



煤氣  
Towngas

150 Warming  
Everyday Life 1862-2012



## Managing Director's Message



Alfred W K Chan  
Managing Director

In welcoming you to our Sustainability Report 2011, it gives me great pleasure to reflect on the long-term sustainability of our business as Hong Kong's first public utility. The Hong Kong and China Gas Company Limited was established in 1862, so we are celebrating our 150th birthday in 2012.

Any business can be proud of passing such a notable landmark. However these milestones are more than a celebration of the past. They also provide a time for reflection on the future. In the case of our sustainability programmes, with the tremendous support we have received from all of you, our stakeholders, as well as the many accolades and recognitions gained from the community, I believe that we are well on track.

This report details our efforts for 2011 as we strive to meet our sustainability challenges, from balancing the provision of efficient and quality services to our customers to the reduction of carbon emissions, to the care and support of our community. It thus includes information on our clean energy and conservation activities, as well as our corporate and social responsibilities towards our employees, our customers and our communities.

During the year, we established our 100th city-gas business on the mainland, sold our millionth Bauhinia appliance and we are seeing increasing momentum in our clean energy activities as more and more of our new energy and clean coal projects come on stream. Our methanol plant in Inner Mongolia commenced production and is currently going through a pilot production phase. Supporting these activities, we have also moved into the coal resources and logistics business.

In the countdown to our 150th Anniversary celebrations, we launched our “Wenxin” programme. “Wenxin”, which translates into “warmth and care” in English, aims to show our appreciation to our employees while also increasing their involvement and engagement in our Towngas family. In the midst of these initiatives, we have not lost sight of our mission to maintain our ongoing commitment to provide safe and reliable services that improve the quality of life for our 15 million customers both in Hong Kong and mainland China.

I would like to take this opportunity to thank every one of you who has contributed to our sustainability programmes in the past year. Your efforts have enabled us to not only win the “Hong Kong Awards for Environmental Excellence – Gold Sectoral Award 2011 for Public Organisations and Utilities” but also “The Enterprise with Outstanding Community Service in China” among many, many others. I look forward to your ongoing support as we create ever escalating new highs both in our business and as a responsible corporate citizen.

**Alfred W K Chan**  
Managing Director

# About This Report

Our Sustainability Reports cover the progress of our sustainability activities at Tawngas. In addition to our vision, mission, management and corporate governance policies, it also details the many aspects of our corporate social responsibilities, from our sustainability management systems to our environmental, health and safety, social and economic performance.

Produced every year, the Report gives us the opportunity to take stock of our achievements, review our policies and share our experiences with our diverse stakeholders and the community, while also gaining their comments and feedback.

Published online, the Report provides easy access to the widest possible audience both economically and in an environmentally friendly manner. A printed summary version is also available for anyone with limited access to the Internet.

## Scope of this Report

This Sustainability Report 2011, in line with our previous reports, deals with our achievements and successes as well as the challenges faced across our operations in Hong Kong and mainland China from 1 January 2011

to 31 December 2011. Providing a road map for the future, it also includes our targets, goals and business objectives both for 2012 as well as the next few years to come.

Further details of our financial performance can be found in our Annual Report 2011. For the record, there were no significant changes with regard to the ownership of the company during the reporting period. 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.

In our attempts to provide a clear and balanced view of our activities and performance, this Report covers Tawngas' material sustainability issues and takes the comments and views of our diverse 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

Conforming to international standards, this report has been prepared in line with Global Reporting Initiatives (GRI) Guidelines.

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Report Section	Standard Disclosure Requirements Covered
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Remarks:

1. 3.7 – There are no specific limitations on the scope of this report.
2. 4.2 – According to the Towngas Annual Report 2011 – Corporate Governance Report, the roles of Chairman of the Board of Directors and Managing Director are segregated and are not performed by the same individual.
3. 4.7 – According to the Towngas Annual Report 2011 – Corporate Governance Report, the nomination and selection of a Director is performed by the full Board. Proposed new Directors are selected based on skills and experience that, in the opinion of the Directors, will enable them to make a positive contribution to the performance of the Board.
4. 4.10 – Although Towngas does not have formal processes for evaluating the performance of the Board, the full Board is responsible for nominating and selecting a new Director. The Board also reviews its composition to ensure that it has a balance of knowledge and experience appropriate for the requirements of the business of the Group.

# 2011 Highlights



## Our Business

2011 was a record year for the Towngas Group. Cementing our role as a nation-wide energy supplier and service provider, we operated 138 project companies in mainland China and our market value reached over HK\$150 billion. Together with our 38,000 employees, we served some 15 million customer accounts, which translated into services for some 50 million people in Hong Kong and mainland China.

Re-iterating our financial strengths, we received a cnAAA rating on Standard & Poor's Greater China Credit Rating Scale as well as a cnA rating for Towngas China during the year. We also became the first Hang Seng Index Constituent Stock in Hong Kong to raise funds through the offshore renminbi debt capital market with the issue of a RMB 1 billion 5-year bond in March 2011.

Strengthening our leadership as the largest city-gas group in mainland China, we grew our city-gas operations by a further seven businesses in 2011 to reach a total of 100 city-gas ventures serving over 13.2 million customers. Gas sales grew to 10.3 billion cubic metres, an increase of 21% over the previous year.



## Supporting the Environment

At the end of 2011, our environmentally-friendly energy arm, ECO's operations had grown to a total of 20 projects. In addition to our clean energy projects such as our landfill gas and coalbed methane operations, our clean coal activities received a major boost with the commencement of operations of our new methanol plant together with a coal resources project in Inner Mongolia. We also acquired a coal-mining project in Inner Mongolia, as well as a logistics hub for coal transportation in Shandong.

