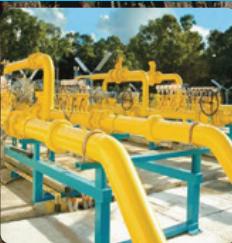
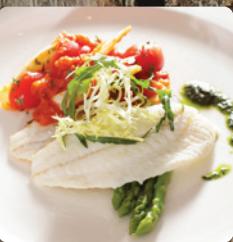
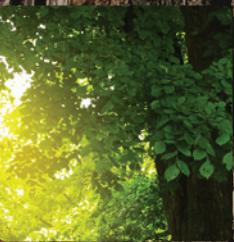




TOWNGAS SUSTAINABILITY REPORT 2012



煤氣
Towngas

Greening up your life



Managing Director's Message

2012 was a landmark year for the TOWNGAS group.

On 3 June 2012, we celebrated our 150th birthday, and during the year, we were listed as one of the world's top 500 companies by the prestigious Financial Times. With over 150 years of history behind us and as our business continues to grow and prosper, this proves that TOWNGAS is here to stay!

No business can be sustainable without an ongoing commitment and responsibility towards our planet and environment, or the communities that we live, work and serve in. This Sustainability Report thus covers our efforts to preserve, protect and improve our environment whilst also showing that we will build ongoing respect, trust and partnership with our stakeholders and our communities.

In our environmental activities, we are helped by the fact that gas is a much cleaner form of energy than other energy alternatives. In fact natural gas, which forms the basis of 55% of our activities in Hong Kong and almost all of our city-gas businesses in mainland China, is the cleanest fossil fuel available today. Together with our eco and new energy initiatives, which ranges from our landfill gas utilisation to our coalbed methane as well as our clean coal activities, we are increasingly being recognised as a significant player in the world of green energy.

Walking this talk, this green mindset forms an intrinsic part of our operations. We strive to lower the carbon emission in production process to improve the air quality. Our mainland Carbon Reduction Competition provides an example – under this initiative which is now in its third year, around 26,000 tonnes of carbon emissions are



Alfred W K Chan
Managing Director

being saved in our mainland operations every year. In our 150th anniversary year, we were particularly active on the social and community front, involving our numerous stakeholders in our celebrations, whilst also thanking them for their loyalty, help and support over the years. For our staff, these activities took place under our "Wenxin" warmth and care programme, which not only aimed to improve staff well-being but also to highlight their role as important members of our Towngas family.

Within the community, Hong Kong experienced an entirely new form of urban art with the installation of 150 creative and artistic pit covers throughout the territory's streets. Customers, students, community organisations, local and international artists, as well as the general public, were all involved in creating, implementing and enjoying this new form of street art in a series of activities and events.

Needless to say, for these programmes to be effective, they cannot be carried out in isolation from other activities taking place within the community. We continue to receive numerous awards and recognitions. We are also keen to hear what our stakeholders have to say, so, if you have any comments or questions, please just let us know. With your feedback and suggestions, we can make sure that our activities and programmes will better meet the needs of our customers and our community.

Alfred W K Chan
Managing Director

About This Report

Our Sustainability Report covers our vision, mission, management and corporate governance policies, together with the implementation of our corporate social responsibilities, from our economic sustainability, environmental sustainability to our social sustainability activities.

In publishing this report, our aim is not simply to provide a factual statement of our activities. Rather in sharing this information, we hope to enrich our programmes with the knowledge, experience and feedback of our stakeholders and the community. At the same time, this annual overview provides an opportunity to take a look at ourselves and our performance while also revisiting our programmes and policies. A major objective of this report is also to seek the comments and feedback of our readers.

Saving both cost and resources and reaching the widest possible audience, this report is published electronically every year. A printed summary version is also available for those with limited access to the Internet.

Scope of This Report

This Sustainability Report 2012 deals with our achievements and successes as well as the challenges faced across our operations in Hong Kong and mainland China from 1 January 2012 to 31 December 2012. At the same time, the clear depiction of our goals and targets both for 2013 and beyond, highlights our strategy and approach for the years ahead.

Further details of our financial performance can be found in our Annual Report 2012. Re-statements of information, provided again for consideration and reference, have been highlighted. Statistics are presented in absolute figures and have been normalised to present a comparable picture where appropriate and applicable.

To provide a clear and balanced view of our activities and performance, this Report covers Towngas' material sustainability issues while also taking the comments and views of our stakeholders into consideration. It has also been examined by an independent verifier, who apart from validating the information also confirms its impartiality, accuracy and reliability. This third party verification, together with the verifier's opinion and views, can be found at the verification statement section in this report.

Global Reporting Initiatives (GRI) Content Index

Making sure that this report is clear, easy to read and understand while also conforming to international standards, it has been prepared in accordance with all Global Reporting Initiatives (GRI) and Guidelines.

Report Section	Standard Disclosure Requirements Covered
1. Managing Director's Message	1.1
2. About this Report	2.9, 3.1, 3.2, 3.3, 3.5, 3.6, 3.9, 3.10
• Scope of this Report	3.13
• GRI Content Index	3.12
3. 2012 Highlights	2.8
4. Business Overview	2.1, 2.3, 2.7, 2.8, 2.10 EC - DMA
Our Role and Services	2.2, 2.5
• The Hong Kong Gas Business	2.8
• Mainland Utility Businesses	2.8
• New Energy Businesses	2.8
• 2012 Business Highlights	EC1
5. Our Vision for Sustainability	1.2, 4.6, 4.8 EC – DMA, SO – DMA, PR – DMA
• Corporate Governance	4.1, 4.3, 4.5, 4.6
• HSE & Risk Management	4.9, 4.11, EC2, LA6,
• Stakeholder Engagement	4.4, 4.13, 4.14, 4.16 (partial), SO5, PR5 (partial)
6. Environmental Performance	EC2, EN28, EN- DMA EN6, EN16, EN18, EN20, EN26 4.12, EN3, EN4, EN5, EN6, EN7, PR1
• Clean Energy	
• Reducing our Carbon Footprint & Conserving Resources	
• Waste Management	EN2 (partial)
• In Partnership with our Stakeholders	EN6, PR3
• Project Management	SO1



7. Safety Performance	LA- DMA, PR- DMA, SO8
• Our Gas Infrastructure	PR1
• Customer Safety	
• Occupational Health and Safety	4.12, LA7, LA8
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8. Social Performance	LA- DMA, SO- DMA,
• Human Resources	2.4, 2.8, LA1 (partial), LA2 (partial),
	LA3, LA7, LA11, LA12 (partial), SO4, SO8, HR4, HR6, HR7,
	HR11
• Community Services	4.13, EC8
• Supply Chain Management	4.13, HR1, HR2
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9. Review of 2011 Targets	
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10. Future Targets and Initiatives	1.2
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11. Key Statistics	EC1, EN2 (partial), EN3, EN4, EN5, EN16, EN20, EN21, LA7,
	LA 10 (partial)
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12. Verification Statement	3.13
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13. Your Feedback	2.4, 3.4

2012 Highlights



Celebrated our
150th Anniversary

Listed as a Global

500 

company by the
Financial Times

Listed as a constituent stock on



the **Hang Seng Corporate
Sustainability Index Series**

Hong Kong

Carbon intensity
reduced by

23% 

compared with 2005

Our lowest safety
record

7 

cases

68,508 

volunteer service hours

150 

artistically designed
gas pit-covers
installed in streets

Mainland China

150 

customer accounts
14.82 million

Annual saving of

26,000 

tonnes

carbon emissions under the mainland
"Carbon Reduction Project Competition"

Number of serious
gas-related incidents
fell by

20% 

compared with 2011

Over

70% 

of our companies have
volunteer service teams

Business Overview

- Hong Kong Gas Business
- Mainland Utilities Businesses
- New Energy Businesses
- 2012 Business Performance Highlights

The Hong Kong and China Gas Company Limited (Towngas) was founded in 1862 to provide lighting for the streets of Hong Kong. Going strong more than 150 years later, Towngas has grown and expanded into a major supplier of energy, not only in Hong Kong but also in mainland China. Highlighting this leadership not only in the region but also on the international stage, we were named as a Top 500 company by the prestigious Financial Times for the first time during the year. We were also the only Asian company to be included in the "Gas, Water & Multi-utilities" sector.

Commencing life as a small company with an initial capital of just £35,000, our operations now include more than 150 projects with a market value of well over HK\$190 billion. With over 39,100 employees, we currently provide both piped gas as well as other utility services to over 16 million customers, which translate into services to more than 50 million people in the greater China region. Today, we are not only one of the largest supplier of piped city-gas in mainland China, we are also an acknowledged player in the field of new, clean and alternative energy.



Corporate Awards and Recognitions

Financial Times Global 500 company, the only Asian company to be included in the "Gas, Water & Multi-utilities sector"

Hang Seng Corporate Sustainability Index Series – Constituent Stock : Towngas (0003.HK) and Towngas China (1083.HK)

Capital Weekly – Excellence of Listed Enterprise Awards 2012

Economy magazine, China Trade News, China Co-operation Times, the Chinese Industrial Economy Research Centre and Chinese Economy Innovation and Development Alliance – Most Competitive China City-gas Operator 2012

Finet Group and Tencent - Top 10 Stock Price Gainers in the Top 100 Hong Kong Listed Companies : Towngas China

Operational Statistics 2012

	Hong Kong	Mainland China
Number of Customers	1.78 million	14.8 million
Total Gas Sales	28,360 million megajoules	11.9 billion cubic metres
Distribution Network	3,506 km of gas pipelines	52,308 km of gas pipelines

Our Role and Services

Hong Kong Core Business

The Hong Kong and China Gas Company Limited	Gas production and distribution. Marketing and sale of gas and gas appliances. Comprehensive after-sales services.
Towngas Engineering Academy	Technical and professional training.
Quality Testing Services Limited	Appliance testing and gas meter calibration.

Mainland Gas Businesses

Hong Kong & China Gas Investment Limited (HCGIL)	Management of Towngas investments in mainland China.
Towngas China Company Limited (TCCL)	Focus on city-gas projects on the mainland.
Towngas Engineering Academy	Technical and professional training.

New Energy Businesses

ECO Environmental Investments Limited (ECO)	LPG, LNG and CNG filling stations in Hong Kong and mainland China. Building and operation of ECO Aviation Fuel Facility (EAFF) in Hong Kong. Exploration, research, development and utilisation of new and environmentally-friendly energy – coalbed methane, coal-mine methane, coal-based chemical projects, coal tar-oil and biomass activities, etc.
	Coal resources, infrastructure and logistic projects in mainland China. Oil exploration and production project in Thailand.

Diversified Businesses

Hong Kong & China Water Limited (Hua Yan Water)	Management of water business investments in mainland China.
GH-Fusion Corporation Limited (A joint venture with Fusion Group Limited)	Manufacture and supply of polyethylene products and equipment for gas and water piping systems.
G-Tech Piping System Company Limited (G-Tech)	Manufacture of quality polyethylene piping.
Towngas Telecommunications Company Limited (Towngas Telecom)	Provision of telecommunications infrastructure and data centre services in Hong Kong and mainland China.
U-Tech Engineering Company Limited (U-Tech)	Specialists in the installation of gas, water and drainage pipes and facilities; application of trenchless technologies for utilities replacement and rehabilitation; professional civil and building services engineering.
P-Tech Engineering Company Limited (P-Tech)	Plant design and construction. Planning and operation of landfill gas utilisation projects in Hong Kong.
M-Tech Metering Solutions Company Limited	Development and manufacture of electronic gas meters providing smart metering solutions for the gas industry.

Hong Kong Gas Business

With over 150 years of service behind us, our business in Hong Kong has grown and matured and today our customers enjoy high levels of service with a supply continuity rate of over 99.99%. Serving 1.78 million customers in the territory, service is provided by two production plants at Tai Po and Ma Tau Kok, with a total production capacity of 12.26 million standard cubic metres of gas a day, hand-in-hand with our distribution network, which consists of over 3,500 km of pipelines linking almost every corner of Hong Kong.

Total gas sales in the territory rose a slight 0.8% to 28,360 million megajoules of town gas in 2012. This slow growth was due to the warmer weather as well as the ongoing financial problems besetting Europe together with the knock on effect this has had on the Chinese economy. The commercial and industrial sector however continued to thrive. Working in close partnership with the sector, we added a number of new customers during the year, which led to an increase in industrial gas sales of 22.6% over 2011.



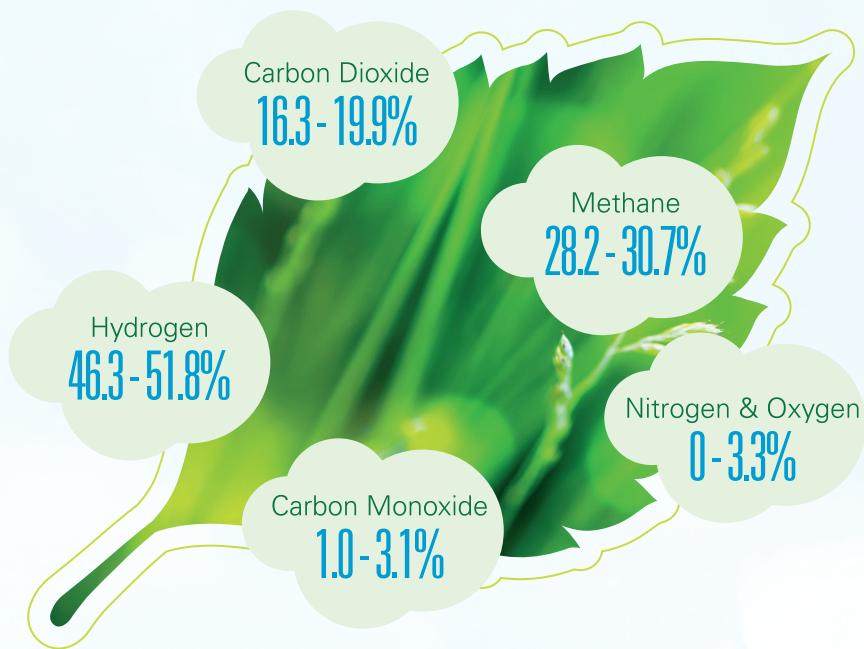
**Click to view
our geographic reach
in
Hong Kong**

In addition to providing quality gas services, our aim is to offer convenient and contemporary services that improve the quality of life for our users. A comprehensive network of Towngas customer centres thus provides easy, friendly and one-stop service access throughout Hong Kong. We focus on providing same-day installation and maintenance together with a comprehensive range of award-winning gas appliances that have been designed to meet every customer need. Making sure that we can be reached at any time, our customer service hotline is available around the clock, and customers can also get in touch with us anywhere and anytime digitally through the Internet or through our innovative smartphone apps.

Business Highlights

	2012	2011
Number of Customers as at 31st December	1,776,360	1,750,553
Town Gas Sales, million MJ	28,360	28,147
Installed Capacity, thousand m ³ per hour	511	511
Maximum Daily Demand, thousand m ³	6,403	6,742
Length of Gas Network, km	3,506	3,497

Town gas - Chemical Composition



Mainland Utilities Businesses

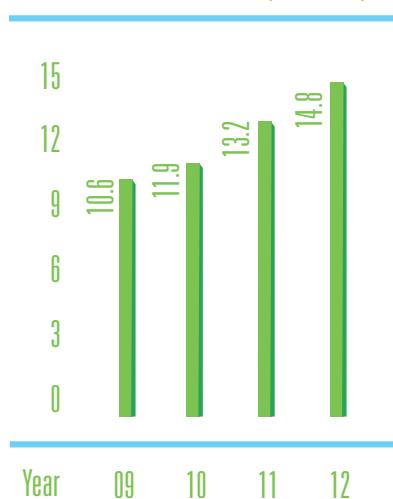
With the addition of a further 12 businesses, we operated a total of 150 projects in 22 provinces, municipalities and autonomous regions on the mainland in 2012.

