparing for an Ageing Workforce

We cooperate with various educational institutions to offer training programmes that help to advance the gas industry while also creating a pipeline of future workers for the Company. Scholarships are offered to students who perform well in these programmes.

• Vocational Training Council (VTC):

Hong Kong's first Professional Diploma in Gas Engineering course, launched in 2018. This professional diploma course, which has been accredited as a Qualifications Framework Level 4 programme, will give students the expertise they need to pursue a career in the field, benefiting not only Towngas but the gas industry as a whole. The intakes are expected to graduate within the 15-month training period.

• City University of Hong Kong:

An elective module in Gas Engineering for an undergraduate programme in the School of Energy and Environment, launched in September 2018. This programme will help us to develop talent for the gas industry.

In mainland China, we have been collaborating with four institutions to offer frontline technicians training courses for potential candidates in order to meet our future manpower needs. Of the 155 students who graduated in 2018, 60 were recruited by Towngas China.

How We Responded: Technology for an Ageing Workforce

The ageing of the labour force, along with the demand for more efficient construction methods, has spurred the development of new high-tech tools that are changing the face of construction.

Our worksites have benefited from the introduction of robotic devices such as the Little Swan mini-excavator, pneumatic suction machine and mechanical arm. These devices reduce the amount of physical labour required, while lowering our reliance on manual labour. We have also reduced our dependence on the experience of senior workers by adopting automation for procedures such as cutting PE pipes that new technicians might find difficult.

We have also developed a mobility application, which lets our technicians and contractors access a comprehensive database of technical knowledge for analysing data, diagnosing problems, and identifying preventive solutions during inspection and maintenance services. This application allows us to carry out services systematically and helps the new generation of workers become familiar with established procedures. It also enables experienced workers to memorise fewer steps and perform their jobs more accurately and efficiently.



9.3 Delivering Value to Customers

- Q How does Towngas protect customer privacy and data?
- Since we have more than 1.9 million customer accounts in Hong Kong, we are very careful in the way we handle sensitive personal data. This is the key to winning the trust of our customers.

Peter Wong Lam-sang Head of Commercial – Hong Kong Utilities







We set up a Data Privacy Standing Committee in 2011 to handle personal data issues. Over the years, our well-established guidelines and procedures have guided our employees and contractors on how to collect, access and use customers' data.

Felix Lee Kin-ming Chairman - Data Privacy Standing Committee

Data breaches have become an increasingly common danger today as more and more personal information is stored online. As cyberattacks grow more sophisticated, we are taking cyber security even more seriously and are working hard to improve the ways we protect our customers' data.

Susanna Shen Shuk-ching General Manager - Corporate Information Technology

Protecting Customer Data Privacy +

Customers of Towngas can be assured that we are protecting their data privacy in our communications with them. We not only comply with all regulatory requirements, including the Personal Data (Privacy) Ordinance, but have also established a <u>Privacy Policy Statement</u> that sets out our standards for handling customer information.

The Company's Data Privacy Standing Committee reviews strategies for handling personal data and together, with the Data Privacy Departmental Committee and a Data Protection Officer, handles personal data issues. Every department is required to make a declaration to the Company about any data protection matters that may have arisen during the year. We also hold regular training sessions and seminars to keep employees up-to-date on personal data protection.

With the increase in data leakage incidents and vulnerabilities worldwide, cyber security has become a key concern of stakeholders. At Towngas, we handle a substantial amount of personal information about our customers, and more and more information is being stored on electronic devices and online. To mitigate the risks of data leaks, and to maintain the trust of our customers, data contained in all mobile devices carried by our gas technicians and other frontline staff can be remotely wiped should these devices be lost. We also isolate sensitive information such as HKID numbers from our customer relationship management system and keep them in an offline system in order to minimise the possibility of hacking incidents.

To guard against cyberattacks, we have commissioned a third-party consultant to monitor cyber incidents around the clock. In the event of a suspected cyberattack, our Cyber Security Committee will trigger the incident response process, contain the data leakage and then contact the Cyber Security Centre of the Hong Kong Police Force and other security experts.

We also conduct regular phishing tests and provide ethical hacking and security awareness training for our staff.

In 2018, Towngas received no substantiated customer complaints about data loss or breaches of data privacy in Hong Kong.

Marketing Communication and Information

Our customers can find information on Towngas' products and services through a variety of media channels, including our website, leaflets and other publications. Communication with customers about our products and services is also maintained through our hotline, email and social media platforms.

Furthermore, we follow fair and responsible communication practices and remain committed to ensuring that our marketing and communication materials comply with all relevant government regulations and industry guidelines. During the year, no incidents were reported of non-compliance with regulations and/ or voluntary codes concerning product and service information and labelling, as well as our marketing communications.

Serving Our Customers +

In 2018, we managed more than 29 million gas customer accounts across Hong Kong and in mainland China, including industrial and commercial customers, and residential households. Over the years, Towngas has transitioned from a supplier of gas into a one-stop solution for our customers through the introduction of gas-powered domestic appliances and premium Mia Cucina designer kitchen cabinets.

At Towngas, customer satisfaction is one of our highest priorities. The Service Pledge reinforces our commitment to providing a safe and reliable supply of gas and friendly, competent and efficient service for our customers.

Through our one-stop eServices portal, customers can make enguiries, manage their accounts and arrange for service maintenance and installation booking within two working days. They can also drop in to one of our 21 customer centres across Hong Kong or send an SMS/call our 24-hour Customer Service Hotline available in English, Cantonese, Putonghua, Tagalog and Indonesian.

A 24-hour Customer Service Hotline is also available in mainland China, as well as a one-stop online platform for reviewing personal accounts, making appointments and settling bills. Another channel, the Towngas Lifestyle WeChat account, enables us to collect customer feedback and handle customer service queries.

To obtain feedback from our customers, we conduct bi-monthly customer satisfaction surveys.



A Customer Focus Team has also been set up to visit housing estates to collect customer comments and handle any potential issues such as gas safety, bill payments and gas appliances.

One of the key elements in our customer-centric culture is our SQS programme, introduced in 1992. Supported by over 20 departmental committees, the programme explores opportunities for improvement to enhance the competitiveness of the Group.

Our philosophy, *Growth = Innovation x Implementation*, encourages innovation and creativity at Towngas by focusing on research and development and inviting employees to propose new ideas. Information about emerging technologies at Towngas and the industry is also shared through our publication, *Innovation Headlines*, as well as through seminars, company tours and social platforms such as Facebook, Yammer and WeChat.



One example of an innovation developed at Towngas is our online virtual assistant—Tinny -a new chatbot that helps customers access services such as eBilling, meter reading reports, appliance maintenance and more. Introduced in 2018, Tinny provides instant responses on queries regarding Towngas residential services.

Another innovation is the Towngas smart metering system, which allows a town gas user's meter to be read by a device mounted on the existing gas meter. The system automatically reads the meter and sends the data to Towngas via the internet using a mobile app previously downloaded by the customer.

As our business has evolved, we have developed our own gas-powered domestic appliances, including built-in hobs, cookers, water heaters and dryers sold under the TGC and SIMPA brands in Hong Kong and the Bauhinia brand in mainland China. All of the appliances sold by Towngas meet local government requirements, such as the Gas Safety Ordinance and Gas Appliances Sales and After-sales Service Requirements. Built to a high standard of quality, these appliances have gained a popular following since their launch on the market.



To enhance the customer experience, we introduced an augmented reality application to assist Hong Kong customers shopping for our flame cooking appliances. The application gives customers a preview of how these appliances might look in their own kitchens with a 3D model that can be rotated to show different product sizes, product features and operating instructions. As a result of this technology, customers are able to make more accurate buying decisions without having to visit a showroom.

How We Responded: Making Customer Payments More Convenient

At Towngas, we offer a wide range of payment options to meet customer needs. As people become more accustomed to the idea of making online payments, Towngas looks for solutions that help to improve our services and offer more convenience.