Building on the success of our "Carbon Reduction Project Competition" on the mainland, the competition was held once again in 2011. Based on the 47 submissions received, carbon emissions were reduced by a further 10,000 tonnes during the year.



## Our People and the Community

In the run up to our 150th Anniversary in 2012, we launched our Wenxin programme. Wenxin which translates into “warmth and care” in English, aims to reinforce our caring “family” culture and show our care for our people.

With over 326,000 volunteer service hours under its belt since its formation in 1999, our Towngas Volunteer Team in Hong Kong won the Championship in the Social Welfare Department’s “Highest Service Hour Award, Private Organisations – Best Customer Participation” for the fourth year running.



## Towards Better Health and Safety

We became the first utility in Hong Kong to receive designation under the World Health Organisation’s (WHO) Safety Community’s International Safe Workplace Programme (ISWP). Operated under the auspices of Hong Kong’s Occupational Health and Safety Council, the programme consists of seven ISWP safety indicators.

In 2011, we achieved our best safety record yet in Hong Kong with a total of 10 accidents and no serious injuries during the year.



## Major Awards and Recognitions

We were listed in the region's leading business magazine, Yazhou Zhoukan's "Global Chinese Business 1000" list for the third year running. In addition to achieving a rank of eighth in Hong Kong, we also received the "Company with the Best Performance" Award.

Won the American Society for Training and Development's (ASTD) BEST award for our well-established corporate culture and employee development programmes in mainland China. ASTD is one of the world's most well-known associations dedicated to workplace learning and the development of professionals.

In the Health, Safety and Environmental (HSE) front, we won the –

- Hong Kong Awards for Environmental Excellence –  
Gold Sectoral Award 2011: Public Organisations and Utilities.
- 2011 Hong Kong Occupational Safety & Health Award
  - Gold Award : Safety Management System
  - Gold Award : OSH Annual Report
  - Safety Performance Award
- Hong Kong Green Awards –  
Silver Category : Green Management Award 2011
- "Class of Excellence" –  
Wastewi\$e Label 2011
- "Class of Good" –  
IAQwi\$e Label 2011

# Business Overview



## The Hong Kong Gas Business

## Mainland Businesses

## New Energy Businesses

## 2011 Business Performance Highlights

The first public utility to commence operations in Hong Kong, The Hong Kong and China Gas Company Limited, or Towngas as we are more commonly known as, was founded in 1862. We are thus celebrating our 150th Anniversary in 2012.

Initially established to light the streets of Hong Kong, our business has grown and expanded such that we are now a major energy supplier, with a strong focus on the environment, not only in Hong Kong but also in mainland China. As at the end of 2011, our operations included a total of 138 mainland businesses and our market value reached over HK\$150 billion. Together with our 38,000 employees, we provided both piped gas as well as other utility services to our 15 million customers, which translated into services to over 50 million people in Hong Kong and mainland China.

In Hong Kong, our activities mainly consist of the production and distribution of town gas, its marketing and sale, the provision of a full range of gas appliances, as well as comprehensive after-sales services.

Our businesses in mainland China include upstream, midstream and downstream gas projects, ranging from gas exploration and transportation to city-gas projects, and we have also diversified into telecommunications, building services, water supply and wastewater treatment, among others. We have also seen an increasing shift into the new and non-conventional energies in recent years, with pioneering projects such as the utilisation of landfill gas and coalbed methane as well as the research, exploration and implementation of clean coal-based energy initiatives. Looking forward, we are looking into ever newer and more diverse ways to produce clean energy.



## Corporate Awards and Recognitions

- cnAAA rating – Standard & Poor's Greater China Credit Rating Scale : Towngas
- cnA rating – Standard & Poor's Greater China Credit Rating Scale : Towngas China
- Global Chinese Business 1000 – Outstanding Performance Award by Yazhou Zhoukan (Third year running)
- 2011 Excellence of Listed Enterprise Awards by Capital Weekly
- The Most Valuable Listed Company during the Twelfth Five-Year Plan Award – 2011 Golden Bauhinia Awards by Ta Kung Pao and various financial Institutions.
- The Best Model for Public Satisfaction in China's Public Utilities Service by China's magazine "Economy" and Association of China Industrial Newspapers.

## Operational Statistics 2011

### Hong Kong

#### Number of Customers

1.75 million

#### Total Gas Sales

28,147 million megajoules

#### Supply Network

3,497 km of gas pipelines

### Mainland China

#### Number of Customers

13.2 million

#### Total Gas Sales

10.3 billion cubic metres

#### Supply Network

47,758 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

### Mainland Gas Businesses

#### Hong Kong & China Gas Investment Limited (HCIL)

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)

Gas filling stations in Hong Kong and mainland China  
Building and operation of ECO Aviation Fuel Facility (EAFF) in Hong Kong  
Exploration, development and utilisation of new and environmentally friendly energy – coalbed methane, coal-mine methane, coal-based chemical projects, etc  
Coal resources, infrastructure and logistic projects in mainland China



## 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 (Holdings))

Manufacture and supply of polyethylene products and equipment for gas and water piping systems

### 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 (M-Tech)

Development and manufacture of electronic gas meters providing smart metering solutions for the gas industry

## The Hong Kong Gas Business

In 2011, the booming economy on the mainland resulted in a large number of visitors to Hong Kong. Together with the cooler weather, this helped to drive gas sales – we thus supplied a total of 28,147 million megajoules of town gas during the year, an increase of 2.1 per cent over 2010.