The backbone of this portfolio consists of our piped city-gas businesses. Now consisting of 107 ventures providing service in 20 provinces, municipalities and autonomous regions to 14.8 million customers, sales rose to 11.9 billion cubic metres of city-gas in 2012. These figures cement our role as one of the largest provider of piped city-gas services in the country. These services are supported by a number of upstream and mid-stream facilities, and we have also diversified into the telecommunications, city-water and manufacturing services sector, in addition to our range of burgeoning new energy businesses.

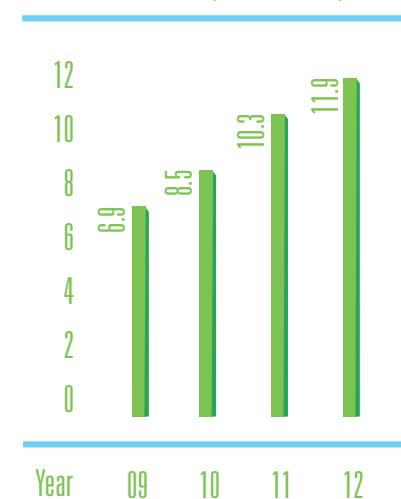
Click to view
our geographic reach
in
Mainland China



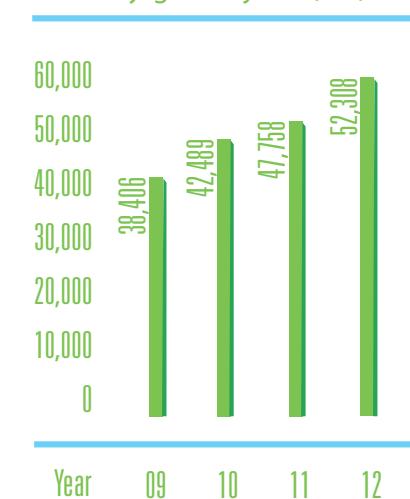
Number of City-gas Customers at 31st December (million)



Mainland Joint Venture Gas Sales (billion m³)



Length of Gas Network for City-gas Projects (km)



New Energy Businesses

ECO Environmental Investments Limited (ECO), our environmentally-friendly energy arm, has grown actively in recent years with the implementation and operation of a number of pioneering activities in the world of clean energy. Starting with just two projects in 2000, it is now involved in 22 businesses both in Hong Kong and on the mainland.

ECO is active in the energy-related logistics and infrastructure sector. Operating gas filling stations, it provides cleaner fuel for vehicles both in Hong Kong and mainland China. It also constructed and operates the ECO Aviation Fuel Facility (EAFF) which serves the fuel needs of the Hong Kong International Airport. With its throughput of 6 million tonnes of fuel a year, it is one of Hong Kong's largest energy infrastructure facilities. Moreover, the construction of a logistic port in Jining, Shandong province to link an upstream coal

transportation railway with a nearby downstream canal connecting Beijing and Hangzhou is nearly complete.

With a liquefied coalbed methane (LCBM) facility plant in Shanxi province as well as a coal-based methanol plant in Inner Mongolia, ECO continues to pioneer the transformation of renewable, waste and low value resources into useful and high-value energy. This portfolio will be expanding yet again in view of our growing interest in methanol processing and in conversion prospects for coke oven gas, tar oil, and biomass energy.

During 2012, we also extended our facilities in the upstream energy sector during the year, with the acquisition of an oilfield in Thailand. This oil exploration and production facility is our first overseas oilfield project.

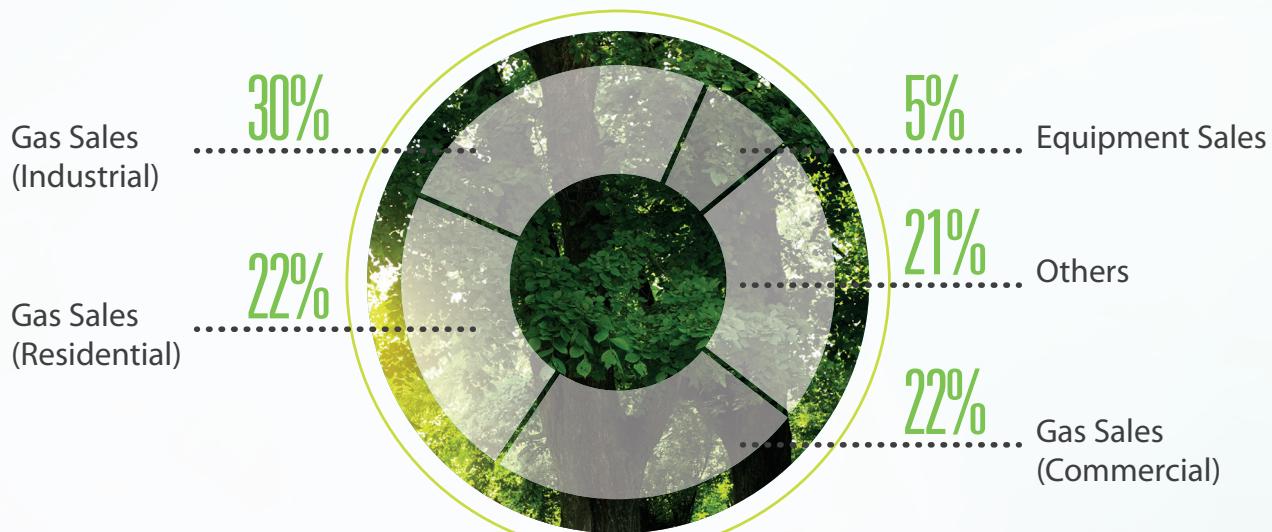


2012 Business Performance Highlights

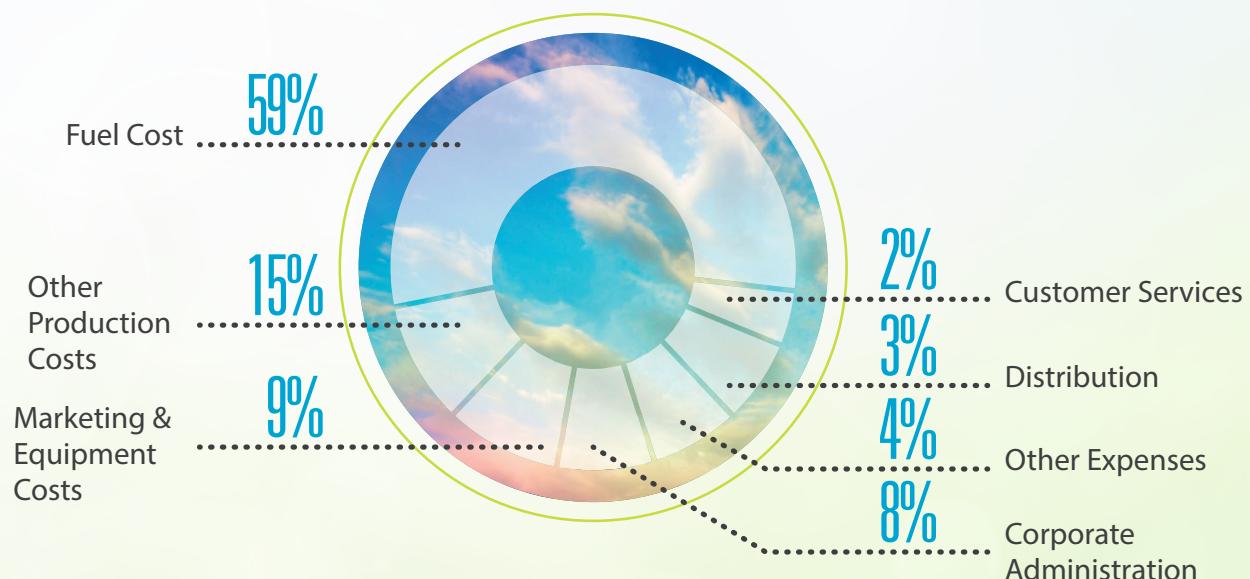
Financial Indicators 2012

Revenue	HK\$ 24,923 million
Capital Expenditure	HK\$ 6,438 million
Manpower Costs	HK\$ 1,997 million

Analysis of Revenue



Analysis of Expenditure





Our Vision for Sustainability

- Corporate Governance
- HSE and Risk Management
- Stakeholder Engagement

Corporate Governance and Corporate Social Responsibility (CSR) are essential to the success and sustainability of any modern business. Only by behaving ethically and responsibly can we earn the trust and loyalty of our customers and shareholders, business partners and community. Our CSR programme thus seeks to integrate our business needs and corporate values into an all-embracing strategy that takes environmental, social and economic sustainability into account in every aspect of our activities. This approach is based on our adherence to sound business and ethical principles – we are meticulous about disclosing accurate accounting and financial information and we comply with all relevant laws, listing rules, regulations, applicable codes and standards.

To this end, we follow a strict internal Code of Conduct, which provides guidelines on best practices and ethical behaviour in the areas of –

- bribery and corruption
- equal opportunities
- fair practices
- freedom of association and
- conflicts of interest.

Working with our business partners, to make sure that they reflect similar standards of behaviour, a CSR Code of Practice for suppliers has also been developed.



Corporate Governance

Seeking to offer the highest levels of corporate governance, in addition to the accountability, transparency and open communication imperative for a successful and effective corporate governance programme, we also take the needs of our stakeholders to heart. We therefore make every effort to act in their best interests when fulfilling our corporate governance responsibilities.

These activities extend to every level within the company with the Board of Directors acting as the highest governance body within Tenggas. Consisting of nine members including two Executive Directors and seven Non-executive Directors, three of whom are independent, the Board is accountable for all activities, strategies and the financial performance of the Group, in addition to maintaining good corporate governance throughout our activities. Three Board Committees also work with the Board, to help strengthen internal controls.

The Audit Committee reviews the company's current financial standing, considers the nature and scope of audit reports, and ensures that internal control systems operate in accordance with applicable standards and conventions.

The Remuneration Committee makes recommendations to the Board on the company's policy and structure for all Directors, and senior management (who are also executive directors of the company) remuneration. It also reviews and approves the special remuneration packages of all executive directors with reference to corporate goals and objectives resolved by the Board from time to time and determines, with delegated responsibility, the remuneration packages of individual executive directors.

The Nomination Committee reviews the structure, size and composition (including the skills, knowledge and experience) of the Board and makes recommendations on any proposed changes to the Board to complement the Group's corporate strategy. It also makes recommendations to the Board on nominations and appointment of Directors as well as assesses the independence of independent non-executive directors. It shall consider the candidate from a range of backgrounds on his/her merits and against objective criteria set out by the Board.

Directors' biographies, together with details of the composition and operation of the Board and its Committees, can be found in our [Annual Report 2012](#).

We complied with all code provisions set out in the Code on Corporate Governance Practices (the "Code") (formerly set out in Appendix 14 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules")) during the period from 1 January 2012 to 31 March 2012 and the Corporate Governance Code (the new edition of the Code, which is applicable to financial reports covering a period after 1 April 2012) during the period from 1 April 2012 to 31 December 2012.

HSE and Risk Management

Our safety activities guard against every potential risk – from possible gas leakages, fires and explosions to the everyday health and safety concerns more commonly found in routine commercial businesses. To this end, our health, safety and environment (HSE) practices take a dual approach. On the one hand, the safety of our operations and our infrastructure are given the topmost priority to ensure the safety of our people, our customers and the general public. On the other, building on our leadership in the industry, we play a driving role, working towards the highest standards of safety and professionalism throughout the global gas industry.

HSE Policy and Management Structure

Reflecting our ongoing commitment to the environment, in addition to our efforts to protect and preserve our planet and surroundings, our HSE policy was amended in 2012 to also include the issue of climate change.

Our HSE Policy

Under our HSE Policy, we pledge to conduct our operations in a manner which poses no risk to the health, well-being and safety of our employees, contractors, customers and the public at large and to make every effort to protect the environment and ensure sustainable development.

We therefore strive to

Ensure health and safety at work, and to minimise HSE and climate change risks.

Achieve a zero accidents rate as well as a high standard of environmental care through continuous improvement.

Eliminate HSE hazards in our operations, applications and services.

Carry out necessary HSE assessments to all major projects and to conduct regular HSE audits in our operations.

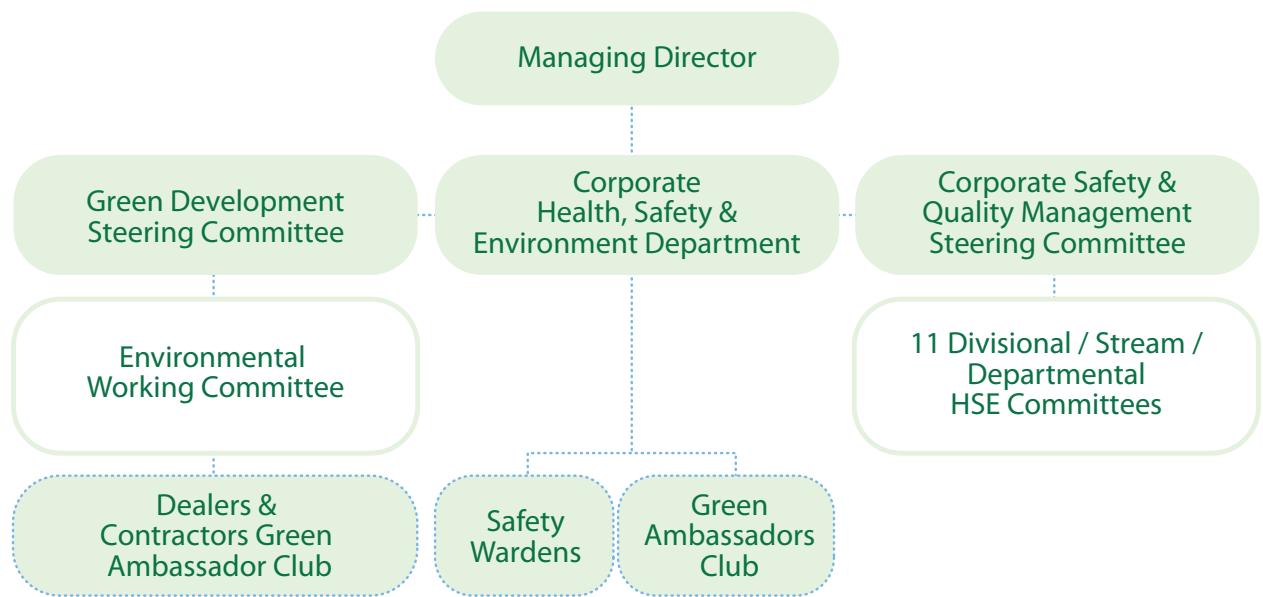
Promote HSE awareness and conscientiousness among employees, contractors and business associates through education and training.

Achieve full compliance with all relevant legislation.

Use environmentally-friendly materials and technologies, promote economic recycling of materials and conserve resources.

A dedicated Corporate HSE Department, supported by the Corporate Safety and Quality Management Steering Committee, Green Development Steering Committee and Environment Working Committee, is responsible for the management, monitoring and control of this policy, while all relevant stakeholders – employees, dealers and contractors, are kept up-to-date on the latest HSE information and programmes through our Green Ambassadors and Safety Wardens network. A comprehensive range of training and development programmes also help to drive greater environmental awareness as well as a safety mindset among our staff and business partners.