In addition to making payments using Payment by Phone Service (PPS) and internet banking, Towngas customers in Hong Kong are now able to settle their bills through AlipayHK, the Faster Payment System and TNG Wallet. In mainland China, we have an official WeChat service account for utility customers. Through these services, our customers can access billing information, receive a monthly payment reminder, and settle payments through their smartphone.

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Login the AlipayHK App, select "Gas" under "Utilities" service and proceed bill payment after you have registered your gas account number

Newly registered AlipayHK App users who use AlipayHK to pay gas bill can redeem a HK\$50 welcome reward. se refer to the AlipayHK App for details



Faster Payment System (FPS)

Pay your gas bill via FPS by using your Mobile Banking App to scan the FPS Payment QR code on the gas bill or on the e-bill email.



TNG Wallet

Login the TNG Wallet App, and select "The Hong Kong and China Gas Company Limited" under "Local Bill Payment" service. Please scan the barcode on the gas bill or QR code to proceed bill payment.

9.4 Contributing to the Community



How does Towngas understand the needs of the community and measure the social impact of its programmes?

We communicate with our stakeholders through a variety of channels to identify their needs. We then tailor our programmes to effect change at the local level, which can lead to broader changes within the community as a whole.

Isaac Yeung Chung-kwan General Manager - Corporate Affairs

Understanding Community Needs

For our social programmes to have the greatest impact, we must ensure they match the needs of society. Accordingly, we engage in ongoing conversations with NGOs and District Councillors to identify and work out the most appropriate programmes.

One of the main outreach vehicles we have established is a District Council Focus Team to promote stronger links with the community. Through this Team, we liaise directly with all District Councillors in Hong Kong and work with them and other local representatives to prioritise needs and formulate effective solutions. The Team is also highly active within local districts, where they participate in charity functions and campaigns promoting household safety and environmental protection, and provide services for the elderly.

Engaging the Community +

In addition to raising funds and providing sponsorships, our staff generously volunteer their time through the Towngas Volunteer Service Team to help enhance quality of life in the community and contribute to a more sustainable future.

Towngas encourages employee participation in public services and fully supports this Team by providing the funding, materials and training support they require to make a difference in people's lives and build harmonious relationships in the community. In 2018, a total of 909 staff were registered as volunteers.

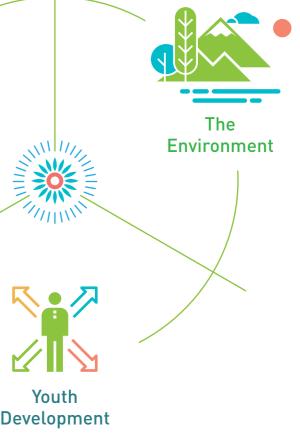
We also have a Towngas Customer Volunteer Team that gives our staff and their families, as well as customers the opportunity to take part in meaningful community activities. A total of 217 people registered for the Towngas Customer Volunteer Team during the year.

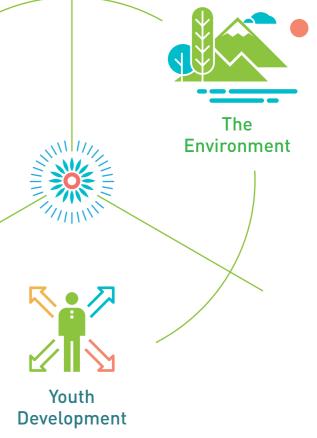
Other activities for engaging the community include participation in and support of lectures, seminars and conferences, covering topics such as safety, climate change and employment practices. By sharing our management expertise, professional know-how and technical knowledge, we are helping to promote awareness and understanding of these issues and encouraging greater collaboration for resolving sustainability challenges.

Responding to Community Needs +

We support and develop programmes in response to community needs, with a focus on enhancing quality of life, creating a sustainable environment and helping future generations to succeed.

Community Health & Wellness





Creating Value for the Societ



Community Health & Wellness

We have implemented a series of charity programmes as an extension of our warm and caring culture into the community to help people in need.

Empowering People with Disabilities

During the year, we donated HK\$200,000 to LOHAS Florist, a business established by the SAHK (the Association) to provide job opportunities for people with disabilities as well as training in floral production, pesticide-free farming and store operations. We also invited 10 disabled ambassadors of the Association to apply the farming skills they learned at the Towngas organic farm to grow organic fruits and vegetables at the Association's rooftop garden for sale in Ho Man Tin District.

Meeting the Needs of an Ageing Society

To promote lifelong learning in an ageing society, we joined Hong Kong Sheng Kung Hui Welfare Council Limited and the Institution of Dining Art to run the second year of the We Can Cook programme for people who have retired at a young age—the 'young olds'. The programme, the first local cooking course of its kind for this demographic group, held a



graduation ceremony on 11 November. During the event, participating chefs and graduates prepared and enjoyed a meal made from vegetables grown at Towngas' organic farm. Since 2016, a total of 24 cooking classes featuring international cuisine have been conducted with over 500 young olds.

We also donated TGC smart appliances, which can be used to assist the elderly and enhance their quality of life, to the Jockey Club Smart Ageing Hub at The Hong Kong Polytechnic University.

Helping People with MCI

Two years ago, we launched the Chef Anchor Programme, which provides cognitive training through cooking for elderly people with MCI. In 2018, we added a new feature to the programme — Hong Kong's first cognitive training cookbook, *I Can Cook*.

Additionally, we set up our first corporate volunteer team to visit elderly people with MCI with the aim of alleviating MCI symptoms and the pressure on their families and caregivers. Through games and observations during the visits, volunteers record the progress of participants and provide reports for follow-up by social workers.

Programme highlights (Hong Kong):



50,150 servings of soup distributed

400,000 rice dumplings ingredients given out

245,000 mooncakes delivered



3,900 catties of vegetables donated to 7,800 people in need



Free check-ups for **3,650** PE Link users

Care for the Elderly and People in Need

In 2018, we continued to organise a wide range of activities that showed our care for the elderly and people in need. These included activities such as the Soup to Warm the Heart Campaign, Rice Dumplings for the Community, Mooncakes for the Community and the Mad Dog Café charity programme. In addition to these programmes, we offered Towngas Concession Schemes to four groups of eligible customers, free check-ups for elderly PE Link users, and a safety-rail installation programme for the elderly.

Similar to our programmes in Hong Kong, the Rice Dumplings for the Community programme in mainland China attracted the participation of over 85 project companies within the Group during the year. In total, we wrapped and distributed more than 50,000 rice dumplings for welfare groups and people in need. Festival gifts worth more than RMB408,000 were handed out at the same time, benefiting nearly 13,300 people.



Around **HK\$420,000** raised for the Mad Dog Café charity programme

273 electrical washlets installed178 thermo ventilators donated



Over **45,000** households from Towngas Concession Schemes benefited from concessions totalling

HK\$25.7 million

56 safety rails installed

The Environment

Youth Development

At Towngas, we believe that public engagement is essential for creating a sustainable environment. In 2018, the Group continued to promote environmental protection and sustainable development through partnerships with green groups in Hong Kong.

Environmental Education for the Next Generation

We are helping to raise environmental awareness among the younger generation and helping them to think, act and respond appropriately to various environmental challenges.

During the year, we organised activities such as four Waste to Energy workshops for students of Po Leung Kuk Wong Wing Shu Primary School, Low Carbon Cooking So Easy 2018 to promote a healthy, low-carbon lifestyle to students and their families, and the Towngas Governors Beautification Project for students to beautify the community with innovation and green messages.

We also launched Green Flames Projects — Inter-School VR Games Design Competition with Hong Kong Education City Limited to raise ecoawareness and inspire digital creativity among students. To prepare students for the competition, we held pre-competition briefings and organised VR game design workshops, during which students learned about the eco-messages and programming tools they would use for designing the VR games. A total of 83 entries were submitted under three



key themes — Battle Against Climate Change, Reduce Waste/Convert Waste to Treasure, and Nature Conservation — all of which demonstrated a high level of creativity and ingenuity.