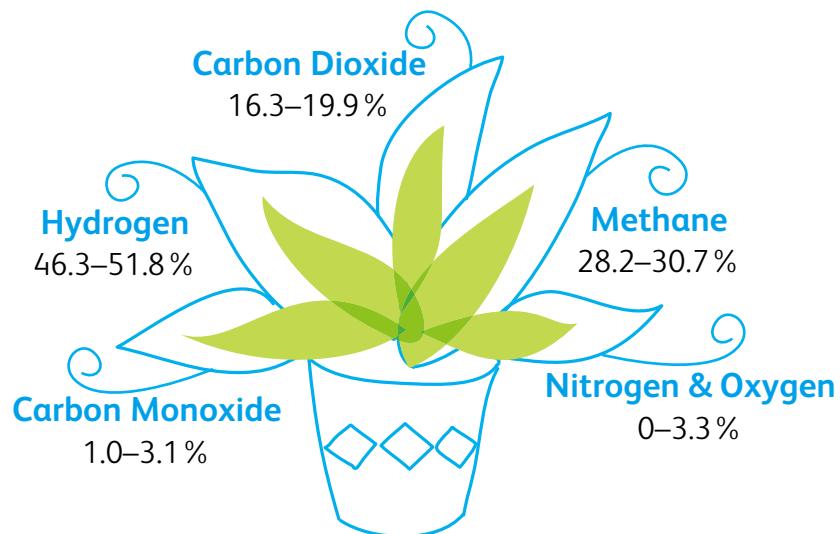


Our 1.75 million customers in Hong Kong are served by two production plants at Tai Po and Ma Tau Kok as well as our distribution network, which consists of some 3,500 km of pipelines linking almost every corner of Hong Kong. With a total combined production capacity of 12.26 million standard cubic metres of gas a day, our customers enjoy high levels of service with a supply continuity rate of over 99.99 per cent.

In addition to providing quality and one-stop town gas services, we also aim to improve the quality of life for our customers. Thus in addition to a 24-hour customer service hotline, our comprehensive network of Towngas customer centres provide easy access as well as friendly, one-stop services to our customers. We provide “same day” installation and maintenance services, while our wide range of gas appliances have been specially tailored to meet Hong Kong’s needs. We also offer diverse lifestyle options – from community programmes, corporate team building exercises and cookery workshops to wine appreciation talks – at our Towngas Avenues.



## Town Gas – Chemical Composition



	2011	2010
Number of Customers as at 31st December	1,750,553	1,724,316
Town Gas Sales, million MJ	28,147	27,578
Installed Capacity, thousand m <sup>3</sup> per hour	511	511
Maximum Daily Demand, thousand m <sup>3</sup>	6,742	6,191
Length of Gas Network, km	3,497	3,464

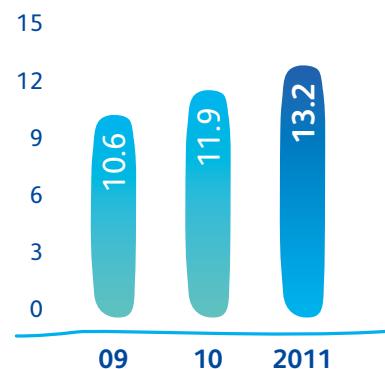
## Mainland Businesses

In view of China's flourishing economy, our mainland businesses performed particularly well during the year. A total of 18 new businesses were added to our China portfolio in 2011, bringing the total to 138 upstream, midstream and downstream city-gas projects, water businesses, telecommunication and new energy projects, across 21 provinces, municipalities and autonomous regions throughout the country.

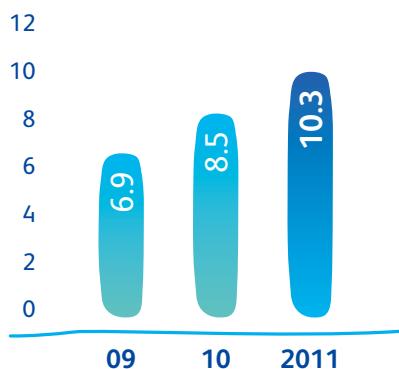
[Click to view  
our geographical reach in  
Mainland China](#)



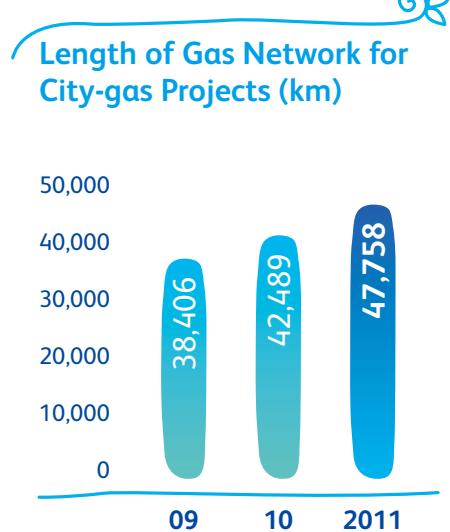
**Number of City-gas  
Customers as at  
31st December (million)**



**Mainland Joint Venture  
Gas Sales (billion m<sup>3</sup>)**



During the year our city-gas business passed a major milestone, when with the addition of seven new businesses in 2011, it reached the 100 mark. At the end of December, our portfolio thus consisted of 100 city-gas projects in 19 provinces, municipalities and autonomous regions. Customers numbers rose to 13.2 million while sales volumes grew a healthy 21 per cent over 2010 to reach 10.3 billion cubic metres.