Our HSE Management Structure



HSE Departments in Hong Kong & China Gas Investment Limited (HCIL), Towngas China Company Limited (TCCL), ECO Environmental Investments Limited (ECO) and other individual companies, are responsible for their own HSE management and operation on the mainland. However, making sure that these activities and programmes work as a cohesive whole while also creating operational synergies, they are supported by the activities of our Corporate HSE Department in Hong Kong. According to the highest priority to these safety and risk management practices, all responsible departments report directly to the General Manager of the business concerned.

The Green Development Steering Committee looks into every aspect of our environmental performance while 20 Key Performance Indicators highlight the efficient use of energy, reduction of pollutant emissions, conservation of resources as well as the management and recycling of waste throughout our business.

Accreditations and Certifications

Making sure that our activities comply fully with regulatory requirements while delivering uncompromising quality and safety, we benchmark ourselves against the highest international standards, legislation and codes of practice. Over the years, we have gained global recognition and accreditation from the major quality and HSE management systems around the world for our business, management and operational practices. In line with the requirements of these systems, audits are carried out annually both by internal auditors and external certification bodies.

Management System Certifications

Company/Subsidiaries/ Joint Ventures	Standard	Year of Certification	Coverage
Hong Kong Operations			
The Hong Kong and China Gas Company Limited	International Safe Workplace Programme	2011	All Hong Kong operations
	ISO 14064-1	2008	All Hong Kong operations
	PAS 55-1	2007	Gas production plants, gas holders, transmission and distribution systems, service risers and meters
	OHSAS 18001	2005	All Hong Kong operations
	ISO 14001	1999	Tai Po Plant
	ISO 9001	1996	Tai Po Plant & Gas Transportation network
		1995	Ma Tau Kok Plant
		1994	Residential Projects
U-Tech Engineering Company Limited	OHSAS 18001	2007	Gas installations, underground utilities services, gas plant and trenchless works
	ISO 9001	2000	All Hong Kong operations
ECO Environmental Investments Limited	OHSAS 18001	2007	Shanxi ECO Coalbed Methane Plant
	ISO 9001	2008	Shanxi ECO Coalbed Methane Plant
	ISO 14001	2012	Shanxi ECO Coalbed Methane Plant
	OHSAS 18001	2008	LPG Filling Stations
	OHSAS 18001	2011	ECO Aviation Fuel Facility
	ISO 14001	2011	ECO Aviation Fuel Facility

On the mainland, 34 of our companies have also obtained ISO 9001, ISO 14001, OHSAS 18001 and GB/T 28001 certification.

Note:

GB/T28001

Occupational Health and Safety Management System standard, published by the Chinese Government.

International Safe Workplace Programme

Designated under the framework of the World Health Organisation Safe Community.

ISO 9001

Quality Management System standard, published by the International Standards Organisation.

ISO 14001

Environmental Management System standard, published by the International Standards Organisation.

ISO 14064-1

Greenhouse Gas Emissions and Removals Qualification and Reporting standard, published by the International Standards Organisation.

OHSAS 18001

Occupational Health and Safety Management System Specification, published by the British Standards Institution.

PAS 55-1

Asset Management – Specification for the Optimised Management of Physical Infrastructure Assets, published by the British Standards Institution.

Stakeholder Engagement

Making sure that we are not only accessible but also that we provide an open mind and a willing ear to hear what our customers, partners and the community have to say, we have established a comprehensive and diverse range of communication channels. These range from our Customer and District Focus Teams to industry, professional, investor and community programmes. This ongoing two-way dialogue has proven to be invaluable in generating mutual trust and fostering greater acceptance and understanding throughout our operations.

Building Trust and Partnership – Communicating with Our Stakeholders

Key Stakeholders	Communication Channels
Employees	<ul style="list-style-type: none"> Employee surveys Suggestion box, bulletins, newsletters, intranet, screensavers Meetings with employee union Issue-specific consultative sessions Superior Quality Service Programme Strategy Ambassadors Club in Hong Kong Green Ambassadors Club in Hong Kong Wenxin campaign in 2012 Social media platform such as Weibo in mainland China
Local Communities	<ul style="list-style-type: none"> District Council Focus Teams Community programmes District Fire Safety Committees Customer Focus Teams
Professional Bodies, Industry Peers, Regulators	<ul style="list-style-type: none"> Joint Utilities Safety and Occupational Health Policy Group (JU SOHPG) Joint Utilities Policy Group (JUPG) Climate Change Business Forum (Hong Kong) China Gas Association Gas Authority (GSO), EMSD The Hong Kong Institution of Engineers Polyethylene (PE) piping coalitions and International Organisation for Standardisation (ISO) Technical Committees on PE pipes and fittings Other professional institutions and business chambers
Customers	<ul style="list-style-type: none"> Newsletters, bill inserts, leaflets Maintenance visits, safety inspections, Customer Focus Team visits, safety talks Surveys and focus groups Publicity and community campaigns Management Offices/Incorporated Owners' Associations Customer Service Hotline and customer centres

Key Stakeholders	Communication Channels
Shareholders	<ul style="list-style-type: none">• Annual general meetings and investors' briefings• Interim and Annual Reports
Contractors and Suppliers	<ul style="list-style-type: none">• Ongoing audits• Management meetings• Green Ambassadors Clubs for dealers and contractors• Seminars and workshops• Mass communications
NGOs/Green Groups	<ul style="list-style-type: none">• Green partnership programmes and community programmes
Other Stakeholders	<ul style="list-style-type: none">• Sustainability Report and associated stakeholder dialogue in the report preparation stage• Company websites, social media and mobile phone networks• Publications and booklets• Visits to Towntgas facilities



Environmental Performance

- Clean Energy
- Reducing our Carbon Footprint & Conserving Resources
- Waste Management
- Project Management
- In Partnership with our Stakeholders

The problems of pollution, the depletion of world resources and climate change pose very real challenges not only for business institutions but also for every responsible individual across the world. As a major energy supplier, we are fully aware of these challenges. The need to be both environmentally-friendly and to preserve, protect and improve our environment is thus enshrined in our vision and mission. The provision of clean and green energy is an intrinsic part of our business strategy.

We comply fully with all relevant environmental guidelines, standards and legislation in our operations and we are pleased to report that, during the year, no environmental warnings or alerts of any kind were received.

Key Awards and Recognitions

Hong Kong Awards for Environmental Excellence – Gold Sectoral Award 2011 for Public Organisations and Utilities

Corporate Green Governance – Grand Award, Corporate Green Governance – Corporate Leadership Award and Green Management Award (Corporate) – Gold Award under the Hong Kong Green Awards 2012 by the Hong Kong Green Council

Distinguished Innovative Green Concepts Award and Distinguished Environmental Green Enterprises Award under the Green China Awards 2012 co-organised by Wen Wei Po, the United Nations' Environment Programme Foundation and environmental agencies in China

Eco Excellence Award 2012 - Energy supplier (Natural gas) by ECO Association

Hang Seng Pearl River Delta Environmental Award 2011/2012 – Silver Award

Clean Energy

Gas is a much cleaner source of energy than other energy alternatives. Coupled with the greater use of clean fuels such as natural gas, currently the cleanest fossil fuel available, our business is very much a green energy business. Building on these positive foundations, both the development and use of environmentally-friendly energy now form a growing element in our overall business strategy. With the headstart established in our landfill gas, coalbed methane and clean coal chemical activities, a major focus for the future is the turning of waste and low-grade materials into valuable sources of energy. Thus in addition to our existing activities, coke oven gas and coal-mine methane facilities, which are currently under construction, our new energy portfolio is expanding yet again with our crystallising interest in the tar oil and biomass industries.

A Green Energy Business

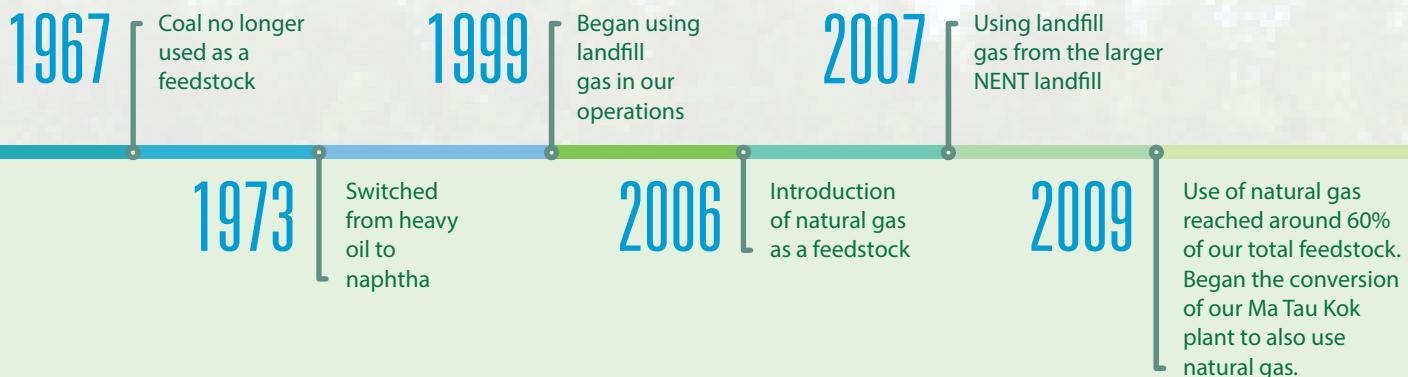
As a green energy business, we comply fully with internationally established environmental regulatory requirements and conform to leading world practices. Our Environmental Management System in Hong Kong, which covers our operations and operating systems, was thus accredited under the internationally acclaimed ISO 14001 environmental management system standard in 1999, certifying that our gas production processes are on par with the cleanest and most efficient industrial systems around the world.

Natural Gas

The journey to cleaner energy began in 1967 when coal was no longer used in the gas production process. A further step forward was taken in 1973 when naphtha began to replace the heavy oil then being used in Hong Kong. Because of its much lower sulphur content, this move reduced the emission of sulphur dioxide significantly. In 2006, with the opening of the Liquefied Natural Gas (LNG) Receiving Terminal in Guangdong province, we began using natural gas as a feedstock in Hong Kong. Natural gas significantly reduces pollutant emissions such as carbon dioxide (CO₂), nitrogen oxide (NO_x) and sulphur oxide (SO_x), which means improved air quality for Hong Kong while the reduced emissions mitigate against climate change and global warming concerns.

Work continues to cool the naphtha circulating within gas production process. As naphtha vapourises easily in the heat, lowering its temperature not only reduces vapourisation, it also lessens the emission of volatile organic compounds (VOCs) into the atmosphere.

Developments in Feedstock and Fuel (Hong Kong)



In our activities on the mainland, the emission of CO₂, SO_x and NO_x is minimal as natural gas provides the basis for our city-gas operations there. With the Chinese government's promotion of natural gas as the leading clean fuel of the future and as we expand our portfolio of city-gas businesses, our activities will make an ever increasing contribution towards a cleaner and greener environment throughout the country.



Vehicular Clean Fuel

In 2000, we began the building and operation of five dedicated liquefied petroleum gas (LPG) filling stations to serve Hong Kong's fleet of 18,000 taxis and most of light buses. The use of LPG reduces the emission of respirable suspended particulates and helps improve air quality. These activities have since expanded onto the mainland and we currently operate nine compressed natural gas (CNG) and liquefied natural gas (LNG) filling stations in Shaanxi, Shandong, Shanxi, Liaoning, Henan and Anhui provinces. These filling stations not only serve the fuel needs of heavy-duty trucks in the surrounding regions, but also provide an alternative source of supply for our city-gas businesses in the vicinity. Providing a much cleaner alternative to diesel fuel, we expect to see growing use in these fuels – currently five further filling stations are under construction and natural gas is increasingly being used to power other forms of transport.

Emission Levels of Gas Production Plants (Hong Kong)



1 "Equivalent Licensing Limit" (kg/TJ OR m³/TJ) = "Weighted average of actual licensing limit" (kg/hr or m³/hr) ÷ production rate of the plants for the year 2012 (TJ/hr).

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

Turning Waste into Energy

Landfill Gas

As the first organisation in Hong Kong to use landfill gas (LFG) on a commercial basis, we are a pioneer in the use of this “waste material”. In 1999, we began harvesting LFG from the Shuen Wan landfill site for use as a heating fuel in our operations. In 2007, these activities expanded to the much larger North East New Territories (NENT) landfill site, resulting in one of the largest examples of this “green” energy recovery and reuse in the world. Now accounting for about 2% of our total production fuel, we expect this usage to increase yet again when negotiations with the Hong Kong government with regard to the utilisation of LFG from the South Eastern New Territories (SENT) landfill site are completed.

The use of LFG not only reduces the release of greenhouse gases into the atmosphere – it currently saves 41,000 tonnes of carbon emissions a year and conserves around 13,400 tonnes of naphtha annually.

Coalbed Methane and Coal-mine Methane Activities

Based on the experience gained in the use of LFG, we have commissioned China’s first large-scale coalbed methane (CBM) liquefaction plant in Shanxi province. CBM, a natural gas found in coalbeds, like LFG, was traditionally considered a waste material and flared off on site. However using cryogenic technology developed in conjunction with a research institute, our



liquefaction plant converts the purified CBM into liquid form by freezing it to -162 degrees Celsius. The resulting liquefied coalbed methane (LCBM) is 600 times more concentrated in energy intensity, making it easily transportable by road tankers to wherever it is needed. The first tankers began to roll out in December 2008. With the opening of its phase-two facility in March 2011, it is now operating at its production capacity of 250 million cubic metres a year.

In view of the benefits of LCBM – it is a safe and environmentally-friendly energy providing a clean and quality fuel that is easily transportable, the extraction of CBM provides a safer working environment for miners, and it turns a highly polluting waste material into a valuable resource – we are exploring further opportunities in this market. In Guizhou province we have conducted an innovation test with promising results on surface extraction of CMB for coal mines of low permeability.

Alternative and Non-conventional Energy

Clean Coal Energy

We are also making our mark in the world of clean coal energy. Capitalising on the vast stores of coal in China, we have been looking into coal gasification techniques to create synthesis gas, which can be used in turn to create a range of useful products. Unlike the traditional burning of coal, which is highly polluting, the process is free from SO_x and NO_x emissions and any CO₂ generated is in such pure form that it can be easily captured and stored for other uses.

In 2010, our coal-based methanol plant was completed in Inner Mongolia. Currently undergoing pilot production with an annual production capacity of 200,000 tonnes of methanol, it provides a block feedstock which can easily be converted chemically into products such as gasoline or other oil products.



New Energy Developments

We are looking for new and more diverse ways to produce clean energy. As such, a new-energy research and development centre was established in 2010 – in addition to carrying out in-house research, the facility also works in close partnership with research and technology institutes both locally and around the world. Focusing actively on the use of renewable resources, waste materials and low-grade fuels to create high value resources and products, a number of projects are now nearing fruition.

One recent example is the upgrading of tar oil, a by-product in the coal carbonisation process, into clean vehicle fuels. A further benefit of this technology is that it can also be adapted to convert unconventional feedstocks into conventional energy products. With research being in good process, we expect to turn this project into a viable commercial proposition in 2013.

Our focus on organic and waste materials is also fuelling an increasing interest in biomass energy and the many developments taking place in this field. For instance, our team is currently testing an innovative approach to gasify agricultural waste, turning it into syngas for further conversion into clean fuels.

Reducing Our Carbon Footprint & Conserving Resources

Our Carbon Footprint

As one of Hong Kong's first Carbon Audit, Green Partners under the government's Green Hong Kong, Carbon Audit programme and a key endorser of its Carbon Reduction Charter, we completed our first carbon audit in 2008. We also extended the practice to our mainland businesses a year later in 2009. Carried out in line with the government's Guidelines to Account for and Report on Greenhouse Gas Emissions and Removal for Buildings in Hong Kong and The Greenhouse Gas Protocol from the World Business Council for Sustainable Development and the World Resource Institute, and verified under ISO 14064-1 specifications, the audit has proven to be invaluable. In addition to providing a baseline for the calculation of carbon emissions resulting from the gas production process, it has also enabled the establishment of carbon inventory accounting procedures. Since these initial exercises, carbon inventory and accounting exercises are carried out on an ongoing basis.