In mainland China, Hua Yan Water continued to host various activities to educate the public on the value of water resources and the importance of water conservation. During the year, the Company organised tours of its water plant facilities for students and a Hua Yan Water Quality Forum to advocate drinking water safety to the government, industry, and the public.

Protecting Biodiversity

To combat global warming and contribute to biodiversity in the regions where we operate, Towngas sponsored The Green Earth's 5-year Plantation Enrichment Project. As part of this event, we organised a tree planting day with about 100 employees and customers at Clear Water Bay.

In mainland China, we organised various low-carbon programmes for our Towngas China's environmental protection campaign. About 110 of our joint ventures took part in activities such as Plantation Day, Earth Hour and a Green Walkathon. Their employees, family members, customers and the public were all invited to participate. To date, Towngas and its project companies in mainland China have planted over 100,000 saplings across the country. To ensure the future of our communities, we are committed to investing a portion of our resources and expertise in the next generation.

of working life, as well as moral, social, intellectual, physical and aesthetic education. During the 2018/19 academic year, a total of 38 students were selected from three schools as the first batch for this programme. We will also offer similar programmes in future in collaboration with educational institutes and professional associations.

Improving Access to Education

In mainland China, there is a significant number of children who do not have access to education, especially those in economically disadvantaged regions.

Since the inception of our Gentle Breeze Movement in 2013, Towngas has donated materials worth over RMB3.5 million to improve the learning environment at nearly 40 schools in the provinces of Jiangxi, Anhui, Jiangsu, Shandong, Guizhou, Shaanxi, Liaoning, Guangdong, Inner Mongolia and Fujian.

In 2018, we extended the reach of our social welfare programmes to Baotou in Inner Mongolia and Changting, Fujian province, set up Towngas China Charity Libraries and donated desks, chairs, teaching equipment and school uniforms to the schools in these two cities. In addition, we continued to support the Firefly Project run by the Shanghai Soong Ching Ling Foundation – BEA Charity Fund. In 2018, the Firefly Project was held at a school in Luliang, Yunnan province, where we donated books and stationery as well as equipment such as computers for 250 students.

Developing Young Talent in Hong Kong

In support of the Government's Pilot Scheme on Corporate Summer Internship on the Mainland and Overseas, we offered a total of 17 internship opportunities for Hong Kong undergraduate students in mainland cities such as Zhongshan, Qingyuan and Guangzhou.

We also collaborated with VTC to stimulate interest in STEM (Science, Technology, Engineering and Mathematics) subjects among young students and signed a Memorandum of Understanding on the Industry Partner Collaboration Scheme for VTC STEM Education Centre.



In line with the Education Bureau's emphasis on life planning and other learning experiences in its Senior Secondary Curriculum, we launched the Career in a Nutshell programme in 2018. This ongoing programme provides interactive activities to give secondary school students a taste



10 KEY STATISTICS

The following tables provide an overview of the Group's economic, safety, environmental, human resources and social performance in 2018. We have selected data according to Global Reporting Initiative (GRI) standards and the Environmental, Social and Governance Report Guide (ESG) Guide of The Stock Exchange of Hong Kong Limited, and are presented together with other key performance indicators.



Economic Performance

	Unit	2018	2017	2016	2015	2014
Operating						
Customers (Hong Kong gas business)	Million	1.91	1.88	1.86	1.84	1.82
Customers (City-gas business)	Million	27.5	25.4	23.1	20.9	19.0
Customers (Water business)	Million	2.24	1.24	1.19	1.12	1.04
Town gas sales (Hong Kong)	Million MJ	29,550	29,049	28,814	28,404	28,835
Gas sales (Mainland China)	Billion cubic metres	23.0	19.5	17.1	15.5	15.2
Water sales (Mainland China)	Million tonnes	610	467	455	433	424
Financial						
Revenue	HK\$ million	39,073	32,477	28,557	29,591	31,615
Manpower costs	HK\$ million	3,295	3,035	2,955	2,844	2,706
Capital expenditure	HK\$ million	6,746	6,141	6,257	6,356	6,365
Taxation	HK\$ million	1,908	1,750	1,576	1,727	1,771
Dividends	HK\$ million	5,385	4,896	4,451	4,047	3,680
Profit attributable to shareholders	HK\$ million	9,313	8,225	7,341	7,302	7,109

Hong Kong 🕳

Safety Performance

	Unit	2018	2017	2016	2015	2014
Employee ¹						
Accidents – all industrial injuries	Number	10	10	13	19	14
Reportable accidents	Number	7	10	12	15	12
Accident frequency rate	Number of accidents per 100,000 man-hours	0.15	0.15	0.19	0.29	0.22
Occupational diseases rate	Number of incidents per 100,000 man-hours	0	0	0	0	0
Accident incidence rate	Number of reportable accidents per 1,000 employees	2.4	3.4	4.1	5.3	4.4
Traffic accident injury rate	Number of traffic accident injuries per 100 vehicles	2.31	2.31	3.36	1.68	1.68
Industrial injury man-days lost	Number of man-days	201	496	576	596	132
Fatal accidents	Number	0	0	0	0	0
Contractor						
Reportable accidents	Number	9	12	N/A	N/A	N/A
Fatal accidents	Number	0	0	N/A	N/A	N/A
Accident frequency rate	Number of accidents per 100,000 man-hours	0.22	0.30	N/A	N/A	N/A





	Unit	2018	2017	2016	2015	2014
Total Headcount						
Hong Kong gas business	Number	2,052	2,022	2,019	1,999	1,972
All Hong Kong staff ²						
Full-time	Number	2,418	2,388	2,392	2,380	2,331
Part-time	Number	112	94	116	110	79
By gender						
Male	Number	1,908	1,877	1,887	1,882	1,847
Female	Number	510	511	505	498	484
Ratio of Male to Female – Senior management	Ratio	3.4	3.4	3.4	3.2	3.5
Ratio of Male to Female – Middle management	Ratio	3.0	3.0	3.2	3.3	3.6
Ratio of Male to Female – General staff	Ratio	4.5	4.4	4.3	4.3	4.0
By age group						
<26	Number	124	123	126	118	106
26-35	Number	400	395	372	385	388
36-45	Number	496	475	487	491	499
46-55	Number	823	861	909	940	947
>=56	Number	575	534	498	446	391
By employee category						
Senior management	Number	251	236	239	239	230
Middle management	Number	889	843	831	820	768
General staff	Number	1,278	1,309	1,322	1,321	1,333
Turnover Rate						
Average turnover of workforce (Hong Kong gas business)	%	6.8	5.7	5.8	4.8	6.4
Average turnover of workforce (all Hong Kong staff)	%	8.7	6.4	6.7	5.8	7.5
By gender				1		
Male	%	7.0	5.6	6.0	4.9	6.6
Female	%	15.1	9.3	9.0	9.4	10.9
By age group				1		
<26	%	16.2	19.3	21.3	26.8	22.5
26-35	%	20.4	13.0	14.8	14.0	18.6
36-45	%	9.9	7.1	6.1	3.6	6.6
46-55	%	4.4	2.6	3.4	2.4	3.4
>=56	%	4.1	4.1	3.4	2.9	3.2