## New Energy Businesses

Our new energy businesses continued to gain momentum during the year with growing revenues and profit as more and more projects commenced operations and came on stream. With just two projects under its belt a little over 10 years ago, ECO Environmental Investments Limited (ECO), our environmentally-friendly energy business arm, is now involved in 20 ventures both in Hong Kong and on the mainland.

ECO's activities are currently focused on three primary areas – the energy-related logistics and infrastructure sector which operates liquefied petroleum gas, compressed natural gas and liquefied natural gas stations to provide cleaner fuel for vehicles both in Hong Kong and mainland China, as well as the ECO Aviation Fuel Facility (EAFF) to serve the fuel needs of the Hong Kong International Airport. EAFF completed its first full year of operation in 2011.

The two landfill gas (LFG) projects in Hong Kong together with a liquefied coalbed methane (LCBM) facility and a coalmine methane (LCMM) plant, which is under construction, in mainland China, continue to pioneer the transformation of renewable and waste resources into useful energy. The commencement of production at our methanol plant in Inner Mongolia in 2011 also boosted our clean coal energy activities, becoming the first project in this business sector to come into operation. These activities are further supported by coal mining facilities and a logistics hub for the transportation of coal on the mainland, which were opened or acquired during the year.

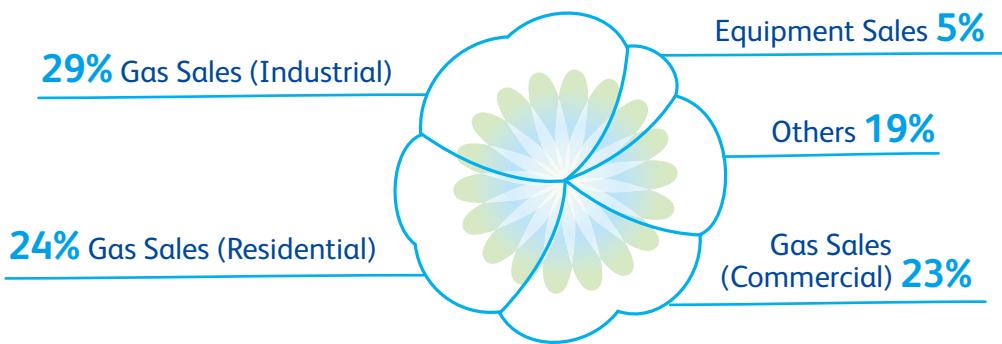


## 2011 Business Performance Highlights

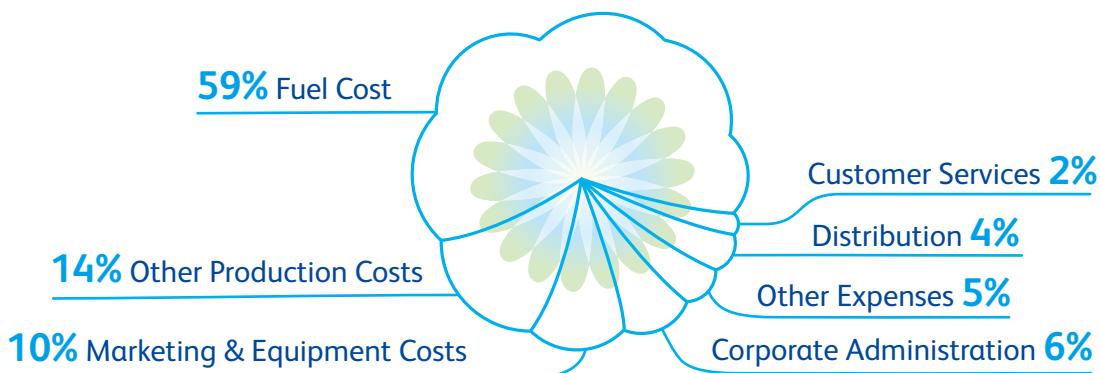
### Financial Indicators 2011

Revenue	HK\$ 22,427 million
Capital Expenditure	HK\$ 4,730 million
Manpower Costs	HK\$ 1,700 million