The winning project in our mainland Carbon Reduction Project Competition in 2012 recommended the collection of waste steam for use as heating in office buildings. With an implementation cost of just RMB400,000, this initiative will save around RMB4 million in energy costs every year.

Carbon Intensity (Hong Kong)

CO₂ emission per unit of town gas



One of our more innovative energy-saving and recycling projects is the heat recovery system at Tai Po, which collects the waste heat generated during the production process. The heat is then used to help warm the hot water boiler at our natural gas receiving station. The system's implementation saved more than 37 terajoules in energy last year, translating into the saving of 2,400 tonnes of carbon emissions and around HK\$6 million in fuel costs. In 2012, these activities were extended yet again to provide hot water in the showers at the plant. This heat recovery process not only saves energy and reduces emissions, but also helps create cooler surroundings as well as improve air quality.

The Carbon Reduction Project Competition which was first held by our mainland businesses in 2010 has proven to be so successful that it has been held on an annual basis since then. Now in its third year, the competition received 25 submissions in 2012, resulting in the saving of a further 3,000 tonnes of carbon emissions a year. A total of 110 submissions have been received under this initiative so far, saving up to 26,000 tonnes of carbon emissions annually. In addition to the cost-savings, this translates into the CO₂ absorbed by 1,130,000 trees every year.

Looking to reduce our carbon footprint even further while providing a greener choice for customers, we completed our study on the carbon footprint of a typical gas appliance during the year. The study took the entire life-cycle of the appliance into consideration from the acquisition, processing and use of raw materials to its manufacturing, storage, transport and distribution, as well as its actual usage, disposal and recycling possibilities. Assuming the whole product life span of a gas cooking appliance is 10 year, the study results showed that it is the appliance's usage phase that makes the largest contribution (more than 90%) to its carbon footprint. Factors affecting the emission include the quality of feedstock and fuels used during gas production process, efficiencies of production process and cooking appliances, as well as users' habits. With regard to the areas which lie under our operational control, we continue to look for opportunities and technologies to improve performances. At the same time, we are continuing the product carbon footprint study looking into possible methods which can help customers to save energy during cooking process. Our aim is to provide our customers with useful and practical gas saving tips based on scientific figures.

Conserving Resources

With the 5Rs principle – to Replace, Reduce, Reuse, Recover and Recycle – forming the basis of our conservation programmes, we make every effort to save energy, cut down the use of resources, recycle equipment and materials as well as reduce the generation of waste.



5Rs Principle

Carbon Footprint of a Typical Gas Appliance

Life Cycle Process	GHG Emission (CO ₂ e Kg)	Distribution
Raw Material	~30	~1%
Manufacturing	~9	<1%
Transportation and Storage	~2	<1%
Use	~3,200	~99%
End-of-life	~6	<1%
Total	<3,300	

Energy Saving Measures Implemented at TOWNGAS HEADQUARTERS

- Using timers to control lighting
- Optimising chilled water and room temperatures
- Eliminating excessive lighting
- Installation of motion sensors in low usage areas such as pantries, staircases, conference rooms, corridors and toilets
- Switching off electrical appliances including computers after office hours
- Keeping office temperatures at 25°C
- Installation of oil free water cooled centrifugal chiller plant
- Continuing the phased replacement of conventional lighting with energy efficient lighting
- Purchasing environmentally-friendly office appliances
- Replacing the remaining spotlights in the main lobby with LED lighting
- Installation of reflectors for fluorescent lighting in warehouses to reduce excess illumination

Saving Electricity

We strive to implement measures to improve our premises' energy efficiencies. Our headquarters in Hong Kong is classified as an Energy-efficient Building under Hong Kong's Energy-efficiency Registration Scheme. In 2010, the building gained its BEAM (Building Environmental Assessment Method) certification, Platinum Grade (version 5/04) and more recently, we have been working to achieve BEAM Plus certification. BEAM is Hong Kong's top tool for the assessment of a building's environmental performance from a full life-cycle perspective.

We make every effort to reduce our consumption of electricity. The large-scale introduction of LED lighting in our customer centres, which resulted in a two-thirds saving in electricity costs, is now complete. In view of these positive results, LED lighting is increasingly being introduced into other areas of our operations, and we are currently conducting a programme to install LED lighting in carparks. Together with the ongoing replacement of T8 lighting with T5 lighting, we saw an additional saving of some 476,226 kWh of electricity at our headquarters building during the year, lowering our CO₂ emissions by a further 333,358 tonnes. The use of high-efficiency induction lamps in our warehouses has also brought in annual savings of over HK\$100,000 in electricity costs and the reduction of 60 tonnes of greenhouse gas emissions.

Energy Consumption at Tawngas Headquarters

	2012	2011	2010	2009
Electricity (kWh)	6,913,514	6,840,479	6,945,154	7,177,509
Vehicle Fleet (Number)	485	485	487	492
Petrol (Litres)	604,430	653,864	686,669	710,692
Diesel (Litres)	378,541	313,810	281,945	264,246

We are also looking into reducing energy consumption in lifts while phase two in our programme to upgrade rooftop chiller systems into more environmentally-friendly water-cooled models will be implemented in 2013.

Saving Paper

With the greater use of digital communication, we are increasingly seeing our transition into a paperless operation. Our e-procurement practices reduce the need for paper specifications and contracts. Over the years, we have encouraged our customer to make the transition to eBilling – not only to save paper, but also postage costs and the energy required to deliver these bills. At the end of 2012, 65,013 customers have registered eBilling service, saving 9.75 tonnes of paper annually.

We are also making a conscious effort to go green in our general housekeeping. An effort is being made to also reduce the number of printers used throughout our operations. Moreover, our copier paper, company letterheads, envelopes, etc are made of recycled paper.

Saving Water

The upgrading of our systems has also helped conserve water – a reverse osmosis water treatment facility installed in our Tai Po Plant for example, saves more than 114,000 cubic metres of effluent water a year in comparison to the previous facility. In line with our BEAM activities, we are constantly looking for new ways to ensure the more efficient use of water in our buildings, regulating the flow of water in toilets for example, and we are studying the possibility of collecting rainwater at our production facilities, for the watering of plants and other similar uses.

Our headquarters building holds its Indoor Air Quality (IAQ) Good Class Certification from the Environmental Protection Department and IAQwi\$e Good Class Label from the Environmental Campaign Committee.

Waste Management

Highlighting our ongoing commitment to effective waste management, we received our "Class of Excellence" Wastewi\$e Label for the 11th consecutive year. Organised and managed by the Environmental Protection Department in Hong Kong, the scheme encourages and assists businesses to reduce the amount of waste they generate. Over the past 11 years, we have met 29 targets under this initiative. Our latest target for 2012 was the collection of 10 tonnes of waste cardboard.

Achievements – Wastewi\$e Scheme 2012

Since Dec 2000	
Paper saved from Bi-monthly billing	≥ 1,169 tonnes
Reduction in polyfoam packaging materials	≥ 123 tonnes
Polyfoam packaging materials recycled	≥ 150 tonnes
Spent catalysts recycled	> 506 tonnes
Since Dec 2003	
Disposed appliances recycled	> 8,122 tonnes

Recycling Programmes

Under our Used Appliance Recycling Programme, we offer free removal of old, unwanted equipment when installing new gas appliances in customer premises. This prevents these appliances from ending up in landfills. Rather they are sent to contractors, where they are safely taken apart for recycling. The revenue generated from these activities is invested in an environmental fund which contributes to ongoing environmental events, campaigns and training. In 2012, we recycled 926 tonnes of used appliance.

In view of our close association with the food industry, we are highly committed to the management of food waste. Thus, in addition to the installation of two food waste treatment machines at our restaurants, we are also working with the Food and Environmental Hygiene Department and relevant NGOs to look into the recycling of food waste.

Additional pursuits include the collection of plastic waste for recycling at the Yan Oi Tong Eco Park Plastic Recycling Centre, Hong Kong's government-subsidised plastic recycling plant, as well as the use of recycled protective tiles, made from concrete waste, to protect our underground pipes.

Major Types of Materials Collected for Recycling or Reuse

- Paper
- Plastic Chemical Drums
- Polystyrene Foam
- Old Gas Meters
- Abandoned Aquaknect Hoses
- Retired Uniforms
- Metal Drums
- Spent Laser Toner Cartridges
- Abandoned Service Pipes and Fittings
- Used Polyethylene Pipes
- Used Gas Appliances and Spare Parts
- Obsolete Rechargeable Batteries
- Spent Catalyst
- Computers
- Plastic Waste
- Retired Safety Helmets
- Used CDs/DVDs
- Spent Fluorescent Tubes

Project Management

In line with Hong Kong's Environmental Impact Assessment Ordinance (EIA Ordinance), we carry out EIA studies before the development of any major gas infrastructure project. These studies look into the project's impact on air quality, noise, construction waste, water quality, any hazards to life as well as potential effects on our cultural heritage. Together with the input of consultants and specialists, significant effort and time are invested in these studies, which not only explore the potential impact on the environment, but also recommend appropriate mitigation measures.

The resulting EIA report is then submitted to the Environmental Protection Department for approval.

We are currently relocating a pair of submarine gas pipelines from To Kwa Wan to North Point to cope with the South East Kowloon Development. Falling under this scheme, this project has gained its Environmental Permit together with other statutory approvals and licences.

Environmental Performance Table 2012 (Hong Kong)



All of our vehicle air-conditioning systems now operate with refrigerant R134A.

All BCF portable fire extinguishers have been replaced by dry powder extinguishers.



Total NOx output was 4.20 kg/TJ of town gas.

Total SOx output was 0.02 kg/TJ of town gas.

Total CO₂ output was 11.92 metric tonnes/TJ of town gas.



Greenhouse gas emission from major gas production equipment was 360,634 metric tonnes in terms of CO₂ equivalent.



Total wastewater output was 5.74 m³ /TJ of town gas.



Total chemical waste output was 1.23kg/TJ of town gas.



All installations and operations complied with the statutory requirements.

No noise abatement notice has ever been received.

All legal requirements relating to environmental protection were fully complied with.

In Partnership with our Stakeholders

In carrying out our green initiatives, our programmes must work in tandem with the activities of our stakeholders to maximise both efficiencies and synergies. In doing so, our aim is not simply to gain their participation and buy-in to our programmes. Rather our goal is to work in partnership with everyone we come into contact with, maximising both our, and their efforts to create synergies in the protection of our planet, surroundings and environment.

Our Employees and Contractors

As part of our green mindset, we encourage our employees to purchase and use green products and services, conserve natural resources and practice recycling. We also lead by example, carrying out green initiatives to promote awareness and drive greater green engagement. Making sure that this green message remains at the forefront of staff minds, environmentally-friendly tips are distributed through screensavers on work computers and on digital screens in lift lobbies.

Promoting a green lifestyle, organic vegetables are often on sale at our Towngas offices. Extending this initiative during the year, an organic farming promotion event was also held for contractors with 30 contractor staff joining a visit to an organic farm in July.

We also continued our eco talks and seminars, suggestion schemes and environmental awards as well as our eco tours and tree planting days. These programmes remain highly popular, not only among our employees and their families but also our suppliers and contractors.

Our Customers

We provide a comprehensive range of modern, eco-friendly and energy-efficient appliances that improve the quality of life for our customers. All our gas water heaters carry energy efficiency labels, having received approval from Electrical and Mechanical Services Department.



During the year, we launched our TGC Perfecto Series, consisting of a unique Vortex Built-in Hob and Infinity Water Heater for the home, as a special edition under our 150th Anniversary celebration programme. Using latest technology, the flame profile produced by Vortex Built-in Hob is designed to adapt to the shape of the Chinese Wok which results in a higher heat efficiency. In view of its qualities, the Vortex Built-in Hob won the 2012 Hong Kong Awards for Industries – Consumer Product Design while the water heater won a Japan Good Design Award 2012.

Our "Four Treasure" Cool kitchen series, consisting of the four most common appliances needed in a commercial Chinese kitchen – steam cabinet, food steamer, stockpot and wok range – also continued to do well. Using our proven waste-heat recovery and recycling technology, the energy consumption can be reduced up to 30%. More recently, we introduced another heat recovery device that can be fitted to a stockpot to recover flue heat – it is then used to heat water elsewhere in the kitchen.

On the mainland, our active programme of tree planting activities continued with the highlight being our “Towngas China Tree Zone” which was formed as part of our 150th Anniversary celebrations to plant 1,500 trees in area of 2,000 square metres in Guangzhou, Guangdong province where our earliest businesses were located.

Our partnership with Hong Kong’s Food & Beverage industry remains constant, with members of our F&B Environment Protection Group providing professional advice on saving energy, reducing emissions and maximising efficiencies to more than 800 small and mid-range restaurants during the year. At our Towngas Green Kitchen set up in 2011, our partners in the trade can not only experience the benefits of our Towngas commercial appliances and applications, but also meet our “green” consultants to look into tailor-made solutions for their specific needs.

In addition, our customer centres also offer high efficiency gas appliances as well as a wide variety of environmentally-friendly merchandises such as cooking wares, healthcare and beauty products, etc, to promote green living among our customers.



The Community

Our partnerships with our communities take place either as promotional events and happenings that carry the green message to the public or through our own participation in community and other organised events. One of our notable campaigns in recent years has been our Low Carbon Action! event, which encouraged the public to lead greener lives and lower their carbon emissions. These activities are further supported by ongoing lifestyle aids and reminders – among our smartphone apps for instance, we offer a low carbon action diary, which helps users to keep track of their low carbon activities, and thus to achieve a greener living.

Within the community, we sponsor, support and take part in major activities and initiatives organised and carried out by NGOs and leading green groups in the community. On the one hand, our goal is to create improved awareness and greater impact, while on the other, our participation marks our role as a responsible and contributing member of the society.

“Towngas is extremely supportive to the community and NGOs – committing substantial resources, both in time and donations, to a range of activities within the community. This socially responsible organisation operates not just for profit, it also acts proactively, constant looking for innovative solutions that will make a contribution to society.”

David Yeung
Founder
Green Monday Limited

Green Activities 2012 - Sponsorship and Participation

Friends of the Earth (HK), Green Power and WWF

Take a "Brake" Low Carbon Action

With its slogan "Drive less, save the planet!" this initiative encourages Hong Kong drivers to "take a break" from driving whilst also promoting green driving habits to encourage a low carbon lifestyle.

WWF – Hong Kong

Earth Hour 2012

Sponsoring this event for the fifth time, we once again "switched off" all unessential lighting in Hong Kong and on the mainland for an hour on 31 March 2012.

Walk for Nature at Mai Po

This annual outreach programme highlights conservation through a better appreciation of nature.

Friends of the Earth (HK)

Tree Planting Challenge

As the major sponsor since 2005, six Towngas teams took part in this event on 22 April 2012.



River Walk

This walk was held on 16 December 2012 to make us think about where our drinking water comes from and the need to care for our rivers.

Green Activities 2012 - Sponsorship and Participation

Conservancy Association

Walk for the Environment

This event, which took place on 18 March 2012, provided an excellent opportunity to appreciate the beauty of nature.



Food Grace

“Cherishing Leftovers” Dinner

Held in collaboration with Food Grace on 19 March 2012 at Towngas Avenue, this banquet used leftovers as its main ingredients to arouse public concern about food waste problem.

Green Leaders Bloc

This programme recruits university and secondary students who are keen to protect the environment, training them to become the future's young green leaders.