	Unit	2018	2017	2016	2015	2014
New Recruitment						
Total	Number	270	198	200	203	182
By gender	1					
Male	Number	194	148	144	145	140
Female	Number	76	50	56	58	42
By age group	1					
<26	Number	44	53	56	48	37
26-35	Number	95	74	71	64	73
36-45	Number	79	42	34	36	37
46-55	Number	33	15	22	21	25
>=56	Number	19	14	17	34	10
Employee Performance and	Career Review					
Total	%	83.4	85.2	85.6	85.8	85.5
By gender						
Male	%	84.5	86.4	87.1	88.8	87.1
Female	%	79.0	80.8	79.8	74.5	79.8
By employee category						
Senior management	%	80.5	85.2	82.0	82.8	83.9
Middle management	%	89.8	82.9	92.4	90.1	91.8
General staff	%	79.4	80.2	81.9	83.6	82.2
Training Hours ³						
Total training hours	Hours	82,996	27,907	15,753	19,069	22,611
Average training hours	Hours	28.6	10.5	6.6	8	9.7
Anti-corruption	Hours	661.5	187.8	200	300	155
By gender (Average training	hours and percentag	je of employ	yees who re	eceived trai	ning)	
Male	Hours (%)	31.2 (88.9)	11.2 (53.3)	5.8 (43.3)	7.6 (40.3)	8.4 (65.7)
Female	Hours (%)	20.2 (82.3)	7.8 (61.5)	9.6 (70.3)	9.4 (44.6)	14.7 (67.9)
By employee category (Avera	ige training hours ar	nd percenta	ge of emplo	yees who r	eceived tra	ining)
Senior management	Hours (%)	17.1 (85.0)	5.9 (50.0)	9.5 (73.2)	12.6 (75.1)	14.1 (87.5)
Middle management	Hours (%)	22.9 (89.8)	7.9 (60.1)	10.7 (63.4)	8.7 (53.7)	12.8 (67.6)
General staff	Hours (%)	34.3 (86.3)	13.2 (53.0)	3.5 (35.6)	6.8 (27.7)	7.1 (62.1)





	Unit	2018	2017	2016	2015	2014
Energy Consumption ⁴						
Towngas North Point Heado	juarters					
Electricity	GJ	20,350	20,921	21,383	21,277	21,696
Town gas	GJ	2,104	2,020	2,217	1,477	1,353
Gas production process						
Electricity	GJ	148,134	137,142	150,251	145,797	141,937
Naphtha	GJ	671,808	628,760	616,538	598,935	602,016
Natural gas	GJ	5,287,475	5,033,398	5,069,673	4,934,059	4,973,358
Synthetic natural gas and landfill gas	GJ	325,950	584,126	481,963	550,926	527,790
Town gas	GJ	172,617	160,011	168,086	156,196	164,020
Diesel	GJ	1,480	1,373	1,365	1,452	1,458
Vehicle fleet ⁵						
Unleaded petrol	GJ	11,500	12,679	14,518	15,662	17,254
Diesel	GJ	11,429	11,316	10,172	9,420	8,144
Packaging Material Use						
Carton	Tonnes	942	889	822	866	824
Wood	Tonnes	19.8	18	29	25	24
Plastic	Tonnes	0.45	0.7	0.9	1.0	1.0
Emissions (Gas Production))					
Carbon dioxide (CO ₂)	Daily average in metric tonnes (Metric tonnes per million MJ of town gas)	928 (11.70)	915 (11.64)	907 (11.55)	898 (11.82)	904 (11.70)
Nitrogen oxides (NO _x)	Daily average in kg (Kg per million MJ of town gas)	317 (4.00)	311 (4.00)	314 (4.00)	292 (3.84)	310 (4.02)
Sulphur oxides (SO _x)	Daily average in kg (Kg per million MJ of town gas)	1.4 (0.02)	1.9 (0.02)	1.4(0.02)	1.3 (0.02)	1.4 (0.02)
Greenhouse gases ⁶	Tonnes CO ₂ e	347,489	329,741	333,841	328,561	330,399

	Unit	2018	2017	2016	2015	2014
Water Consumption/Dischar	rge (Gas Production)				
Water consumption ⁷	Cubic metres	988,981	1,094,363	1,162,611	1,091,897	1,041,582
Total wastewater discharged	Daily average in cubic metres (Cubic metres per million MJ of town gas)	308 (3.90)	319 (4.10)	321 (4.10)	287 (3.77)	307 (3.97)
Treated wastewater discharged to marine water bodies	Daily average in cubic metres	52	62	79	47	N/A
Wastewater discharged to sewage	Daily average in cubic metres	257	258	241	239	N/A
Waste Management						
Non-hazardous waste						
Non-hazardous waste landfilled ⁸	Tonnes	173.2	176.9	150.4	123.6	129.5
Non-hazardous waste recycled ⁹	Tonnes	236.3	199.4	125.7	210.0	N/A
Hazardous waste ¹⁰						
Chemical waste generated	Daily average in kg (kg per million MJ of town gas)	38 (0.50)	193 (2.50)	167 (2.10)	49 (0.64)	83 (1.07)
Spent catalyst collected for metal recovery	Tonnes	9.1	11.4	18.5	11.7	23.6
Spent lube oil recycled	Tonnes	3.4	44.8	45.6	13.2	25.2
Others						
Scrap metal recycled – old gas appliances	Tonnes	1,785	1,803	1,218	1,265	1,229
Scrap metal recycled – from construction and maintenance of plant and pipelines	Tonnes	153	92	34	77	23
PE pipe recycled	Tonnes	25.8	24.8	30.9	23.6	17.8
Gas appliance polyfoam packaging materials avoided	Tonnes	1.50	1.46	1.56	1.56	1.29





Customer Service

	Unit	2018	2017	2016	2015	2014
Customer compliments	Number	5,912	6,017	6,930	6,766	5,894
Customer complaints	Number	12	10	13	6	8

Community Involvement

	Unit	2018	2017	2016	2015	2014
Charitable donations made by the Group	HK\$ million	4.8	5.1	7.1	7.1	34.2
Employees participating in voluntary services	Number	909	852	830	859	994
Volunteer service hours (including employees and customers)	Hours	91,628	86,455	75,588	75,369	79,551
Beneficiaries	Number	709,766	655,876	488,755	487,057	575,203

Remarks:

- 1. Towngas employees and the employees of its subsidiaries only.
- 2. A revised scope was adopted in 2016. The scope includes the hired employees of companies with business in Hong Kong (i.e. Towngas, Towngas Enterprise Limited, ECO Stations, TGT and U-Tech). The figures have been adjusted accordingly.
- 2018 figures included all training conducted by both internal departments and external organisations. Prior to 2018, the figures included training mainly conducted by the Corporate Human Resources Department and Towngas Engineering Academy; while other training hours, such as HSE and its related CPD, were reported separately.
- 4. The following conversion factors are used to standardise the units to gigajoules (GJ): Town gas (0.048GJ/unit), electricity (0.0036GJ/kWh), petrol (0.033GJ/L), diesel (0.036GJ/L). The conversion of naphtha and landfill gas to energy is calculated by multiplying individual monthly fuel volumetric data by their corresponding monthly average calorific value.
- 5. Tankers and ECO Aviation Fuel Services (EAFS) vehicles are excluded.
- 6. The emission factors of greenhouse gas emissions due to electricity consumption are obtained from the sustainability reports of the two local electricity companies, which are released one year prior to our reporting year. The GHG emissions were adjusted to reflect the biogenic nature of landfill gas and its associated carbon emissions during use.
- 7. All water is purchased and distributed by the HKSAR Water Supplies Department.
- 8. "Non-hazardous waste landfilled" refers to the refuse, wood pallets and construction waste collected from Towngas Headquarters and the Tai Po Plant.
- 9. "Non-hazardous waste recycled" refers to the plastics, papers, paper cartons and metals collected and delivered to recycling contractors. Apart from these waste categories, we also recycle other non-hazardous waste, such as used red packets and cartridges, on a regular basis.
- 10. All chemical waste handling procedures comply with the Waste Disposal Ordinance (Cap. 354). We also collect other hazardous waste, such as rechargeable batteries, fluorescent tubes and obsolete electronic products, and deliver them to licensed recyclers on a regular basis.