### Analysis of Revenue



### Analysis of Expenditures



# Our Vision for sustainability

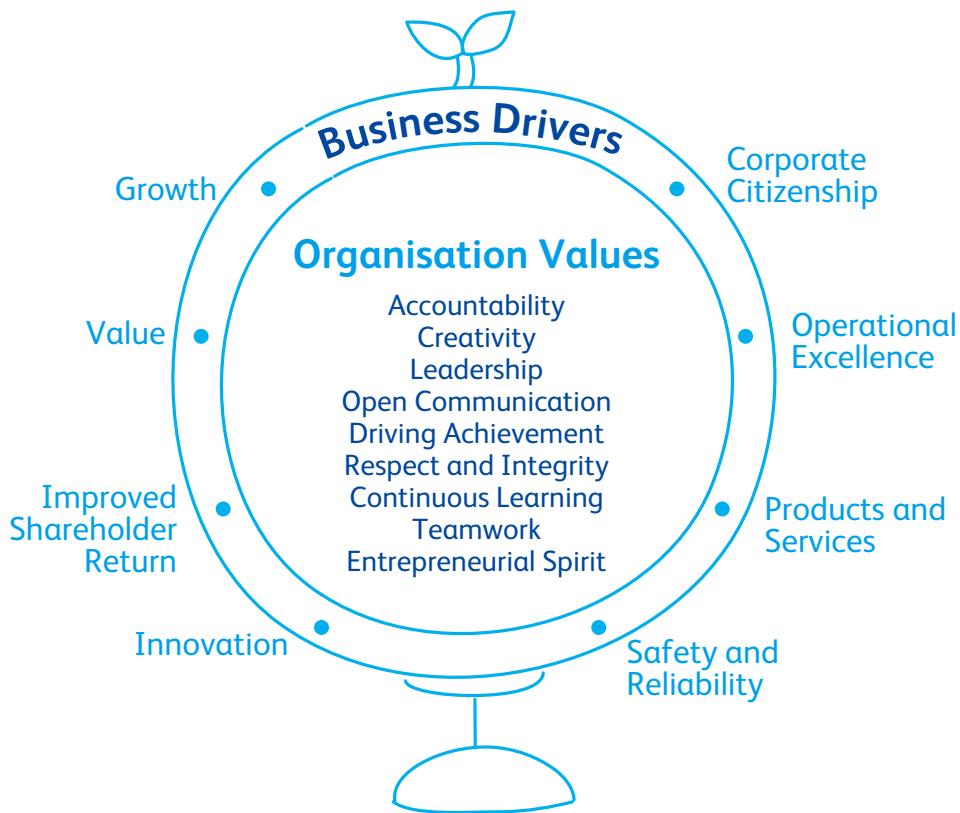


In today's modern business world, no organisation can operate in isolation from the world around it. Thus to be sustainable, it is imperative that we act with care and concern, behaving responsibly and equitably not only towards our customers, shareholders and business partners, but also the community and increasingly the world around us. In carrying out our Corporate Social Responsibilities (CSR), our aim is

to integrate our business and corporate values into an all-embracing strategy that takes environmental, social and economic sustainability into account in every aspect of our businesses.

Our vision, mission and values define this commitment, providing a clear view of our ultimate goals as well as the road map on how we can arrive at these objectives.





As a first step, we abide by sound business and ethical principles – disclosing accurate accounting and financial information; complying with Hong Kong's laws, listing rules and regulations; and benchmarking ourselves against applicable codes and standards.

We thus 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.

Extending these standards, a CSR Code of Practice has also been developed for our suppliers.

Our goal however is to go beyond mere compliance with existing laws and guidelines. In serving our customers, our aim is to benchmark ourselves against the world's best practices as we deliver innovative, useful and environmentally friendly products and services that will improve their quality of life and living standards.

## Corporate Governance

Our Corporate Governance activities are based on the building of trust between ourselves and our various stakeholders. This commitment not only demands accountability and transparency in every aspect of our operations, we also focus on taking care of our stakeholders' needs. We thus act in their best interests while also fulfilling our social responsibilities within the community.

The Board of Directors is the highest governance body within Towngas. Composed 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, as well as the maintenance of the highest levels of corporate governance. Four Board Committees also work to help the Board 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 are in accordance with applicable standards and conventions.

**The Remuneration Committee** makes recommendations to the Board on the company's policy and structure for the remuneration of Directors and senior management who are also executive directors of the company. It also reviews the special remuneration packages of Executive Directors with reference to corporate goals and objectives resolved by the Board from time to time.

**The Investment Committee** of Retirement Schemes manages the company's retirement schemes and advises the trustees on investment policies.

**The Treasury Committee** reviews, advises and formulates strategies related to the Group's treasury and investment activities.



Directors' biographies, together with details of the composition and operation of the Board and its Committees, can be found in our [Annual Report 2011](#).

During the year ended 31st December 2011, we complied with all code provisions set out in the Code on Corporate Governance Practices contained in Appendix 14 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited.

## HSE and Risk Management

As a leading operator in the energy sector, our activities pose a number of high level risk factors such as fire and explosions, apart from the more ordinary day-to-day concerns seen in other commercial organisations. Accordingly our health, safety and environment (HSE) practices are based on a dual approach – firstly, the safety of our people and our customers together with the safe maintenance and operation of our infrastructure are given the topmost priority while secondly, we aim to take a leadership role in the industry, seeking to raise safety standards as well as levels of professionalism throughout the region.

### Our Corporate HSE Policy and Management Structure

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

We therefore seek to



**Ensure** health and safety at work, while minimising any HSE risks.

**Achieve** a zero accident 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 for all major projects and conduct regular HSE audits throughout our operations.