Greeners Action

Lai See Packet Recycling Programme

Participating in this event for the first time, collection boxes were placed throughout our operations. This resulted in the collection of over 19,000 used red packets.

Green Activities 2012 - Sponsorship and Participation

Green Power

Green Power Hike

Five teams took part in this annual event on 14 January 2012.

"General Studies on Landfill and Energy Facility" Study Programme

We are a sponsor and co-organiser of this educational programme, which aims to teach primary students about the use of landfill gas.

Hong Kong Green Sense



No Air-con Night

Participating in this campaign once again, we switched off air-conditioners for the night on 27 September 2012.

Green Sense Walkathon

This Walkathon, held on 15 April 2012, enhances public awareness on nature and conservation.

Green Monday

Green Monday Vegetarian Menu

Towngas Avenue offers a "Green Monday Vegetarian Menu" to encourage a healthier and more environmentally-friendly way of life by helping to change eating habits.



Safety Performance

- The Safety of our Gas Infrastructure
- Customer Safety
- Occupational Health and Safety



Our Health, Safety and Environment (HSE) management system aims to ensure that our operations pose no risk whatsoever to the health, well-being and safety of our employees, contractors, customers and the public-at-large. We also identify, evaluate and guard against potential and possible risks.

During the year, our activities once again met all relevant health and safety legislation requirements and at no time did we receive any alerts or warnings from the regulatory authorities. We also saw several improvements in our overall safety operations.

Our Towngas Safety Practices

- Meeting all relevant health and safety legislation requirements
- Benchmarking against the highest standards of health and safety
- General Manager Monthly Safety Inspection Programme
- Safety inspections by Group Managing Director
- Safety teams report directly to General Managers
- Comprehensive safety inspections and Safety Audits
- Safety training
- Emergency drills and table-top exercises
- Safety promotions and incentives

The Safety of our Gas Infrastructure

Hong Kong

While the safety and reliability of our gas systems and infrastructure have reached a high supply reliability rate of 99.99%, we nevertheless continue to ensure that these systems not only perform, but are certified, to the global standards. As such, we have implemented the PAS 55-1 certified Asset Management System throughout our gas production plants, transmission and distribution networks in the territory. PAS 55-1, the British Standard Institution's Publicly Available Specifications, not only certifies our management system for the safety of our infrastructure and network, it also provides a checklist to guarantee proper systems operation. Our HSE Policies also conform to ISO9001, ISO14001 and OSHAS18001 standards.

Our plant, equipment, network and processes are regulated by the Electrical and Mechanical Services Department (EMSD) on behalf of the Hong Kong government. Working in close partnership with EMSD, a mutually agreed Strategic Plan includes a facilities utilisation as well as a preventive maintenance index to ensure the high standards of safety.

The safe operation of our network rests in the hands of our sophisticated Supervisory Control and Data Acquisition (SCADA) System. Together with a Remote Control, Emergency Logging and Geographical Information System, it not only monitors and controls our network, it also improves our ability to track down and deal with emergencies both quickly and effectively.

In addition to the safety management provided by SCADA, we also carry out a rigorous schedule of inspections for our pipeline network, completing 176,688 inspections at 17,599 sites and surveying over 7,000 km of pipelines in 2012. These inspections, together with our ongoing programme to replace older pipelines with more modern and durable materials, contribute to the high levels of security in our pipeline network. In 2012, the number of third party damage incidents to our gas pipes fell to 12 against the 15 recorded in 2011. We also experienced the lowest number of Public Reported Gas Escapes (PREs) on record with 54 reports while there was a total of 330 gas leakage reports during the year.

Leakage and Pipeline Surveys

Type of Pipeline	Frequency of Leakage Survey
All high pressure and intermediate pressure mains	At least once a year
Medium pressure ductile iron pipes or all galvanised iron pipes	At least six times a year
Low pressure ductile iron pipes	At least three times a year
Polyethylene(PE) or steel pipes over or enclosed within structures	At least twice a year
Others	At least once a year

Network Safety

Area	Achievement	Target
Gas Supply Reliability	99.996%	>99.99%
Emergencies attended to within 30 minutes	97.7%	>95%
Public Reported Gas Seepage incidents per 10km of gas pipes	0.18	≤0.215
Third Party Damage incidents	12	≤12

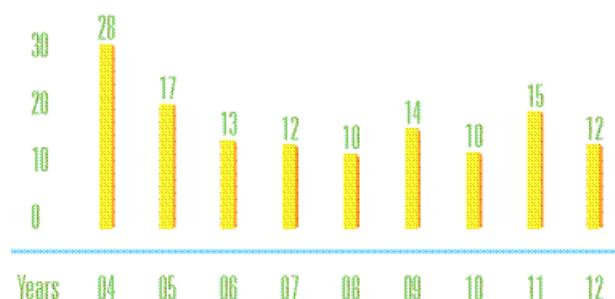
These activities and efforts are aided by the most up-to-date equipment and technology – during the year for instance our field staff began using tablet computers to keep in touch with the office. With their GPS function they not only pinpoint the exact location of the problem, they are also able to send instant photos from the site to our management and operational systems. Further innovations included the introduction of a new Ovality Measurement Tool which enhances the quality of PE fusion joints; the Laparobot which removes dip pipes in condensate receivers in the older metallic network; as well as the “Predator” which uses infra-red thermography to locate leakage points in underground piping. All three inventions were developed in-house and are the first of their kind in the world.

During the year, we received a reminder of the need for constant vigilance and the ability to respond quickly in the face of an emergency. In early June, water leaked into our pipelines due to the bursting of a water main in the vicinity, resulting in a number of our customers in Tai Po lost service. Working around the clock, most customers were back on line the next day and everything was back to normal in 56 hours.



Our wholly owned subsidiary, Quality Testing Services Limited (QTS) is accredited under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) for its gas meter calibration services as well as the testing of gas appliances and stainless steel flexible gas tubing. Our “Pay-for-Safety, Quality and Environmental Appraisal System” also encourages both contractors and their staff to behave responsibly in our pipelaying contracts, with contractors receiving 1-2% of the contract sum if they meet specified criteria. Under this initiative, 50% of the incentive payments are paid to the frontline workers themselves.

Number of Third Damage Incidents



Mainland China

As a leading provider of energy in mainland China, with a 150 businesses in our portfolio spread out over 22 provinces, municipalities and autonomous regions, we take a responsible stand, not only improving safety standards within our own operations but also seeking to raise standards and drive a safety mindset both within the industry and the community.

Many of these safety activities build on the systems and practices which have been tried and tested in Hong Kong. The SCADA (Supervisory Control and Data Acquisition) system for instance is used by 38 of our city-gas businesses on the mainland. Similarly, we have been able to extend our knowledge and experience in the use of polyethylene piping onto the mainland. We were heavily involved in the establishment of quality PE piping standards in the country, and our expertise is such that, sharing our experience, we also sit on four Technical Sub-committees related to PE pipes and fittings in International Organisation for Standardisation (ISO/TC 138).

A major focus during the year was on the quality control of steel and PE piping as well as our preparedness for the replacement of high and intermediate pressure and cast iron pipes. A newly developed audit system was also used to complete audits on 80 engineering supervision projects to enhance the safety and quality of our engineering systems.



An ongoing exercise is our "Year of Safe Production" campaign which was first launched in Xi'an in 2008. In 2012, the campaign rolled out to Jiangsu, Zhejiang and Anhui provinces. This initiative analyses every aspect of a business, from its geographical location, climate, operational history and safety awareness, together with other key factors to identify risk areas and establish Key Performance Indicators. During the year, 12 Key Management Factors and "We Deliver" projects were completed.

Safety systems and processes were also established for many of the new businesses in mainland China. Furthering safety operations at ECO's two chemical plants on the mainland, CCTV cameras transmit real-time images to Hong Kong, enabling better safety monitoring of critical areas in these facilities. ECO also updated its corporate emergency plan to integrate its businesses in Hong Kong, the mainland and Thailand into a single master plan.

This commitment to safety is reaping major dividends. Not only has the accident rate fallen over the years, there is no doubt that safety is increasingly becoming an intrinsic part of our operational mindset. Our methanol plant for instance achieved its "One-million Working Hours Accident Free" goal in 2009 and it has since made the transition from construction to production with an accident free record. Similarly, a safety and risk management audit conducted in 2011/2012 covering some 30 of our ventures showed that safety improvements in gas performance are rising. The latest audit achieved a safety score of 85% against the 71% recorded previously in 2009, whilst Hua Yan Water did even better, achieving an average score of 88.9%. Just as significantly, the number of serious gas-related incidents fell a positive 20% in comparison to 2011.

Customer Safety

The backbone of our customer safety activities is based on our regular safety inspections (RSIs), which are carried out on a routine basis both in Hong Kong and on the mainland. These visits not only help us to identify problems, thus preventing the possibility of accidents, they also enable us to take the gas safety message directly into customers' homes. Moreover, they provide us with an opportunity to encourage customers with faulty or older appliances, those without flame failure devices for example, to upgrade their equipment to newer and safer models. Affirming the value of these activities, we have seen a steady decline in the number of customer-related emergency reports over the years in Hong Kong.



Our diverse range of home appliances also contributes to home safety as we not only offer safe, convenient and energy efficient products; professional installation, warranties, after -sales services and free regular inspections also form a part of the total service package. These products, which are sold under our own brand names, TGC and Simpa in Hong Kong and Bauhinia in mainland China, are tailored specifically for local markets,

Among HKFORT members, Towngas is regarded as a leading utility company, which is constantly evolving to meet customer needs. In addition to affordable rates in comparison to other forms of energy, it also provides a safe supply of gas – no safety issues have been experienced by any of our members. Gas supplies are also very reliable with little or no disruption.

Simon Tam
Chief Executive Officer
Hong Kong Federation of Restaurants and
Related Trades (HKFORT)

meet all established safety standards and include modern safety features such as flame failure devices, etc. These appliances continue to prove their popularity. During the year, we sold 241,000 gas appliances in Hong Kong in 2012, while our Bauhinia sales on the mainland reached over 500,000 units.

In providing safe services to our customers, a further factor in the safety equation is the importance of customer awareness. We thus carry out a wide range of publicity and promotional campaigns which apart from booklets and leaflets, bill inserts and other promotional items, also include exhibitions, visits, talks and special community events.

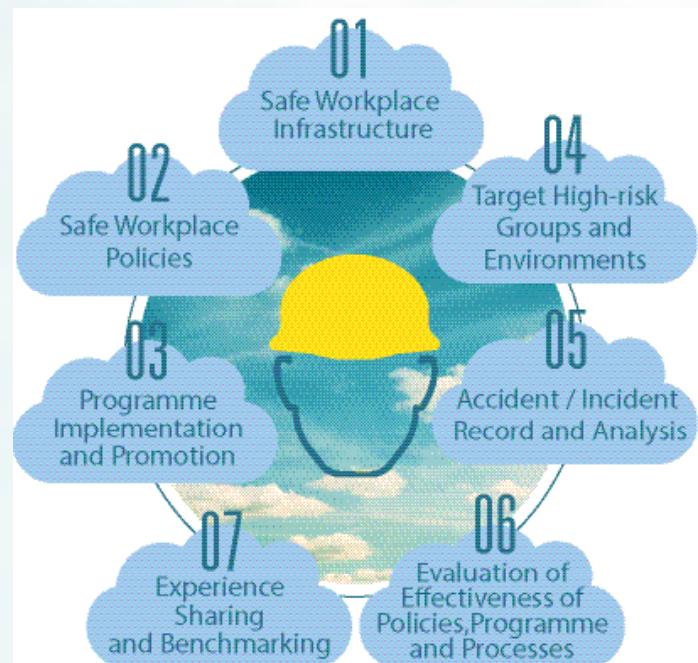
In 2012, we met our Service Pledge in Hong Kong to arrive at the emergency site within 30 minutes of the report, over 95% of the time.

Occupational Health and Safety

In our Occupational Health and Safety (OHS) activities, we have led the way with a number of achievements. We were the first utility to sign Hong Kong's Occupational Safety Charter in 1996 and we were also the first utility company in Hong Kong to receive our designation as an International Safe Workplace (ISWP) under the framework of the World Health Organisation's Safety Community in 2011. This programme, offered under the auspices of the Occupational Health and Safety Council (OSHC) in Hong Kong, consists of seven ISWP indicators which strengthen safety practices while also fostering a safe and happy workplace.

In addition to these ISWP practices, we continue to maintain stringent standards and work practices making sure that our employees enjoy a safe and healthy workplace. In view of this commitment, we achieved the lowest accident rate in our history – the figure fell from 16 in 2010 to 10 in both 2011 and 2012 with no serious injuries. These positive figures are inching us closer to our goal to achieve a zero accident rate throughout our operations.

International Safe Workplace (ISWP) Indicators



During the year, we won various awards in the OSHC's Hong Kong OSH Awards, including gold awards in Safety Culture and OSH Annual Report, as well as the Safety Performance Award.

Key Statistics (Hong Kong)

	2012	2011	2010
Number of Accidents – all industrial injuries ¹	10	10	16
Accident Frequency Rate	0.19	0.19	0.31
Number of Reportable Accidents ² (Number of accidents per 100,000 man-hours)	7	9	14
Accident Incidence Rate ³ (Number of reportable accidents per 1,000 employees)	2.5	2.9	5.7
Number of industrial injury man-days lost	111	160	430

Remarks:

- 1 Accident – an accident that results in incapacity of one day or more.
- 2 Reportable Accident – an accident that results in incapacity of more than 3 days.
- 3 Employees of subsidiaries are excluded.

Activities Highlights

Hong Kong

2012 Health, Safety & Environment (HSE) month

We achieved yet another first with the launch of our "HSE Month" in November 2012. During the month, over 2,000 participants, consisting of both Towngas employees and contractors took part in the programme, which ranged from an HSE quiz to experience sharing visits to Zero Carbon Building, e-waste and food-waste treatment plants, etc. Workshops and seminars were also held on subjects such as working in a confined space, fire safety, waste recycling, green issues, etc.

Contractor HSE Programme

In addition to the participation of our contractors in our HSE Month, we also continued our HSE Contractor Programme, for example, OSH Crossword Puzzle competition, Site Safety Inspection Competition as well as our annual Contractor OSH Forum. Nearly 1,000 contractors and their staff participated in these events.



Emergency Safety Exercises

Two emergency exercises were held during the year in Hong Kong together with the corporate emergency management team (CEMT) to make sure that our safety practices and contingency plans work as well in practice as in theory. They also provide an opportunity to try out and use new safety equipment. These exercises take various forms – from table-top exercises to fire and other emergency drills, and are often conducted in partnership with the relevant external parties, the Fire Services Department and the Hong Kong Police Force for example. One of our exercises last year took place in conjunction with the Hong Kong University's Crisis Management Centre, under their Master of Public Administration programme. Over 130 people took part in this exercise, making it the largest ever to take place in our organisation and facilities.

Behavioural Based Safety Programme

Driving a "safety culture" mindset, we continue our hands-on training programmes. One such example is the Behavioural Based Safety Programme which was implemented at our Tai Po production plant about a year ago. Seeking to ensure a safer working environment through safer behaviour and practices, training has been completed for all employees working at the facility. In addition to this programme, gas safety training was also conducted for all contractors and Hong Kong-based employees. During the year safety was also promoted as the 6th "S" under the 5S workplace organisation method. Originally based on five Japanese words that begin with the letter "s", they have been translated into English as – sorting, setting in order, shining, standardising and sustaining.