Outside Hong Kong 🛶



Safety Performance¹

	Unit	2018	2017	2016	2015	2014
Safety training	Hours	836,813	979,628	906,691	904,211	N/A
Serious gas-related accidents	Number	10	8	13	14	14
Fatal accidents	Number	0	2	2	0	1
Industrial injury man-days lost	Number of man-days	1,667	2,153	3,654	1,676	N/A

Environmental Performance²

	Unit	2018	2017	2016	2015	2014
Energy and Water Consumpt	tion ³					
Diesel	GJ	79,479	71,848	82,204	N/A	N/A
Natural gas	GJ	320,536	324,522	465,110	N/A	N/A
Unleaded petrol	GJ	103,980	74,936	68,430	N/A	N/A
Electricity	GJ	2,155,279	1,600,126	1,567,187	N/A	N/A
Others	GJ	9,591,164	9,104,091	9,737,518	N/A	N/A
Water	Cubic metres	4,204,432	4,078,327	3,731,565	N/A	N/A
Emissions						
Greenhouse gases (GHG)#	Tonnes CO_2e	1,262,000	1,245,000	1,233,000	1,276,000	1,000,000
Nitrogen oxides (NO _x) ⁴	Tonnes	223.7	123.7	149.8	N/A	N/A
Sulphur dioxides (SO ₂) ⁴	Tonnes	392.9	89.2	98.4	N/A	N/A
Respirable suspended particulates (PM10) ⁵	Tonnes	2.35	0.31	0.27	N/A	N/A
Effluent and Waste ⁶						
Hazardous waste (Solid)	Tonnes	1,125	1,026	1,134	N/A	N/A
Hazardous waste (Liquid)	Litres	39,131	42,857	28,600	N/A	N/A
Non-hazardous waste (Solid)	Tonnes	215,425	202,047	220,180	N/A	N/A
Non-hazardous waste (Liquid)	Litres	54,912	69,999	65,677	N/A	N/A
Wastewater discharged to sewage	Cubic metres	1,090,574	1,847,850	2,088,830	N/A	N/A

The reported GHG emission data cover the operations within and outside Hong Kong. The percentage of GHG emissions arising from Hong Kong operations is around 30%. The GHG emissions were adjusted to reflect the biogenic nature of landfill gas and its associated carbon emissions during use.







	Unit	2018	2017	2016	2015	2014
Total Headcount						
Employees	Number	49,489	46,772	46,803	45,292	44,257
By employment type						
Full-time	Number	49,478	46,758	46,789	N/A	N/A
Part-time	Number	11	14	14	N/A	N/A
By gender						
Male	Number	33,331	31,386	31,945	N/A	N/A
Female	Number	16,147	15,372	14,844	N/A	N/A
By age group						
<26	Number	4,065	4,114	4,656	N/A	N/A
26-35	Number	16,733	16,527	16,468	N/A	N/A
36-45	Number	15,024	14,249	13,964	N/A	N/A
46-55	Number	11,572	10,124	9,961	N/A	N/A
>=56	Number	2,084	1,744	1,740	N/A	N/A
By employee category	·					
Senior management	Number	1,002	971	929	N/A	N/A
Middle management	Number	5,074	4,506	4,485	N/A	N/A
General staff	Number	43,402	41,281	41,375	N/A	N/A
Turnover Rate						
Average turnover of workforce	%	4.1	4.1	2.3	N/A	N/A
By gender						
Male	%	4.8	4.7	2.5	N/A	N/A
Female	%	2.5	2.8	1.9	N/A	N/A
By age group						
<26	%	7.7	4.6	3.5	N/A	N/A
26-35	%	7.2	6.4	2.7	N/A	N/A
36-45	%	2.0	2.5	1.9	N/A	N/A
46-55	%	0.8	2.3	1.7	N/A	N/A
>=56	%	2.6	3.5	1.8	N/A	N/A

	Unit	2018	2017	2016	2015	2014
New Recruitment						
Total	Number	3,558	1,196	1,853	N/A	N/A
By gender						
Male	Number	2,418	910	1,352	N/A	N/A
Female	Number	1,140	286	501	N/A	N/A
By age group						
<26	Number	1,186	216	320	N/A	N/A
26-35	Number	1,743	513	766	N/A	N/A
36-45	Number	487	285	465	N/A	N/A
46-55	Number	121	155	260	N/A	N/A
>=56	Number	21	27	42	N/A	N/A



Community Involvement

	Unit	2018	2017	2016	2015	2014
Employees participating in volunteer services (Mainland utility business)	Number	11,154	8,013	9,016	8,341	7,240
Volunteer service hours (Mainland utility business)	Hours	238,000	135,154	93,701	82,280	103,875

Remarks:

1. Employees only. The scope includes mainland utility, new energy and diversified businesses that are majority owned by Towngas.

2. The scope includes mainland utility, new energy and diversified businesses that are majority owned by Towngas. The data are consolidated on an equity basis.

Towngas reviewed and updated environmental performance data according to the latest disclosure requirements; the environmental data collection system and calculation methods for joint ventures was upgraded in 2018. Relevant training on the revision was also provided to joint ventures' representatives.

- 3. The following conversion factors are used to standardise the units to gigajoules (GJ): electricity (0.0036GJ/kWh), petrol (0.033GJ/L), diesel (0.036GJ/L) and natural gas (0.04GJ/m³).
- 4. From fuel combustion and vehicle emissions.
- 5. From vehicle emissions.
- 6. All hazardous waste and wastewater handling procedures comply with national regulations.
- 7. Includes all people employed by the Group, its subsidiaries, associates and joint ventures outside Hong Kong.

Key Statistics (105)





Global Reporting Initiative (GRI) Content Index

This report was compiled in accordance with the Core Option of the GRI Sustainability Reporting Standards, and with reference to the GRI G4 Oil and Gas Sector Disclosures.

GRI Standards/ Material Topics	Disclos	ures	Cross Reference/Information	External Assurance
102: General Di	isclosure	s 2016		
Organisational	101-1	Name of the organisation	About this Report (P.14-15)	•
profile	102-2	Activities, brands, products, and services	About this Report (P.14-15) Appendices (P.115)	•
	102-3	Location of headquarters	Our Business (P.16)	•
	102-4	Location of operations	Our Business (P.16-17)	•
	102-5	Ownership and legal form	Our Business (P.16-17)	•
	102-6	Markets served	Our Business (P.17)	•
	102-7	Scale of the organisation	Our Business (P.16-17) Key Statistics (P.96)	•
	102-8	Information on employees and other workers	Key Statistics (P.98-99, 104-105)	•
	102-9	Supply chain	Governance and Risk (P.28-29)	•
	102-10	Significant changes to the organisation and its supply chain	Our Business (P.16)	•
	102-11	Precautionary Principle or approach	Governance and Risk (P.22-25)	•
	102-12	External initiatives	Appendices (P.116-117)	•
	102-13	Membership of associations	Governance and Risk (P.29) Appendices (P.115)	•
Strategy	102-14	Statement from senior decision- maker	Managing Director's Message (P.4-7)	•
Ethics and integrity	102-16	Values, principles, standards, and norms of behavior	Our Business (P.16-17)	•
Governance	102-18	Governance structure	Governance and Risk (P.22-23)	•
Stakeholder	102-40	List of stakeholder groups	Stakeholder Engagement (P.30-31)	•
engagement	102-41	Collective bargaining agreements	Creating Value for the Society (P.82)	•
	102-42	Identifying and selecting stakeholders	Stakeholder Engagement (P.30-31)	•
	102-43	Approach to stakeholder engagement	Stakeholder Engagement (P.30-31)	•
	102-44	Key topics and concerns raised	Stakeholder Engagement (P.35)	•