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

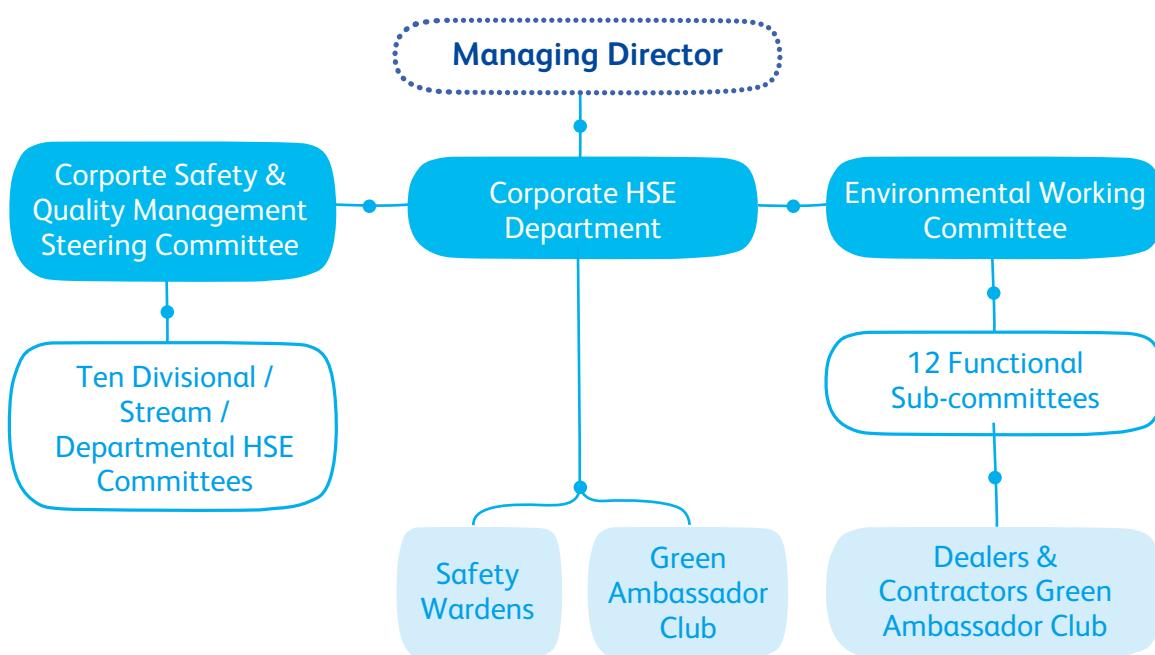
**Achieve** full compliance with all relevant legislation.

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

The performance of this policy is managed, monitored and controlled by a dedicated Corporate HSE Department with the support of the Corporate Safety and Quality Management Steering Committee as well as the Environment Working Committee. Ensuring the timely communication of relevant HSE information, all employees, dealers and contractors are kept fully informed through our Green Ambassadors and Safety Wardens network as well as through a comprehensive range of training and development programmes.



### HSE Management Structure (Hong Kong)



HSE Departments in Hong Kong & China Gas Investment Limited (HCIL), Towngas China Company Limited (TCCL), ECO Environmental Investments Limited (ECO) as well as individual companies, supported by the activities of our Corporate HSE Department, take responsibility for their HSE management and operation throughout the mainland. Giving these safety and risk management initiatives the highest priority, all Safety and Risk Departments report directly to the General Manager of the business concerned.



“Towngas treats occupational safety and health (OSH) as a core corporate value, aligning it with their corporate vision and strategies. Their Sustainability Report clearly demonstrated that well-integrated OSH management systems not only lead to proven successes in the OHS and community safety sector, they also help to enhance business productivity.”

**Tang Wah Shing**  
**Executive Director**  
**Occupational Safety and Health Council (OSHC), Hong Kong**

## Accreditations and Certifications

To make sure that our activities comply fully with regulatory requirements, deliver uncompromising quality, guarantee employee, customer and public safety, while also boosting our sustainable development, we benchmark ourselves against the highest international standards, legislation and codes of practice. Our accomplishments in this direction include global recognition and accreditation from the major quality and HSE management systems in the world.

As annual audits, both by internal auditors and external certification bodies are required for the different management systems, in 2011 we successfully implemented a combined audit programme covering four of our management systems – ISO9001, ISO14001, OHSAS18001 and PAS55 at one time, saving considerable time and costs.





### Management System Certifications

Company/Subsidiaries/ Joint Ventures	Standard	Year of Certification/ Verification	Facility
<b>Hong Kong Operations</b>			
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	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	ISO 14001	2011	ECO Aviation Fuel Facility
	OHSAS 18001	2011	ECO Aviation Fuel Facility
	OHSAS 18001	2008	LPG Filling Stations

Many of our business projects on the mainland have also obtained ISO 9001, ISO 14001 and OHSAS 18001 certification.



### Certifications Acquired by our Mainland Businesses in 2011

Danyang	ISO 9001	
	OHSAS 18001	
Dongyong	ISO 9001	
	ISO 14001	
	OHSAS 18001	
Yixing	ISO 9001	
	ISO 14001	
	OHSAS 18001	
Weifang	OHSAS 18001	
Wuhu	ISO 18001:2007	
Mianyang	OHSAS 18001	
Zhongjiang	OHSAS 18001	
Tongxiang	ISO 14001	
Shanxi	OHSAS 18001	ECO Coalbed Methane Plant
	ISO 14001	ECO Coalbed Methane Plant

#### Note:

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

## Stakeholder Engagement

Trust, openness and a willingness to listen are essential when seeking the engagement of our stakeholders. Our Customer Focus Teams thus work to strengthen our communication and foster a two-way dialogue with our customers, partners and the community. This direct engagement, sharing of experiences and gaining of feedback has not only helped to generate mutual understanding and openness, it has also helped to drive greater co-operation and acceptance of our activities.

Building on the success of our Customer Focus Teams in Hong Kong, this practice has since extended to more than 60 of our businesses in China, all of whom have set up similar teams to reach out to the communities and customers that they serve. The practice has also expanded in Hong Kong to forge stronger links with the local community – our District Council Focus Teams, consisting of more than 30 managers, liaise directly and meet on a regular basis with Hong Kong's 18 District Councils. Not only does this generate a better understanding of the community's needs and expectations, it also provides an ideal channel for our active involvement and participation in local neighbourhood events.