“ Towngas deserves credit for ensuring a safe working environment for contractors with their stringent standards for occupational health and safety. They exceeded industry standards for example, with their requirement for a full-time safety officer to monitor the HVAC system retrofit that took place at their headquarters building recently. Their work systems ensure that relevant approvals are obtained and risk management measures and procedures defined before the commencement of a project. ”

Rocky Lau
Service Manager, A/C Section
ATAL Building Services Engineering Limited

Mainland China

As with our safety activities in Hong Kong, our OSH activities on the mainland are based on a structured programme, supported by strict guidelines and best practices, training, operational drills and safety exercises, as well as promotional and motivational campaigns to drive a safety mindset and improve safety behaviour. Underlining our commitment to these activities, 25 projects have obtained received their OHSAS 18001 certification as of 2012.

Activities during the year included a “Four Character Classic” safety promotion campaign, which was held throughout our city-gas ventures on the mainland, as well as a gas safety and occupational safety health quiz in eastern China and the Jiangxi region, which brought in the participation of some 20 businesses. HSE workshops, which attracted more than 400 participants, were also organised in Maanshan and Dalian. A special workshop too was held for senior management and members of the risk assessment committee to formulate further strategies for controlling and reducing risk.

Safety committees are responsible for safety in our individual businesses on the mainland and, ensuring that safety is both given and receives the topmost attention, all safety managers report directly to General Managers. This safety priority is further heightened by the direct involvement of the highest levels of management – monthly safety meetings are conducted and personal safety inspections are carried out throughout our operations under “General Manager Monthly Safety and Risk Management Inspection Programme”. These inspections conducted by General Managers themselves cover 17 different health, safety and environmental aspects throughout the business spectrum.

In view of ECO’s rapidly expanding business portfolio, the company has seen a surge in its safety activities. Firstly, the company established two HSE safety steering committees – one for its Hong Kong businesses and the other for its mainland and overseas activities. The “General Manager Monthly Safety and Risk Management Inspection Programme” was also extended to ECO’s compressed natural gas (CNG) filling stations. With more than 70 inspections being carried out, some 100 deficiencies were identified for rectification. Looking forward, a safety audit system for these filling stations is also being implemented.

In addition to regular fire and safety inspections throughout its operations, safety training was held for all employees, with more than 600 employees attending these courses, at the Xiaoyugou coal mine in Inner Mongolia. Table-top exercises at the mine and at the methanol plant also helped make sure that all emergency systems at the two sites are working well and up to speed. Twenty-eight safety and risk management personnel also attended a four-day gas safety and fire-fighting course conducted by the Fire Services Department in Hong Kong.



Social Performance

- Human Resources
- Community Services
- Supply Chain Management

In carrying out our Corporate Social Responsibilities, we participate, invest in and sponsor social and development programmes that reach out to our people, our communities and business partners. In seeing to the well-being of our employees, we have often been cited as an ideal employer, while within the community, our aim is not simply to spread care and fellowship, but also to lend a helping hand where it will make a difference. In doing so, we hope to create a public face that is not only trusted, but also loved and respected, within the community.

Key Awards and Recognitions

Manpower Developer Award by Employees Retraining Board

China's Outstanding Corporate Citizenship 2012" – Towngas China, Hua Yan Water and ECO

Caring Company 2011/12 by Hong Kong Council of Social Service

Highest Service Hour Awards by Social Welfare Department

- Private Organisations – Best Customer Participants : Championship Award

Community Chest President's Award

Human Resources

We are fully aware of the importance of our Towngas people. Without our workforce we would be helpless – without the eyes and ears nor the hands and feet to carry out our business. An absolute priority is thus the need to cultivate, grow and maintain a competent, committed and professional team of employees, who are enthusiastic, involved and eager to do their best. At the end of 2012, this team consisted of 2,282 employees in Hong Kong and over 39,142 people in our diverse businesses on the mainland. In Hong Kong, the employee turnover rate for 2012 was 5%, while an average of five days of sick-leave was taken.

Corporate Culture

We place a strong focus on nurturing our corporate culture to enable employees to understand our business objectives while sharing in our vision, mission, values and goals. Vision, Mission and Values (VMV) workshops and training events are thus organised on a regular basis. In 2012, VMV workshops were also held both at our methanol plant and the Xiaoyugou coal mine in Inner Mongolia, as well as at GH Fusion, our polyethylene products and equipment operation.

During the year a VMV corporate video was produced and a collection of 12 Towngas VMV stories have also been compiled into a VMV book. Both the publication and video are being used for staff induction and culture reinforcement activities across the Group.

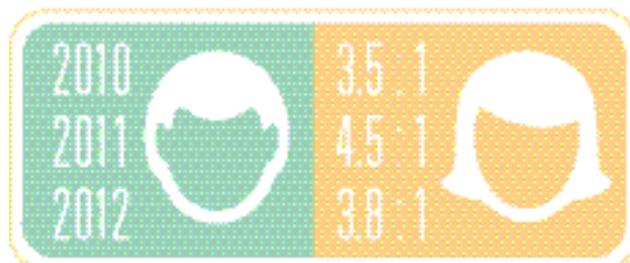
Employee Wellness

We can only bring out the best in our people if we treat them with care and respect. Thus, in addition to complying fully with legislation and guidelines for employee compensation throughout our operations, we also offer a comprehensive package of benefits together with learning as well

Ratio of Male to Female Employees in Hong Kong



Ratio of Male to Female Senior Managers in Hong Kong



as personal and career development. Our training and development programmes thus aim not only to foster the full potential of our people, but also to ensure their ongoing satisfaction with a rewarding life and career.

In line with Hong Kong's anti-discrimination ordinances, our equal opportunities policy, which has been in place since 1995, seeks to maintain a pleasant and harmonious working environment that is free from any discrimination related to sex, age, race, religion, marital status, family status or any health disabilities or conditions. During the year, there were no reported incidents relating to discrimination, restrictions of personal freedom, child labour, forced labour or corruption within our operations.

“ A major challenge in our efforts to improve our gas infrastructure is the shortage of frontline road excavation and pipelaying labour as the increasing number of infrastructure projects, an aging workforce and higher standards of living, both in Hong Kong and the region, take their toll. Addressing the issue, we have improved benefits offering monthly salaried positions as well as the right to take all 17 public holidays during the year. A fund was also set up in 2012 to pay for life insurance for the workers of contractors, when workers' deaths – from heat stroke for example, are not sometimes covered by Employee Compensation Insurance.

Simon Ngo
Head of Engineering, Hong Kong Utilities
Towngas Hong Kong

Helping our people to maintain their health and happiness, we place a particular emphasis on initiatives that will help to maintain their work-life balance. We thus offer a comprehensive range of sports, leisure and recreational activities, many of which are subsidised by the Group, through our Sports and Recreation Club. Also improving facilities at work, we introduced a "Happy Zone" at our North Point headquarters, to provide our staff with a comfortable area, not only to rest and relax, but also to interact and exchange thoughts and ideas.



We offer healthy and de-stressing activities such as Yoga, Kick-boxing, Qi Gong and Pilates. The "Dancing With Stress" workshops offered during the year generated particular interest. Receiving a satisfaction rating of 5.2 out of 6, participants gained a better understanding of the sources of stress while also enjoying the Qigong and positive thinking skills that were a part of the programme. These activities, together with more leisurely pastimes such as overseas tours, carnivals, fun days and cookery lessons all proved to be highly popular – during the year 1,022 employees and their families signed up for these programmes in Hong Kong.

2012 also proven to be a year of engagement for our people in view of our 150th Anniversary celebrations. As part of these celebrations, our Wenxin "warmth and care" programme was launched, not only to say Thank You to our employees but also to drive a greater sense of belonging to our Towngas family. This "Thank You" took a physical form in Hong Kong when every employee working with us on our actual birthday, 3 June 2012, not only had their names published in our 150th Anniversary celebration publication, they also received a gold coin in commemoration of their services. Photos of 150 "smiling employee faces" were also brought together for the cover of the publication.

Kicking off in 2011, the Wenxin programme included a story-writing competition to highlight Wenxin-related stories throughout the Group and a photo competition with submissions being exhibited at our headquarters. It also touched the personal lives of our employees with a number of talks covering topics such as behaviour and body language – to improve communication and family relationships, as well as pre-retirement concerns for those who will be entering this new stage in their lives.

This Wenxin spirit spread to our retirees as well when a formal club named "Towngas Buddy Club" was formed to arrange regular gatherings and visits. While also mobilising the buddies to take part in our voluntary services in the future, the Club seeks to continue bringing the Wenxin spirit to their retirement lives.



Employee Development

Our employee development programmes offer a range of training, learning and development activities, which not only enable our employees to do their jobs ably and confidently, but also to create a pool of talented and professional leaders who we can draw on for our future leadership needs. In addition to maximising the potential of our people, our aim is to create a team of nimble and proficient individuals who will rise to whatever challenges they will need to face.

Highlighting our commitment in this direction, we were delighted to be recognised as a "Manpower Developer" by the Employees Retraining Board. This award, which covers a duration of two years, is based on five parameters – Leading a Learning Culture, Resources Planning, Training and Development Systems, Performance Development and Corporate Social Responsibility, in a company's manpower training and development policies.

Towngas Engineering Academy

Our Towngas Engineering Academy (TEA) is responsible for our technical training, Professional Qualification and Superior Quality Service functions. It also provides structured and professional learning for employees and contractors both in Hong Kong and mainland China, and conducts Continuous Professional Development (CPD) seminars with industry specialists and leading academics participating as guest speakers. In addition to our Technical Training Centres in Hong Kong and Shandong, regional training bases also operate in Sichuan and Changchun. In March 2012, another centre was opened in Shenzhen to meet the burgeoning need for qualified professionals as our businesses grow apace.

In addition to the graduate trainee and apprenticeship schemes turning out qualified gas engineers and technicians for the industry, TEA also offers an internationally recognised chartership route under the Institution of Gas Engineers and Managers (IGEM). Expanding yet again in the professional qualification development in 2012, it received approval from the Hong Kong Institution of Engineers to train young engineers in mainland China via a two-year structured engineering programme.

Recognising our efforts to promote a smoke-free workplace, we won the Grand Award in the Hong Kong Smoke-free Leading Companies event organised by the Hong Kong Council on Smoking and Health (COSH). COSH also gave a number of talks on the benefits of not smoking and of living and working in a smoke-free environment.

In view of the rapid expansion of our operations on the mainland as well as ECO's highly specialist needs in the new energy industry, TEA has seen a surge in its training hours in recent years. In 2012, 42,400 training hours in Hong Kong together with 100,000 training hours on the mainland were completed.

Hong Kong Experience Sharing Programme

Under this programme, general managers, middle management and employees from our businesses on the mainland spend time in Hong Kong to gain a better understanding of our Towngas culture and practices. In 2012, a total of 395 personnel participated in this programme. Supporting these activities and enhancing the interaction and team spirit between our employees in Hong Kong and our businesses on the mainland, we also organise cross-regional recreational activities, such as football, badminton, cooking and singing contests, quizzes and photo competitions.

Graduate Trainee Scheme

This scheme celebrated its 30th Anniversary in 2012. Attesting to its success, 16 graduates joined us in the first intake in 1982 and eight of them are now still with us in senior management positions. In 2012, nine new graduates were selected to join the programme and a further 17 graduates also joined ECO's trainee scheme which was first launched in 2011.

Towngas Engineering Academy Training in 2012

	Training Man-hours	Number of Courses/Talks	Number of employees trained
Continuing Professional Development seminars	4,078	50	2,809
Gas Fitter Apprentice Training Scheme, Network Trainee Fitter Scheme, Registered Gas Installer Training for Contractors, technical skills and refresher training programmes	42,445	378	8,367
Technical Training in mainland China	100,444	225	4,122

Towngas Leadership Competency (TLC) Models

These models form the basis of our performance management and management development system. TLC provides fair and objective performance assessments while also building personal development platforms that enable the advancement of core leadership competencies which tie in with the Group's culture, values and business strategies.

Building on TLC, TLC+ was set up in 2008, focusing on leadership development backed by the necessary skills, such as financial management, positive influencing skills, political awareness, etc. to create a pool of talent to meet our rapidly expanding business needs. When the first group of 25 participants completed their 18-month programmes, more than 60% had taken on broader roles and greater responsibilities. Nineteen executives are currently completing their programmes under the second round of this initiative, which was launched in August 2011.

In 2012, 22 candidates identified under Hua Yan Water's 2011 Elite Promotion Programme completed their 12-month accelerated learning programme.

Executive Development Programme

We continue our collaboration with leading universities on the mainland to provide Executive Development Programmes (EDP) for the leaders of our mainland businesses. During the year, 17 executives participated in our week-long Tsinghua EDP while 33 participants completed the more recently established Zhongshan University programme. Programmes are also run in collaboration with Nanjing and Dalian Polytechnic Universities as well as the Southwestern University of Finance and Economics. Thirty senior executives also attended a five-day programme at the Chinese Academy of Governance to enhance their knowledge of China's political, economical and social environment, while a further 270 financial professionals from more than a 100 mainland businesses attended a Finance workshop in Liaoning.

Superior Quality Service (SQS) Scheme

Our SQS programme was set up in 1992 to improve quality and drive performance throughout our operations. Over the years, more than 4,498 SQS projects have been completed both in Hong Kong and on the mainland, saving over HK\$695.5million in costs. In 2012, 719 employees in 99 teams in Hong Kong completed 64 projects saving HK\$28 million, while on the mainland, some 6,018 team members completed 524 projects with cost savings of over RMB 53.82 million.

Following a "Voice of Customers" exercise with colleagues in Hong Kong, we responded the hunger of new problem-solving tools and an innovative learning environment by establishing a new SQS innovation model in 2012. Moreover, two SQS training sessions were also conducted in our project in Jincheng, Shanxi province and plans



are in hand to further extend this training into our operations in Northeastern China. Though a new training model was launched during the year, making sure that it keeps up with modern business practices, its objectives – to encourage staff to take the initiative, solve problems and play a greater leadership role in their day-to-day activities – remain constant.

Effective Communications

A comprehensive programme of internal communication from regular meetings and briefings to functions and events, information presentations, departmental and company-wide newsletters as well as an internal corporate website, keep employees fully informed of what is happening throughout the Group. We also encourage two-way communications to enable our employees to express their views and ideas to our senior management. In addition to the employee suggestion programme, we organised luncheons and gatherings for employees to meet senior management and we also set up a dedicated "Talk to the Managing Director" mailbox to facilitate direct communications.

Official communications are carried out through regular meetings with staff unions while specific committees deal with labour and management issues.

Community Services

In serving our communities, we invest in and sponsor a wide range of community campaigns and events, contributing not only financial help and support but also by putting our resources and expertise to work on behalf of the various events and organisations concerned.

Initially focused on lending a helping hand to the elderly, our programmes have expanded over the years to also cover under-privileged groups such as the financially-disadvantaged, new immigrant families and people with disabilities. In addition to providing warmth and care to those in need, we aim to support programmes, where with a bit of help, the recipients will be able to help themselves.

“

Towngas demonstrates strong respect for the community. A prime example is the development of specialist products to meet needs within the community – providing large buttons and displays for instance to make life easier for the growing elderly population in Hong Kong. The company also respects their suppliers and understands their operations. Through stringent factory audits, Towngas ensures that quality products are delivered to their clients.

”

Koji Tanaka
General Manager
Rinnai Hong Kong Limited



Street Art – Our Artistic Pit Cover Designs

In 2012, Hong Kong saw a completely different and new form of art when we introduced our artistic pit covers across the territory. Launched as part of our 150th Anniversary celebrations, the campaign began with our Towngas Street Art x Pit Cover Design Contest, which was open both to schools as well as the general public. Together with the winning designs as well as the involvement of 11 local artists, 150 decorative pit covers were subsequently installed throughout the streets of Hong Kong.