GRI Standards/ Material Topics	Disclos	ures	Cross Reference/Information	External Assurance
Reporting practice	102-45	Entities included in the consolidated financial statements	About this Report (P.14-15) Annual Report: Independent Auditor's Report (P.85)	•
	102-46	Defining report content and topic boundaries	Stakeholder Engagement (P.32-34)	•
	102-47	List of material topics	Stakeholder Engagement (P.32-33)	•
	102-48	Restatements of information	Environment (P.66) Key Statistics (P.99, 100-103, 105)	•
	102-49	Changes in reporting	About this Report (P.14)	•
	102-50	Reporting period	About this Report (P.14-15)	•
	102-51	Date of most recent report	Sustainability Report 2017, published in April 2018	•
	102-52	Reporting cycle	Annual	•
	102-53	Contact point for questions regarding the report	About this Report (P.14-15)	•
	102-54	Claims of reporting in accordance with the GRI Standards	About this Report (P.14-15)	•
	102-55	GRI content index	GRI Content Index (P.106-111)	•
	102-56	External assurance	About this Report (P.14-15)	•
200: Economic				
201: Economic Performance 2016	103	Management approach	Stakeholder Engagement (P.34) Our Business (P.17) Annual Report - Chairman's Statement (P.8)	•
	201-1	Direct economic value generated and distributed	Our Business (P.17) Annual Report - Report of the Directors (P.66)	•
	201-2	Financial implications and other risks and opportunities due to climate change	Protecting the Environment (P.62-65) Annual Report - Risk Factors (P.60)	•
	201-4	Financial assistance received from government	No financial assistance from HKSAR Government was received.	•
202: Market Presence 2016	103	Management approach	Stakeholder Engagement (P.34) Our Business (P.16-19)	•
	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	In 2018, all standard entry level wages fulfilled the regulatory requirement.	•
204:	103	Management approach	Governance and Risk (P.28-29)	•
Procurement Practices 2016	204-1	Proportion of spending on local suppliers	Governance and Risk (P.28)	•
205: Anti- corruption	103	Management approach	Governance and Risk (P.26) Corporate Governance	•
2016	205-3	Confirmed incidents of corruption and actions taken	In 2018, there were no confirmed incidents of corruption.	•



GRI Standards/ Material Topics	Disclos	ires	Cross Reference/Information	External Assurance
206: Anti- Competitive	103	Management approach	Stakeholder Engagement (P.34) Governance and Risk (P.26)	•
Behaviour 206-1		Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Governance and Risk (P.26)	•
300: Environme	ental			
301: Materials 2016	103	Management approach	Stakeholder Engagement (P.34) Protecting the Environment (P.54-65) <u>The Towngas Environmental</u> <u>Purchasing Policy</u>	•
	301-1	Materials used by weight or volume	Key Statistics (P.100,103)	•
	301-2	Recycled input materials used	Key Statistics (P.100-101)	•
302: Energy 2016	103	Management approach	Stakeholder Engagement (P.34) Protecting the Environment (P.54-69) <u>Green Building</u>	•
	302-1	Energy consumption within the organisation	Key Statistics (P.100,103)	•
	302–4	Reduction of energy consumption	Protecting the Environment (P.66-68) Green Building	•
	302-5	Reductions in energy requirements of products and services	Protecting the Environment (P.69)	•
	G4-0G3	Total amount of renewable energy generated by source	Protecting the Environment (P.69)	•
303: Water 2016	103	Management approach	Stakeholder Engagement (P.34) Protecting the Environment (P.54-61, 70) Green Building	•
	303-1	Water withdrawal by source	Key Statistics (P.101)	•
	303-2	Water sources significantly affected by withdrawal of water	There was no withdrawal of surface or groundwater. All water consumed in Hong Kong is either collected through our rainwater harvesting system or purchased and distributed by the HKSAR Water Supplies Department.	•
	303-3	Water recycled and reused	Protecting the Environment (P.70)	•
304: Biodiversity 2016	103	Management approach	Protecting the Environment (P.73)	•
305: Emissions 2016	103	Management approach	Stakeholder Engagement (P.34) Protecting the Environment (P.54-69) <u>Carbon Management</u>	•
	305-1	Direct (Scope 1) GHG emissions	Protecting the Environment (P.66-68) Key Statistics (P.100,103)	•
	305-2	Energy indirect (Scope 2) GHG emissions	Protecting the Environment (P.66-68) Key Statistics (P.100, 103)	•
	305-4	GHG emissions intensity	Protecting the Environment (P.66-68)	•
	305-5	Reduction of GHG emissions	Protecting the Environment (P.66-68)	•
	305-7	NOx, SOx, and other significant air emissions	Key Statistics (P.100,103)	•

GRI Standards/ Material Topics	Disclosı	ıres	Cross Reference/Information	Externa Assurar
306: Effluent and Waste 2016	103	Management approach	Stakeholder Engagement (P.34) Protecting the Environment (P.54-61, 71-72) Waste Management	•
	306-1	Water discharge by quality and destination	Key Statistics (P.100, 103)	•
	306-2	Waste by type and disposal method	Key Statistics (P.100, 103)	•
	306-3	Significant spills	Protecting the Environment (P.70)	•
	306-4	Transport of hazardous waste	Key Statistics (P.101, 103)	•
	306-5	Water bodies affected by water discharges and/or runoff	No water bodies were significantly affected by our Hong Kong operation.	•
Products and Services	G4-0G5	Volume and disposal of formation or produced water	In 2018, our Hong Kong operation did not involve formation or produced water.	•
	G4-0G7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal	In 2018, our Hong Kong operation did not involve drilling waste.	•
	G4-OG8	Benzene, lead and sulfur content in fuels	The composition of town gas is regulated by the Environmental Protection Department, and the benzene, lead and sulphur content did not exceed the permitted levels during the reporting period.	•
307: Environmental Compliance 2016	103	Management approach	Stakeholder Engagement (P.34) Protecting the Environment (P.60)	•
	307-1	Non-compliance with environmental laws and regulations	Protecting the Environment (P.60)	•
308: Supplier Environmental Assessment 2016	103	Management approach	Governance and Risk (P.28-29)	•
400: Social				
401: Employment	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.74-80)	•
2016	401-1	New employee hires and employee turnover	Key Statistics (P.99, 105)	•
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Creating Value for the Society (P.83)	•
402: Labour/ Management	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.82)	•
Relations 2016	402-1	Minimum notice periods regarding operational changes	Creating Value for the Society (P.82)	•
403: Occupational Health and Safety 2016	103	Management approach	Stakeholder Engagement (P.34) Ensuring Health and Safety (P.36-49) <u>HSE Policy</u>	•
	403-1	Workers representation in formal joint management-worker health and safety committees	Ensuring Health and Safety (P.42)	•
	403-2	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Ensuring Health and Safety (P.44) Key Statistics (P.97, 103)	•

GRI Standards/ Material Topics	Disclos	ures	Cross Reference/Information	External Assurance
404: Training and Education 2016	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.74-79, 83-85)	•
	404-1	Average hours of training per year per employee	Key Statistics (P.99)	•
	404-2	Programmes for upgrading employee skills and transition assistance programmes	Creating Value for the Society (P.83-85)	•
	404-3	Percentage of employees receiving regular performance and career development reviews	Key Statistics (P.99)	•
405: Diversity and Equal	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.74-81)	•
Opportunity 2016	405-2	Ratio of basic salary and remuneration of women to men	Creating Value for the Society (P.81) Key Statistics (P.98-99, 104-105)	•
406: Non- discrimination	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.74-81)	•
2016	406-1	Incidents of discrimination and corrective actions taken	Creating Value for the Society (P.81)	•
407: Freedom of Association and Collective Bargaining 2016	103	Management approach	Creating Value for the Society (P. 82)	•
408: Child Labour 2016	103	Management approach	Stakeholder Engagement (P.34) Governance and Risk (P.27)	•
	408-1	Operations and suppliers at significant risk for incidents of child labour	Governance and Risk (P.27)	•
409: Forced or Compulsory	103	Management approach	Stakeholder Engagement (P.34) Governance and Risk (P.27)	•
Labour 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	Governance and Risk (P.27)	•
413: Local Communities 2016	103	Management approach	Ensuring Health and Safety (P.50, 53) Creating Value for the Society (P.74-79, 90-95) District Council Focus Team Social Projects Towngas Concession Schemes	•
	413-1	Operations with local community engagement, impact assessments and development programmes	Creating Value for the Society (P.90-95)	•
	413-2	Operations with significant actual and potential negative impacts on local communities	Ensuring Health and Safety (P.50-53)	•
	G4- OG11	Number of sites that have been decommissioned and sites that are in the process of being decommissioned	In 2018, our Hong Kong operation did not involve such sites.	•