### Our Key Stakeholders and Major Communication Channels

Key Stakeholders	Communication Channels
Employees	<ul style="list-style-type: none"> <li>Employee surveys</li> <li>Suggestion scheme, bulletins, newsletters, intranet, screensavers</li> <li>Meetings with employee union</li> <li>Issue-specific consultative sessions</li> <li>Superior Quality Service Programme</li> <li>Strategy Ambassadors Club in Hong Kong</li> <li>Green Ambassadors Club in Hong Kong</li> <li>Strategic Development Circle in China</li> </ul>
Local Communities	<ul style="list-style-type: none"> <li>District Council Focus Teams</li> <li>Community programmes</li> <li>District Fire Safety Committees</li> <li>Customer Focus Teams</li> </ul>



Key Stakeholders	Communication Channels
Professional Bodies, Industry Peers, Regulators	<ul style="list-style-type: none"> <li>Joint Utility Safety and Occupational Health Policy Group</li> <li>Business Environment Council</li> <li>China Gas Association</li> <li>Gas Authority (GSO), EMSD</li> <li>The Hong Kong Institution of Engineers</li> <li>Polyethylene (PE) piping coalitions and International Organisation for Standardisation (ISO) Technical Committees on PE pipes and fittings</li> <li>Other professional institutions and business chambers</li> </ul>
Customers	<ul style="list-style-type: none"> <li>Newsletters, bill inserts, leaflets</li> <li>Maintenance visits, safety inspections, Customer Focus Team visits, safety talks</li> <li>Surveys, focus groups, customer centres</li> <li>Publicity and community campaigns</li> <li>Management Offices/Incorporated Owners' Associations</li> <li>Customer Service Hotline</li> </ul>
Shareholders	<ul style="list-style-type: none"> <li>Visits to Towntgas facilities</li> <li>Annual general meetings and investors' briefings</li> <li>Interim and Annual Reports</li> </ul>
Contractors, Dealers and Suppliers	<ul style="list-style-type: none"> <li>Ongoing audits</li> <li>Management meetings</li> <li>Environmental training for dealers and contractors</li> <li>Seminars and workshops</li> </ul>
NGOs/Green Groups	<ul style="list-style-type: none"> <li>Green partnership programmes and community programmes</li> </ul>
Other Stakeholders	<ul style="list-style-type: none"> <li>Sustainability Report and associated stakeholder dialogue in the report preparation stage</li> <li>Company websites, social media and smartphone app</li> <li>Publications and booklets</li> </ul>

# Environmental Performance



As the problems of climate change loom ever more seriously in our world, it is imperative that these issues are addressed. As a major supplier of energy in the region, we have been fully aware of these concerns for some considerable time – the need to be both environmentally friendly and to preserve, protect and improve our environment are enshrined in our vision and mission and over the years these values have been coded into our corporate DNA. We are proud to note that when we commenced the use of naphtha in 1973, a much lighter fuel than the heavy oil then being used, our 1974 Annual Report stated, “In the 1970s, industry must be more than merely efficient and profitable. Today, to be truly modern, we must continue to recognise our responsibilities in yet another area. We must work together to protect and nourish the environment in which we live.”

Extending this legacy and enhancing our green programmes in Hong Kong, we established a Green Development Steering Committee in 2011. Apart from the development of 20 Key Performance Indicators focusing on the efficient use of energy, reducing pollutant emissions, the conserving of resources as well as the management and recycling of waste, the Committee is also looking into the carbon footprint of a typical gas appliance.

In carrying out our green activities, we comply fully with all relevant environmental guidelines, standards and legislation in our operations. We are pleased to report that, during the year, no environmental warnings or alerts of any kind were received. We also received recognition from the community for our efforts with the winning of the Hong Kong Awards for Environmental Excellence - Gold Sectoral Award 2011 for Public Organisations and Utilities, the silver award in the Green Council’s “Green Management Awards” and we were once again named as a “Green Medallist” in the “Hang Seng Pearl River Delta Environmental Awards”.

## Clean Energy

Gas is a cleaner source of energy than other energy alternatives, with the use of clean fuels such as natural gas, currently the cleanest fossil fuel available, our business is very much a green energy business. Extending this positive picture, we have taken a strong interest in turning traditional waste materials – the use of landfill gas and coalbed methane, for example, into valuable sources of energy and we are also highly active in the exploration, research, development and discovery of the new and non-conventional forms of energy. In addition to our widespread work in the use of clean coal utilisation techniques for example, we are also actively exploring the use of biomass energy.