Promoting this novel form of street art and involving the Hong Kong population in this initiative, we also held a “Go Snap! Pit Cover Photo Contest” encouraging everyone who is out and about on Hong Kong’s streets to locate these artistic pit covers and snap a creative photo for the chance to win fabulous prizes.

Towngas Concession Schemes

This scheme, first introduced in 1995, began by providing concessionary rates for our town gas services to the elderly in Hong Kong. The scheme has since expanded with the Towngas Concession Scheme for People with Disabilities as well as for Single-parent Families. In 2011, it grew yet again with the Towngas Concession Scheme for Low Income Families.

Towngas Volunteer Service Team

Our Community Service Programmes are organised, managed and operated by our employees under the auspices of the Towngas Volunteer Services Team. In 2012, the number of volunteer service hours in Hong Kong rose again to reach a positive 68,508 hours for the year. The number of activities also increased by 24%. The Team, which was officially formed in 1999, has accumulated over 395,000 community service hours over the past 13 years.

Many of our activities on the mainland parallel our efforts in Hong Kong. As such they include visits to the elderly, the distribution of rice dumplings during the Dragon Boat Festival as well as various youth outreach programmes and incentives. At the end of 2012, over 70% of our mainland businesses had established volunteer teams, accumulating a total of 500,000 service hours, benefitting around 700,000 people in the process.

Our Community Service Achievements in 2012 (Hong Kong)

83 

Number of corporate support programmes through active participation, donation or in-kind sponsorship

1,079 

Number of employees participating in the Company's voluntary services

138 

Number of Towngas Customer Volunteer Team members

294 

Number of voluntary activities in which Towngas volunteers participated

68,508 

Number of voluntary service hours (including employees and customers)

492,539 

Number of people benefiting from our volunteer services

230,030 

Number of rice dumplings made

210,000 

Number of mooncakes made

41,310 

Number of soup servings distributed

475 

Number of children attending "Cooking for Fun" English classes

47,088 

Number of households benefiting from all Towngas Concession Schemes

Rice Dumplings and Mooncakes for the Community

These two initiatives form the backbone of our annual community events. They build on our focus on cookery and help spread the holiday spirit and festive cheer within the community. Just as importantly, they keep the older traditions alive, while also teaching our young people how to make these festive delicacies.



Producing 230,030 rice dumplings for distribution during the Dragon Boat Festival, we have distributed more than 1.6 million dumplings over the years. With the preparation of 210,000 mooncakes in 2012, 1.1 million mooncakes have been distributed so far. These activities have now become regular events in the community calendar as legislative councillors, district councillors, NGOs, schools, Towngas volunteers, customers and volunteer groups gather together to make and distribute these delicacies. Also making sure that they fit into our more modern lifestyles, recipes have been adapted to make sure they are healthier than the traditional versions.

Care and Support for the Elderly and the Visually Impaired

Extending our warmth and care to the elderly, many of whom live on their own, our Volunteer Services Team reaches out with a number of initiatives. These range from the preparation and delivery of hot and nourishing soups and home visits to practical help such as hair cutting services. We also help install safety rails to create a safer environment in their homes. During our regular safety inspections, our technicians also perform free check-up services on the Personal Emergency (PE) links used by the elderly. More recently, supporting the Social Welfare Department's "Home Environment Improvement Scheme for the Elderly" we also offer discounts on home appliances for qualified candidates.

As part of our equal opportunities programme, we also provide a range of services and products for our visually-impaired customers. We thus offer gas bills in Braille, Braille instructions for our gas appliances as well as a barrier-free website for the visually impaired.



Cook for Love

In September 2011, in partnership with the Social Welfare Department, we launched our “Cook for Love” programme, to promote harmonious relations in single-parent families. This programme is unique in that it not only involves Towngas volunteers but also their families. Each individual “Family Volunteer Team” works with a participant family on a long-term basis, taking part in cooking lessons and other activities to create happier and more harmonious homes. This initiative won the first runner-up award in their 2011-12 Best Corporate Volunteer Service Project Competition by Social Welfare Department.



CookEasy

Our first social enterprise took off in 2008, in partnership with the Tung Wah Group of Hospitals. Creating employment opportunities for people with disabilities, CookEasy provides a pre-prepared food pack service based on healthy-diet recipes designed by our Towngas Cooking Centre. This initiative won Next Magazine’s CSE Social Service Award in 2010 as well as the Home Affairs Bureau’s “Outstanding Friends of Social Enterprise” award in 2011.

Fair Trade Promotion

We not only encourage the use of fair trade products within the company but also are actively involved in the Fair Trade Hong Kong Foundation, serving both as a corporate partner and on its corporate committee. In 2012, we organised a Fair Trade cooking class for the Fair Trade supporters.



Salvation Army O! Day

Sponsoring The Salvation Army O! Day, one of Hong Kong’s largest orienteering competitions and fundraising events, Towngas joined hands with the organisation to raise funds for their community service activities for the disadvantaged in Hong Kong. Significant and historical Towngas highlights, such as our heritage gas lamps at Duddell Street in Central, were also included as some of the checkpoints in the competition.

Mentoring Programme

In conjunction with the Labour Department and the Vocational Training Council (VTC) in Hong Kong, we extend our training initiatives into the community with on-the-job internship and mentoring programmes. The personal and working skills gained help the young trainees to enter the workplace with greater confidence and ability. A similar programme on the mainland, our Jingqi Mentoring Scheme, operates in collaboration with the Virya Foundation. Under this scheme, our business managers in Xi'an, Sichuan, Chongqing and Hunan, provide a one-year mentoring programme for Virya students.

Social Enterprise Cleaning Services

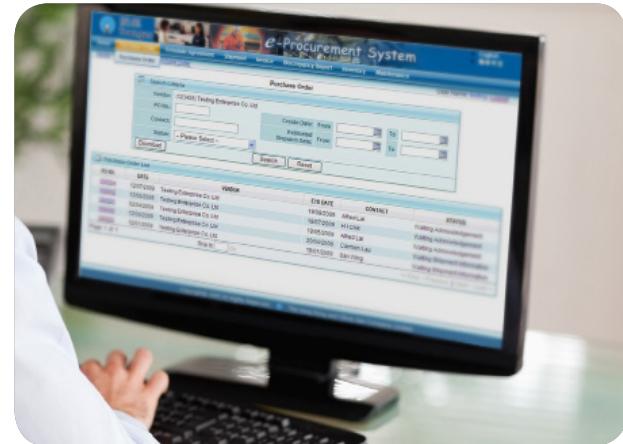
We use cleaning services provided by social enterprises in our offices in Hong Kong. Extending this practice, we also encourage our contractors to employ disabled employees wherever possible.

Supply Chain Management

In view of the scale and scope of our operations as a major energy supplier in the region, we are fully aware that our ethical standards and quality practices set benchmarks and raise behavioural levels within the industry. We have thus established structures and mechanisms that ensure the highest levels of quality throughout our supply chain. In addition to a strict Code of Practice for suppliers, stringent assessments and approval processes, which include routine checks, ongoing assessments, regular quality meetings and factory audits, help to maintain quality levels throughout the entire process.

CSR practices have also been incorporated into our daily procurement practices. As a member of the Green Purchasing Charter, green specifications – taking reference both from the Environmental Protection Department and green label guidelines developed by the Hong Kong Green Council as well as our user departments – have been formally defined. Potential suppliers are assessed and included on our supply list upon meeting our criteria, and we also share our experiences with other leading companies. Extending these activities, our procurement staff on the mainland also participated in a CSR and Code of Practice audit, surveying suppliers against various environmental criteria.

Walking this talk, our e-Procurement system, launched in September 2009, provides a common platform for buyers and sellers to exchange information, purchase orders, shipment documents and invoices, without the use of paper. Currently over 90% of the purchase of all direct materials are processed through this e-Procurement system.



CSR Code of Practice for Suppliers

Driving our green practices and promoting socially responsible attitudes, we extended our Code of Conduct to suppliers in 2008. All our suppliers are encouraged to follow this Code of Practice with regard to their business ethics, workplace operations, marketplace activities, community contact and environmental undertakings. Now covering over 80% of the goods and materials purchased by our Hong Kong operations, we also conduct surveys and factory audits based on this Code. Plans are currently in hand to extend these CSR practices and audits onto the mainland in 2013.

Towngas CSR Code of Practice for Suppliers

Business Ethics

A high standard of ethics should be maintained, including:

- Business Integrity
- No Improper Advantage
- Disclosure of Information
- Fair Business and Competition

Workplace Operations

The workplace refers to the activities that define the Company's relationships with its employees, including:

- Anti-discrimination Policies
- Staff Training and Development
- Wages and Benefits
- Working Hours and Rest Days
- Child Labour and Forced Labour
- Health and Safety
- Freedom of Association and Human Rights

Marketplace Activities

Marketplace activities define the Company's relationships with its partners and users as well as others in its spheres of influence as laid down in this Code.

- Suppliers and Contractors – Suppliers should seek to influence their business partners in the supply chain to follow the same CSR practices as laid down in this Code.
- Customers – Relevant CSR components should be taken into consideration when dealing with customers such as:
 - Providing Accurate Information on Products or Services
 - Helping to Protect the Environment
 - Handling Complaints in a Timely Manner
 - Ensuring Data Protection

Community Contact

Suppliers should be proactive in finding opportunities to serve the community alongside their own business, including:

- Encouraging Employee Volunteer Activities
- Social Contributions

Environment Undertakings

Practices to conserve natural resources and improve the environment should be followed, including:

- Implementing Environmental Policies and Management Systems
- Minimising Waste
- Operating Energy-efficient Schemes
- Adhering to Environmental Regulations

Review of 2012 Targets

Targets	Results
Safety	
To establish a behavior based safety programme.	A behavior based safety programme was established and implemented by the Gas Production Department in 2012.
To establish a pointing and calling programme.	The planning and set up for a pointing and calling programme was completed in 2012 and will be implemented by the Gas Production Department in 2013.
To establish a Towngas Health, Safety, Environment and Caring programme.	The planning and set up for a Towngas Health, Safety, Environment and Caring programme was completed in 2012 and will be implemented in 2013.
To implement a general manager monthly safety inspection programme in ECO's mainland CNG/LNG filling stations.	Six ECO mainland CNG/LNG filling stations commenced their General Manager Monthly Safety Inspection Programmes in January 2012.
To implement a safety audit system in ECO's coal mines.	ECO's coal mines conducted their own monthly safety audits while CHSED conducted regular safety inspections in the working areas of these mines.
To enhance safety awareness and our safety culture through the organisation of workshops and competitions in our city-gas and water ventures.	Two HSE workshops were organised in April and July 2012. More than 400 personnel participated in these workshops.
The Environment	
To calculate the carbon footprint for a typical gas appliance product.	A typical domestic Gas Cooker was selected for this carbon footprint study. The results showed that a large portion of the carbon footprint arises from product usage. To help reduce carbon emissions during the usage phase, gas saving practices by customers is being investigated.
To reduce the town gas consumption of water heaters in our Tai Po plant by using from the phase-two carbonate reboilers.	Installation is in progress with commissioning expected in the third quarter of 2013.
To achieve a Wastewi\$e label for the 11th consecutive cycle.	We obtained our 11th consecutive Wastewi\$e Label, demonstrating our high commitment to environmental protection.
To save electricity by introducing a solar power supply source to the LED display board at our Tai Po production plant.	The solar panel and a wind generator will be installed to provide green power supplies to the LED display board at our Tai Po production plant in 2013.

Targets

To complete modification work at the Ma Tau Kok production plant and associated pipeline construction projects to enable the partial replacement of feedstock with natural gas.

To organise a carbon reduction competition among our mainland companies.

To continue to conduct environmental audits in our city-gas and water ventures.

Results

The design and hazard studies have been completed and modification work is expected to be completed by the end of 2013.

Our 2012 Carbon Reduction Project Competition on the mainland brought in 25 submissions, reducing carbon emissions by 3,000 tonnes a year.

Environmental audits in our city-gas and water ventures were, and continue to be, conducted in 2012.

Employees

To re-launch a revamped Performance Management System for managers and general staff.

To re-launch our Vision, Mission and Values to deepen employee understanding so that they can better embrace and embody these values.

To increase the number of channels and platforms for effective internal communications.

To beef up the content and functionality of our corporate portal for knowledge management and interactive communication.

The Performance Management System for all managers and general staff was successfully re-launched in April 2012. More than 50 communication sessions were conducted and over 230 supervisors attended a workshop to acquire techniques in conducting performance appraisals and providing feedback to subordinates.

A new corporate video on the Company's Vision, Mission and Values was produced to illustrate our values in actions.

To foster open communications, two lunch gatherings with Executive Committee members were organised for employees enabling them to address questions to the Company's senior executives directly. Suggestion boxes were also placed in our offices and facilities to collect employee feedback.

Highlighting our 150th anniversary celebratory activities, a special webpage was created on our corporate portal for communication and promotion purposes.

The Community

To continue with our family based 18-month "Cook for Love" voluntary programme with different activities including cooking classes, adventure games and team-building workshops.

To distribute an accumulated total of 1,500,000 rice dumplings, 1,080,000 mooncakes and 255,000 of servings of hot soup by the end of 2012.

Under the programme, 10 activities were held for 15 families. It also won the first runner-up award in the 2011-12 Best Corporate Volunteer Service Project.

At the end of 2012, an accumulated record of 1,605,030 rice dumplings, 1,110,930 mooncakes and 272,378 servings of hot soup had been distributed.

Future Targets And Initiatives

2013 Targets

Medium Term Targets (Two to Three Years)

Safety

To organise and hold an HSE Day to promote safety awareness and foster a safety culture among our colleagues and contractors.

To implement a Towngas Health, Safety, Environment and Caring programme as well as an online HSE integrated self e-learning and evaluation platform to improve overall safety performances.

To implement a pointing and calling programme.

To implement a safety audit scoring system for ECO's CNG/LNG filling stations on the mainland.

To review a set of 60 corporate safety procedures and/or guidelines to be implemented in ECO's mainland businesses.

To include the report of near-miss incidents in ECO's mainland businesses in the quarterly HSE statistic reports.

To establish a contractor safety management enhancement programme to improve the safety performance of contractors.

To further promote safety awareness and a safety culture in ECO's mainland operations through education, training and experience-sharing visits.

To achieve the certification of all managerial staff in our mainland ventures Risk Management Department as Certified Safety Engineers.

The Environment

To achieve a Wastewi\$e label for a 12th consecutive cycle.

To reduce electricity consumption with the replacement of the existing chiller plant in our North Point building to more energy efficient systems.

To promote office energy savings by implementing an after-work office PC shutdown scheme.

To complete modification work at the Ma Tau Kok production plant to enable the production of town gas from natural gas as the feedstock and fuel.

To design and commission a rainwater collection system at the naphtha tank farm.

To study the utilisation of other landfill gases and biogas and save fossil fuels with this "green" energy recovery and reuse.

To carry out a food waste reduction-at-source promotion campaign.

To continue to explore new carbon management initiatives.

To renew the green building certification with BEAM Plus requirement for our North Point headquarters building.

To carry out gas saving promotions among our customers.