GRI Standards/ Material Topics	Disclos	sures	Cross Reference/Information	External Assuran	
414: Supplier Social Assessment 2016	103	Management approach	Governance and Risk (P.28-29)	•	
416: Customer Health and Safety 2016	103	Management approach	Stakeholder Engagement (P.34) Ensuring Health and Safety (P.36-39, 50-53) Ensuring Health and Safety (P.36-42, 50-53) <u>Customer Safety</u> <u>Public Safety</u>	•	
	416-1	Assessment of the health and safety impacts of product and service categories	Ensuring Health and Safety (P.49-50)	•	
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	In 2018, there were no recorded incidents of non-compliance.	•	
417: Marketing and Labelling	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.87)	•	
2016	417-2	Incidents of non-compliance concerning product and service information and labelling	Creating Value for the Society (P.87)	•	
	417-3	Incidents of non-compliance concerning marketing communications	Creating Value for the Society (P.87)	•	
418: Customer Privacy 2016	103	Management approach	Stakeholder Engagement (P.34) Creating Value for the Society (P.86-87) <u>Privacy Policy Statement</u>	•	
	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Creating Value for the Society (P.87)	•	
419: Socioeconomic	103	Management approach	Stakeholder Engagement (P.34) Governance and Risk (P.25-26)	•	
Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	In 2018, there were no recorded incidents of non-compliance.	•	
Emergency Preparedness	103	Management approach	Stakeholder Engagement (P.34) Ensuring Health and Safety (P.50, 52-53) <u>Public Safety</u>	•	
Asset Integrity and Process Safety	103	Management approach	Stakeholder Engagement (P.34) Ensuring Health and Safety (P.36-42, 50-52) <u>Network Safety</u>	•	
	G4- OG13	Number of process safety events, by business activity	Stakeholder Engagement (P.34) Ensuring Health and Safety (P.50-53)	•	
Fossil Fuel Substitutes	103	Management approach	Protecting the Environment (P.65) Landfill Gas	•	
	G4- OG14	Volume of biofuels produced and purchased meeting sustainability criteria	Protecting the Environment (P.65)	•	

Environmental, Social and Governance Reporting Guide (ESG Guide) of SEHK **Content Index**

This Report was prepared in accordance with the "comply or explain" provisions and "recommended disclosures" of the ESG Guide, contained in Appendix 27 to the Listing Rules of The Stock Exchange of Hong Kong Limited.

Aspects	General Dis	closures and KPIs	Cross Reference/Information
A. Environmer	ntal		
A1 Emissions	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non- hazardous waste 	Protecting the Environment (P.60) <u>HSE Policy</u> <u>Carbon Management</u>
	A1.1	The types of emissions and respective emissions data	Key Statistics (P.100, 103)
	A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity	Protecting the Environment (P.66-68) Key Statistics (P.100, 103)
	A1.3	Total hazardous waste produced (in tonnes), and where appropriate intensity	Key Statistics (P.101, 103)
	A1.4	Total non-hazardous waste produced and intensity	Key Statistics (P.101, 103)
	A1.5	Description of measures to mitigate emissions and results achieved	Protecting the Environment (P.54-72)
	A1.6	Description of how hazardous and non- hazardous wastes are handled, reduction initiatives and results achieved	Protecting the Environment (P.71-72) <u>Waste Management</u>
A2 Use of Resources	General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	Protecting the Environment (P.60) <u>HSE Policy</u> <u>Green Building</u>
	A2.1	Direct and/or indirect energy consumption by type in total and intensity	Key Statistics (P.100, 103)
	A2.2	Water consumption in total and intensity	Key Statistics (P.101, 103)
	A2.3	Description of energy use efficiency initiatives and results achieved	Protecting the Environment (P.66-68)
	A2.4	Description of issue in sourcing water, water efficiency initiatives and results achieved	Protecting the Environment (P.70) There was no issue in sourcing water that is fit for purpose in our Hong Kong operations.
	A2.5	Total packaging material used for finished products	Key Statistics (P.100)
A3 The Environment	General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources	Protecting the Environment (P.60) HSE Policy
and Natural Resources	A3.1	Description of the significant impacts of activities on the environment and natural resources and actions taken to manage them	Protecting the Environment (P.54-73)

Aspects	General Dis	closures and KPIs	Cross Reference/Information
B. Social			
Employment a			
B1 Employment	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare 	Creating Value for the Society (P.80-81)
	B1.1	Total workforce by gender, employment type, age group and geographical region	Key Statistics (P.98, 104)
	B1.2	Employee turnover rate by gender, age group and geographical region	Key Statistics (P.98, 104)
B2 Health and Safety	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards	Ensuring Health and Safety (P.42 HSE Policy
	B2.1	Number and rate of work-related fatalities	Ensuring Health and Safety (P.44 Key Statistics (P.97,103)
	B2.2	Lost days due to work injury	Ensuring Health and Safety (P.44 Key Statistics (P.97,103)
	B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored	Ensuring Health and Safety (P.43-49)
B3 Development and Training	General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	Creating Value for the Society (P.83-85)
	B3.1	Percentage of employees trained by gender and employee category	Key Statistics (P.99)
	B3.2	Average training hours completed per employee by gender and employee category	Key Statistics (P.99)
B4 Labour Standards	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour	Governance and Risk (P.27) Our managers are entrusted to observe and practise in full compliance with matters related to these two areas. Ongoing monitoring and regular auditing
	B4.1	Description of measures to review employment practices to avoid child and forced labour	are also in place.
	B4.2	Description of steps taken to eliminate such practices when discovered	Governance and Risk (P.27)



Aspects	General Dis	closures and KPIs	Cross Reference/Information
Operating Prac	tices		
B5 Supply Chain Management	General Disclosure	Policies on managing environmental and social risks of the supply chain	Governance and Risk (P.28-29) <u>CSR Code of Practice for</u> <u>Suppliers</u>
	B5.1	Number of suppliers by geographical region	Governance and Risk (P.28)
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where and how the practices are being implemented and monitored	Governance and Risk (P.28-29)
B6 Product Responsibility	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress 	Ensuring Health and Safety (P.42, 50-53) Creating Value for the Society (P.86-87) <u>Customer Safety</u> <u>Privacy Policy Statement</u> <u>Service Pledge</u>
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	No relevant case was recorded.
	B6.2	Number of products and service related complaints received and how they are dealt with	Key Statistics (P.102) <u>Service Pledge</u>
	B6.3	Description of practices relating to observing and protecting intellectual property rights	Governance and Risk (P.27) <u>Code of Conduct</u>
	B6.4	Description of quality assurance process and recall procedures	Ensuring Health and Safety (P.50-53) Creating Value for the Society (P.88-89) <u>Total Solution Services</u>
	B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	Creating Value for the Society (P.86-87) <u>Privacy Policy Statement</u>
B7 Anti- corruption	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	Governance and Risk (P.26) Corporate Governance
	B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	In 2018, there were no concluded legal cases regarding corrupt practices.
	B7.2	Description of preventive measures and whistle- blowing procedures, how they are implemented and monitored	Governance and Risk (P.26) Whistleblowing Policy
Community			
B8 Community Investment	General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests	Creating Value for the Society (P.90-91) <u>Social Projects</u>
	B8.1	Focus areas of contribution	Creating Value for the Society (P.90-95)
	B8.2	Resources contributed to the focus area	Creating Value for the Society (P.90-95) Key Statistics (P.102, 105)