2013 Targets	Medium Term Targets (Two to Three years)
To further improve the energy efficiency of commercial gas appliances with the development of a high-efficiency stockpot.	
To organise a promotion activity to encourage customers to register for eBilling service.	
To organise a carbon reduction competition among our mainland companies.	
Employees	
To institutionalise Talent Review mechanisms in our different businesses to facilitate talent development and succession planning processes for future business growth.	To establish the talent pool for each business locomotive and facilitate talent exchange across locations, business segments and job functions to support the Company's long-term growth and manpower needs.
To prepare manpower plans to ensure the ongoing supply of a sufficient workforce to support our daily operations and business growth and to also maintain high standards of safety and quality.	To continue to promote the Company's Vision, Mission and Values, and to engage the workforce at all levels by fostering a harmonious working environment.
To enhance the functionality of the Human Resources Information System for better data management and streamlining of work processes.	
To review our Corporate Code of Conduct and organise refresher workshops for all employees.	
To promote employee wellness by launching health campaigns and programmes.	
The Community	
To distribute an accumulated total of 1,800,000 rice dumplings, 1,300,000 mooncakes and 295,000 servings of hot soup by the end of 2013.	To distribute an accumulated total of 2,200,000 rice dumplings, 1,600,000 mooncakes and 350,000 servings of hot soup by the end of 2015.
To organise and implement "Cook for Green" programme to promote green living with the donation of the harvest to the under-privileged groups.	

To further improve the energy efficiency of commercial gas appliances with the development of a high-efficiency stockpot.

To organise a promotion activity to encourage customers to register for eBilling service.

To organise a carbon reduction competition among our mainland companies.

Employees

To institutionalise Talent Review mechanisms in our different businesses to facilitate talent development and succession planning processes for future business growth.

To prepare manpower plans to ensure the ongoing supply of a sufficient workforce to support our daily operations and business growth and to also maintain high standards of safety and quality.

To enhance the functionality of the Human Resources Information System for better data management and streamlining of work processes.

To review our Corporate Code of Conduct and organise refresher workshops for all employees.

To promote employee wellness by launching health campaigns and programmes.

The Community

To distribute an accumulated total of 1,800,000 rice dumplings, 1,300,000 mooncakes and 295,000 servings of hot soup by the end of 2013.

To organise and implement "Cook for Green" programme to promote green living with the donation of the harvest to the under-privileged groups.

2013 Targets	Medium Term Targets (Two to Three years)

To establish the talent pool for each business locomotive and facilitate talent exchange across locations, business segments and job functions to support the Company's long-term growth and manpower needs.

To continue to promote the Company's Vision, Mission and Values, and to engage the workforce at all levels by fostering a harmonious working environment.

To distribute an accumulated total of 2,200,000 rice dumplings, 1,600,000 mooncakes and 350,000 servings of hot soup by the end of 2015.

Key Statistics

	Unit	2012	2011	2010	2009	2008
Business						
<i>Operations (Company)</i>						
Customers as at 31 December	Number	1,776,360	1,750,553	1,724,316	1,698,723	1,672,084
Customers per km of mains	Number	545	538	535	531	526
Employees as at 31 December (Hong Kong gas business only)	Number	1,943	1,938	1,923	1,908	1,922
Average turnover of workforce (Hong Kong gas business only)	%	4.6	4.6	4.5	3.3	5.6
Average turnover of workforce (all Hong Kong staff)	%	5.5	6.0	5.5	5.4	7.72
Installed capacity (Hong Kong towngas production)	Thousand cubic metres per day	12,260	12,260	12,260	12,260	12,260
Town gas sales (Hong Kong)	Million MJ	28,360	28,147	27,578	27,274	27,583
Financial						
Revenue	HK\$ million	24,923	22,427	19,375	12,352	12,352
Manpower costs	HK\$ million	1,997	1,700	1,467	1,120	1,006
Taxation	HK\$ million	1,485	1,344	1,038	750.6	546.3
Dividends	HK\$ million	3,041.7	4,147.8	2,513.8	2,285.3	2,333.0
Safety and Social						
<i>Safety (Hong Kong)</i>						
Urgent reports – total	Number	15,403	17,192	16,077	16,947	18,239
General incidents	Number	15,084	16,799	15,736	16,567	17,745
Gas related incidents	Number	319	393	341	380	494
Major gas emergencies (including suicide cases)	Number	6	6	4	10	6
Incidents involving third party damage to underground pipes	Number	12	15	10	14	10
Average response time for major gas incidents	Minutes	18.34	19.28	19.22	20.1	19.9
Trench inspections	Number	17,599	16,533	18,400	17,496	15,541
Regular safety inspections – home visits	Number	1,114,409	1,177,367	1,110,744	1,177,170	1,229,128

	Unit	2012	2011	2010	2009	2008
Community safety exhibitions	Number	12	13	12	12	12
Community safety talks	Number	6	5	6	11	2
In-house safety training	Number of man-hours	20,254	14,047	19,075	18,031	21,597
External staff safety training	Number of man-hours	6,720	7,071	8,002	7,626	5,580
<i>Occupational Health and Safety</i>						
Accidents – all industrial for injuries ¹	Number	10	10	16	14	12
(Accident Frequency Rate ¹)	(Number of accidents per 100,000 man-hours)	0.19	0.19	0.31	0.27	0.24
Reportable accidents ^{1,2}	Number	7	9	14	9	10
(Accident Incidence Rate ^{1,2})	(Number of reportable accidents per 1,000 employees)	2.5	2.9	5.7	3.7	4.1
Traffic Accident Injury Rate ³	Number of traffic accident injuries per 100 vehicles	3.74	3.11	3.71	3.05	4.44
Industrial Injury Man-days lost	Number of man-days	111	160	430	412	308
Fatal accidents	Number	0	0	0	0	0
• Hong Kong employees						
Fatal accidents	Number	0	0	0	0	0
• HCIL, TCCL and JV employees						
<i>Customer Service (Hong Kong)</i>						
Customer compliments	Number	6,090	5,658	5,532	5,554	4,100
Customer complaints	Number	7	10	9	17	16
<i>Community Involvement (Hong Kong)</i>						
Employees participating in voluntary services	Number	1,079	1,215	1,112	1,230	1,040
Members of Towngas Customer Volunteer Team	Number	138	138	138	133	133
Voluntary service hours (including employees and customers)	Number of hours	68,508	64,956	48,815	44,939	38,852

	Unit	2012	2011	2010	2009	2008
Environmental						
<i>Resource Use / Conservation (Hong Kong)</i>						
Naphtha saved #	Metric tonnes	13,355	13,996	13,657	11,234	9,960
Town gas saved #	Cubic metres	3,404,587	3,528,364	4,089,133	3,626,266	3,849,776
Water saved # (Gas Production)	Cubic metres	218,887	177,463	224,358	213,971	220,363
Photovoltaic (PV) panels installed	Square metres	75	75	75	75	75
Grid electricity saved through PV panels	kWh	86,500	86,600	86,600	86,900	86,600
Electricity saved# (North Point headquarters and Ma Tau Kok office)	kWh	4,254,325	4,234,225	4,142,825	3,993,105	3,763,818
CO ₂ emissions avoided equivalent to electricity saved* (North Point headquarters and Ma Tau Kok office)	Metric tonnes	2,981	2,963	2,900	2,795	2,635
Landfill gas utilisation as heating fuel in gas production	Cubic metres from Shuen Wan	2,362,000	2,364,000	2,761,000	2,361,000	2,528,000
Landfill gas utilisation as heating fuel in gas production	Cubic metres from NENT SNG	20,129,181	20,789,390	19,925,269	16,065,375	14,381,262
<i>Air Emissions (Hong Kong)</i>						
CO ₂	Daily average in metric tonnes (Metric tonnes per million MJ of town gas)	904 (11.92)	913 (11.91)	896 (11.96)	896 (12.13)	929 (12.35)
NO _x	Daily average in kg (Kg per million MJ of town gas)	318 (4.20)	356 (4.65)	344 (4.59)	324 (4.39)	342 (4.55)
SO _x	Daily average in kg (Kg per million MJ of town gas)	1.5 (0.02)	1.5 (0.02)	1.9 (0.03)	2.5 (0.03)	3.6 (0.048)
Greenhouse gases 4 (Production equipment)	Metric tonnes in terms of CO ₂ equivalent	360,634	362,307	355,958	357,043	370,647
<i>Aqueous Emissions (Hong Kong)</i>						
Wastewater	Daily average in cubic metres (Cubic metres per million MJ of town gas)	435 (5.74)	447 (5.84)	351 (4.68)	404 (5.47)	493 (6.55)

	Unit	2012	2011	2010	2009	2008
Waste Avoidance / Recycling (Hong Kong)						
Chemical waste generated	Daily average in kg (Kg per million MJ of town gas)	93 (1.23)	51 (0.67)	178 (2.37)	64 (0.87)	185 (2.45)
Spent catalyst collected for metal recovery	Metric tonnes	35.3	41.1	36	12	114
Metal chemical drums reused	Number	318	216	161	211	201
Plastic chemical drums reused	Number	969	1,064	818	882	878
Spent lube oil recycled	Metric tonnes	25.3	16.1	15.17	3.41	5.85
Scrap Metal recycled - Old gas appliances	Metric tonnes	926	840	989	930	891
Scrap Metal recycled - From construction and maintenance of plant and pipelines	Metric tonnes	35	11	47	125	116
PE pipe recycled	Metric tonnes	10.7	27.0	11.66	10.9	10.5
Abandoned aquaknect hoses	Number	10,768	9,084	17,221	23,024	26,012
Abandoned service pipes and fittings	Kg	1,174	2,206	3,509	10,715	6,434
Gas appliances polyfoam packaging materials avoided	Metric tonnes	1.52	2.19	4.33	4.12	5.04
Awareness Raising and Training (Hong Kong)						
In-house environmental training (Hong Kong)	Number of man-hours	1,951	549	4,008	3,036	967
External environmental training (Hong Kong)	Number of man-hours	1,120.3	255	773	403	890
Environmental training for JVs	Number of attendants	262	213	135	168	48

Remarks:

- 1 Contractor employees are excluded.
- 2 Employees of subsidiaries are excluded.
- 3 Only Towngas employees in Hong Kong are included.
- 4 Emissions were revised due to a change in calculation method according to EMSD/EPD accounting guidelines. Recalculated values may be slightly different from figures provided in previous company publications.
- # These figures are the savings achieved compared with the data of a reference year before implementing the respective environmental initiative.
- * The default value to account for the GHG Emission Factor of electricity sold to customers in Hong Kong is 0.7kg/kwh. Reference: Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings of Commercial, Residential or Institutional Purposes in Hong Kong (by EPD & EMSD)



Verification Statement

Scope and Objective

Hong Kong Quality Assurance Agency (HKQAA) was commissioned by The Hong Kong and China Gas Company Limited (hereinafter referred to as "Towngas") to undertake an independent verification of the Sustainability Report 2012 (hereinafter called "the Report"). The Report stated the overall sustainability performance and efforts made by Towngas for the period from 1st January 2012 to 31st December 2012. The verification team did not partake in the compilation of the data and information of the Report.

The aim of this verification was to provide assurance on the completeness and accuracy of the information stated in the Report.

Methodology

The process used in this verification was based on current best practices. The Report was reviewed based on the following criteria:

- The principles of completeness, accuracy, neutrality, comparability and responsiveness, as set out in the Institute of Social and Ethical AccountAbility standard AA1000, and
- The Global Reporting Initiative (GRI) G3.1 Guidelines.

The verification procedure included reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the Report and verifying the selected representative sample of data and information consolidated in the Report. Raw data and supporting evidence of the selected samples were thoroughly examined.

Conclusion

Based on the outcome of the verification process, the verification team determined that the information presented in the Report provided a structured, balanced and consistent representation of the performance of Towngas in the context of sustainable development. We are satisfied that the Report includes factual statements and the data contained within the Report is accurate and reliable. It is a fair and honest representation of initiatives, targets, progress and performance on the sustainable development achievements of Towngas.

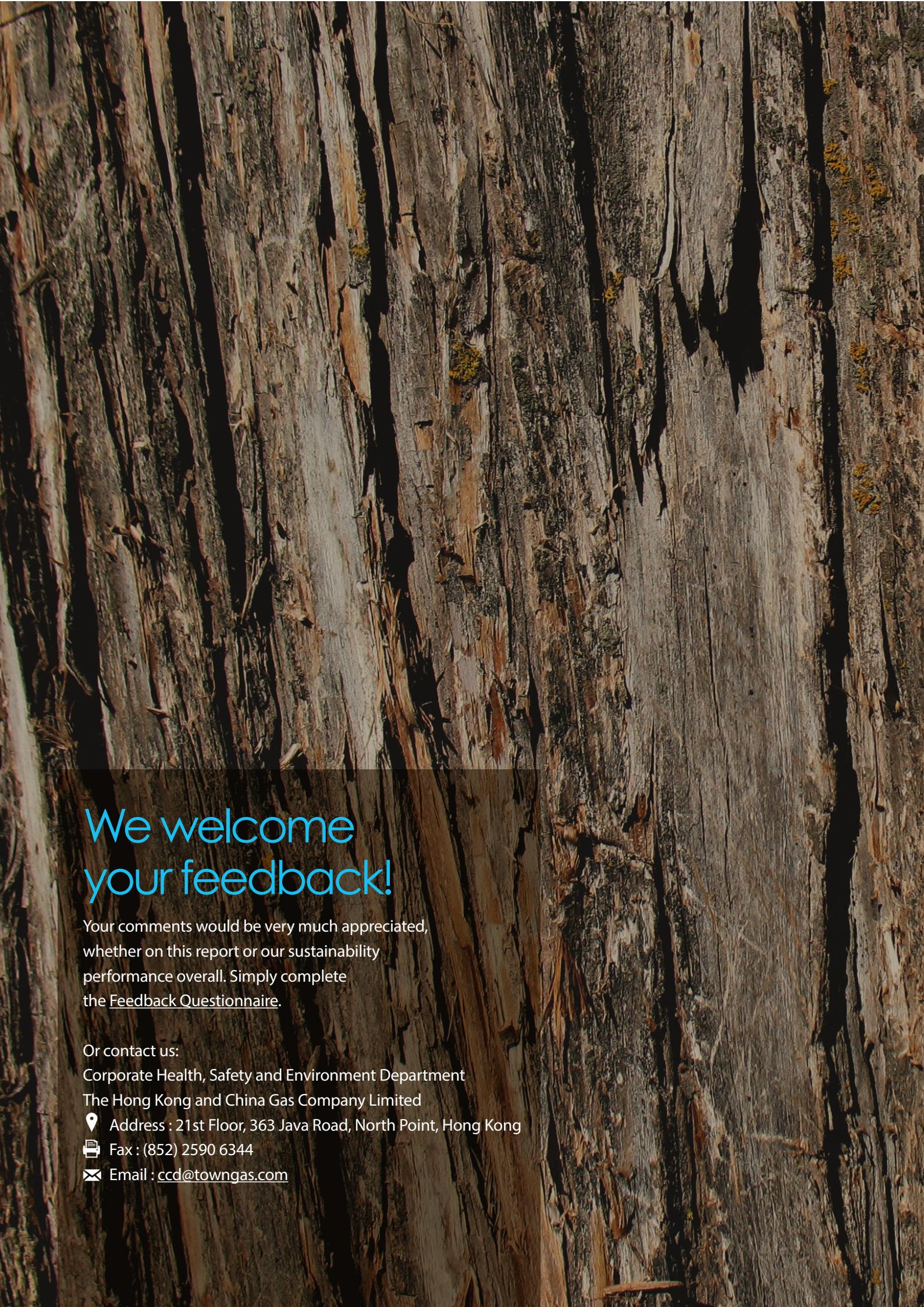
Opportunities for improvement on the reporting structure and content are separately submitted to Towngas for their consideration on the compilation of future sustainable development reports. It does not affect our opinion on the Report.

Signed on behalf of Hong Kong Quality Assurance Agency

A handwritten signature in black ink, appearing to read "Jorine Tam".

Jorine Tam

Assistant Director, Strategic Business
July 2013



We welcome your feedback!

Your comments would be very much appreciated, whether on this report or our sustainability performance overall. Simply complete the [Feedback Questionnaire](#).

Or contact us:

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