Appendix I: Our Roles and Services

Hong Kong Gas Business	
The Hong Kong and China Gas Company Limited	 Gas production ar Marketing and sa Comprehensive a
Towngas Engineering Academy	• Technical and pro
Quality Testing Services Limited	• Appliance and PE
Mainland Utilities Business	
Hong Kong & China Gas Investment Limited	 Management of T
Hong Kong and China Water Limited	 Management of w
Towngas China Company Limited	• Focus on piped ci
Towngas Engineering Academy	• Technical and pro
New Energy Business	
ECO Environmental Investments Limited	 LPG, LNG and CN Construction and Hong Kong Exploration, resea environmentally fi coal-based chem Infrastructure and An oil exploration
Diversified Businesses	
GH-Fusion Corporation Limited (a joint venture with British Fusion Group)	 Manufacture and gas and water pip
G-Tech Piping System (Zhongshan) Company Limited	• Manufacture of qu
Towngas Telecommunications Company Limited	 Provision of teleconsolutions in Hong
U-Tech Engineering Company Limited	• Specialists in a va liquefied petroleu pipeline infrastru
P-Tech Engineering Company Limited	 Plant design and Planning and oper
M-Tech Metering Solutions Company Limited	 Development and industry
S-Tech Technology Holding Limited	 Product developm integration Provision of cloud technology product

and distribution ale of gas and gas appliances after-sales services

ofessional training

joint testing and gas meter calibration

Towngas investments in mainland China

water business investments in mainland China

ity gas projects in mainland China

ofessional training

NG filling stations in Hong Kong and mainland China d operation of ECO Aviation Fuel Facility (EAFF) in

earch, development and utilisation of new and friendly energy sources, such as coalbed methane, nical projects, tar oil and biomass activities nd logistics projects in mainland China n and production project in Thailand

I supply of polyethylene products and equipment for ping systems

quality polyethylene piping

communications infrastructure and quality network g Kong and mainland China

variety of projects, including building services, um gas projects, civil works, waterworks and other ucture projects

l construction eration of landfill gas utilisation projects in Hong Kong

d supply of smart metering solutions for the gas

ment, solution implementation and system

Id computing solutions and other information ucts as well as consulting services to companies



Appendix II: Memberships in Associations

Below is a list of exmples of the memberships held by Towngas.

Hong Kong and mainland China

- Association of Engineering Professionals in Society Ltd.
- British Chamber of Commerce in Hong Kong
- Business Environment Council Ltd.
- China Gas Association (Beijing)
- Employers' Federation of Hong Kong
- Federation of Hong Kong Industries
- Green Cross Group
- Hong Kong Association of Energy Engineers
- Hong Kong Bakery and Confectionery Association Ltd.
- Hong Kong Computer Society
- Hong Kong General Chamber of Commerce
- Hong Kong Green Building Council
- Hong Kong Institute of Human Resources Management
- Hong Kong Institute of Marketing
- Hong Kong Management Association
- Hong Kong Quality Management Association
- Hong Kong Retail Management Association
- Hong Kong Waste Management Association
- Institution of Fire Engineers (Hong Kong Branch)
- The Chamber of Hong Kong Listed Companies
- The Chinese General Chamber of Commerce
- The Chinese Manufacturers' Association of Hong Kong
- The Goods Vehicle Fleet Owners Association Ltd.
- The Green Earth Limited
- The Hong Kong Advertisers' Association
- The Institute of Purchasing & Supply of Hong Kong
- World Wide Fund for Nature Hong Kong

International

- Institution of Gas Engineers and Managers (IGEM)
- International Gas Union (IGU)
- World Energy Council
- World LP Gas Association

Appendix III: External Environmental, Social and Governance Charters and Initiatives

Charters and Initiatives	Issuing Bodies	
Corporate Governance		
Companies Ordinance, Chapter 622 of the laws of Hong Kong		
Securities and Futures Ordinance, Chapter 571 of the laws of Hong Kong	The Government of the Hong Kong Special Administrative Region	
Corporate Governance Code, Appendix 14 to the Listing Rules		
Environmental, Social and Governance Reporting Guide, Appendix 27 to the Listing Rules	The Stock Exchange of Hong Kong Limited	
Environment		
Carbon Footprint Repository for Listed Companies in Hong Kong		
Carbon Reduction Charter: Carbon Audit • Green Partners	Environment Bureau	
Energy Saving Charter	Environment Bureau and Electrical and	
4Ts Charter	Mechanical Services Department	
Hong Kong Green Organisation		
IAQwi\$e Label	Environmental Campaign Committee	
Wastewi\$e Label	1	
"Let's save 10L Water" Campaign	Water Supplies Department	
Sustainable Procurement Charter	Green Council	
Hong Kong Zero Carbon Partnership	The University of Hong Kong	
Innovation Partner of CarbonCare Open Innovation Lab	CarbonCare InnoLab	
Green Bottle Charter	The Green Earth	
Hong Kong Green Shop Alliance	The Hong Kong Green Building Counc	
Occupational Health & Safety		
Safety Charter		
International Safe Workplace Program	Occupational Safety and Health Counci	
Charter on Preferential Appointment of OSH Star Enterprises		
Joyful@Healthy Workplace Charter		
Social Responsibility		
Barrier-free Company	The Hong Kong Council of Social Servi	
Talent-Wise Employment Charter and Inclusive Organisations Recognition Scheme	Labour and Welfare Bureau	





13 VERIFICATION STATEMENT

Scope and Objective +

Hong Kong Quality Assurance Agency ("HKQAA") was commissioned by The Hong Kong and China Gas Company Limited ("Towngas") to undertake an independent verification for the Sustainability Report 2018 (hereinafter called "the Report"). The Report stated the economic, safety, environmental and social performance of Towngas in the period of 1st January 2018 to 31st December 2018 for its operations within Hong Kong and outside Hong Kong.

The aim of this verification is to provide a reasonable assurance on the reliability of the report contents. The Report has been prepared in accordance with the Core Option of the GRI Sustainability Reporting Standards (GRI Standards) and the GRI G4 Oil and Gas Sector Disclosures as well as the Environmental, Social and Governance Reporting Guide ("ESG Guide") of The Stock Exchange of Hong Kong Limited.

Level of Assurance and Methodology -

The process applied in this verification was based on the International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. Our evidence gathering process was designed to obtain a reasonable level of assurance as set out in the standard for the purpose of devising the verification conclusion. The extent of this verification process undertaken covered the criteria set in the GRI Standards: Core Option and GRI G4 Oil and Gas Sector Disclosures, as well as the ESG Guide.

The verification process included verifying the systems and processes implemented for collecting, collating and reporting the sustainability performance data, reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the reporting contents and verifying selected representative sample of data and information. Raw data and supporting evidence of the selected samples were also thoroughly examined during the verification process.

Independence +-

Towngas is responsible for the collection and presentation of the information presented. HKQAA does not involve in the collection and calculation of data or the compilation of the reporting contents where HKQAA's verification activities were entirely independent from Towngas. There was no relationship between HKQAA and Towngas that would affect the independence of HKQAA for providing the verification service.

Conclusion +

Based on the verification results and in accordance with the verification procedures undertaken, HKQAA has obtained reasonable assurance and is in the opinion that:

- The Report has been prepared in accordance with the GRI Standards: Core Option, the GRI G4 Oil and Gas Sector Disclosures, as well as the ESG Guide;
- The Report illustrates the sustainability performance of Towngas, covering all material aspects, in a balanced, comparable, clear and timely manner; and
- The data and information disclosed in the Report are reliable and complete.

Nothing has come to HKQAA attention that the selected sustainability performance information and data contained in the Report has not been prepared and presented fairly and honestly, in all material aspects, in accordance with the verification criteria.

Towngas has been actively engaging its key stakeholders and continuously creating mutual trust in the society where it operates. In conclusion, the Report reflects appropriately the commitments and involvement of Towngas towards sustainable development.

Signed on behalf of Hong Kong Quality Assurance Agency

Jorine Tam Director, Corporate Business April 2019







香港中華煤氣有限公司



If you have any questions or feedback, we would very much like to hear from you. Please fill in the <u>online questionnaire</u> or contact us:

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