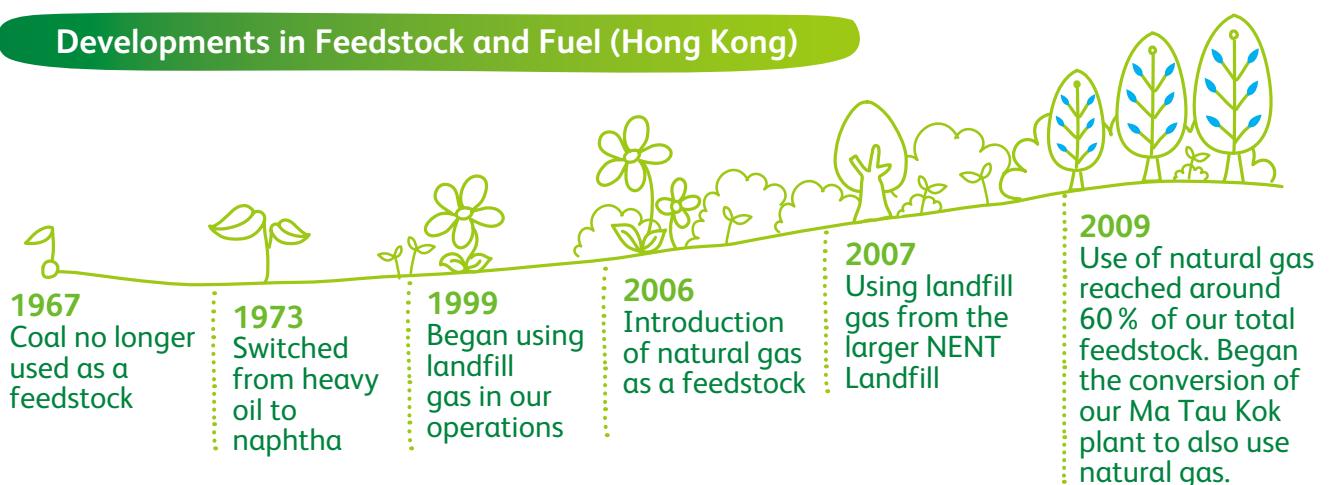
“Towngas’ utilisation of landfill gas as a production fuel along with natural gas demonstrates the use of cleaner energies in town gas production. In particular, the use of landfill gas provides a win-win scenario as it is a renewable energy which would otherwise be wasted.”

**Edwin Lau**  
Director – General Affairs  
Friends of the Earth (HK)

## A Green Energy Business

As the first step in the operating of a green energy business, we comply fully with international environmental regulatory requirements as well as with leading global practices. Our operations and operating systems together with our Environmental Management System in Hong Kong gained accreditation under the internationally acclaimed ISO 14001 environmental management system standard in 2000, certifying that our gas production processes are on par with the cleanest and most efficient industrial systems around the world.

### Developments in Feedstock and Fuel (Hong Kong)

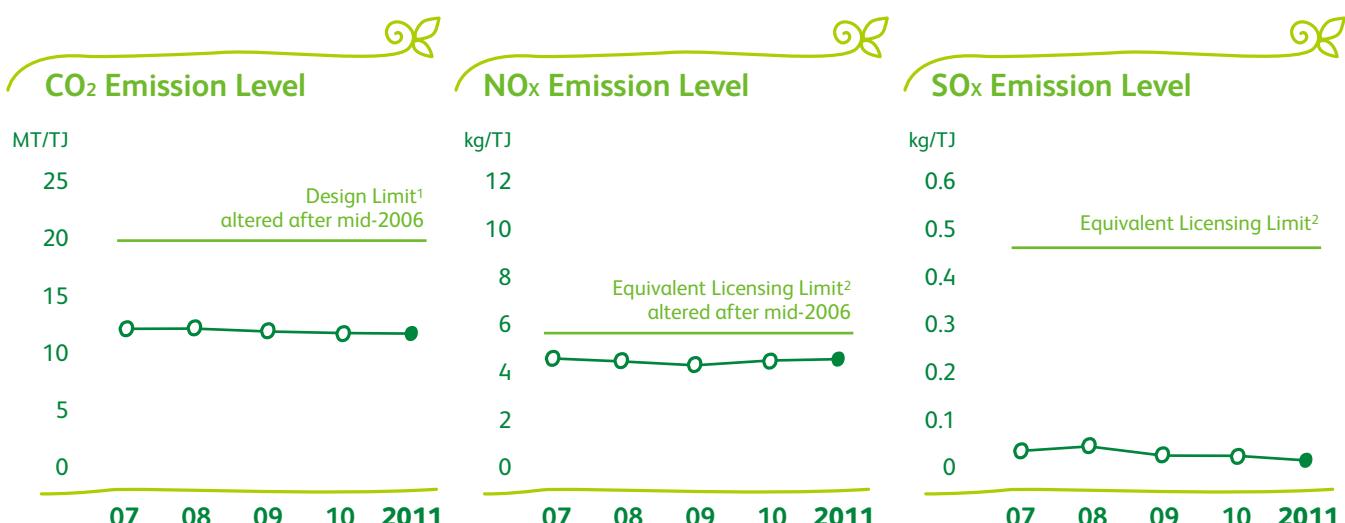


## Natural Gas

The journey to cleaner energy began in 1967 when coal was no longer used in the gas production process. The first major difference took place 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. Yet another watershed occurred in 2006, when we began using natural gas as a feedstock. Natural gas significantly reduces pollutant emissions such as carbon dioxide (CO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>) and sulphur oxide (SO<sub>x</sub>), which means improved air quality for Hong Kong while the reduced emissions mitigate against climate change and global warming concerns.

Over the years this use of natural gas has risen steadily, currently accounting for around 60% of our total feedstock. This figure will grow yet again when the pipeline bringing natural gas to our Ma Tau Kok production plant is completed. We expect this to take place in 2012.

### Emission Levels of Gas Production Plants (Hong Kong)



#### Note:

1. As there is no Licensing Limit for the emission levels of the substance, we apply the design limit of our production plants as a reference point for the emission level.
2. "Equivalent Licensing Limit" (kg/TJ OR m<sup>3</sup>/TJ) = "Weighted average of actual licensing limit" (kg/hr or m<sup>3</sup>/hr) ÷ production rate of the plants for the year 2010 (TJ/hr).

With natural gas providing the basis for our city-gas operations on the mainland, the emission of greenhouse gases is minimal. As natural gas, in line with governmental policies, is being seen as the leading "clean fuel" in the foreseeable future and as our portfolio of city-gas businesses continues to expand, we see our activities as making a significant contribution towards a cleaner and greener economy for the country.

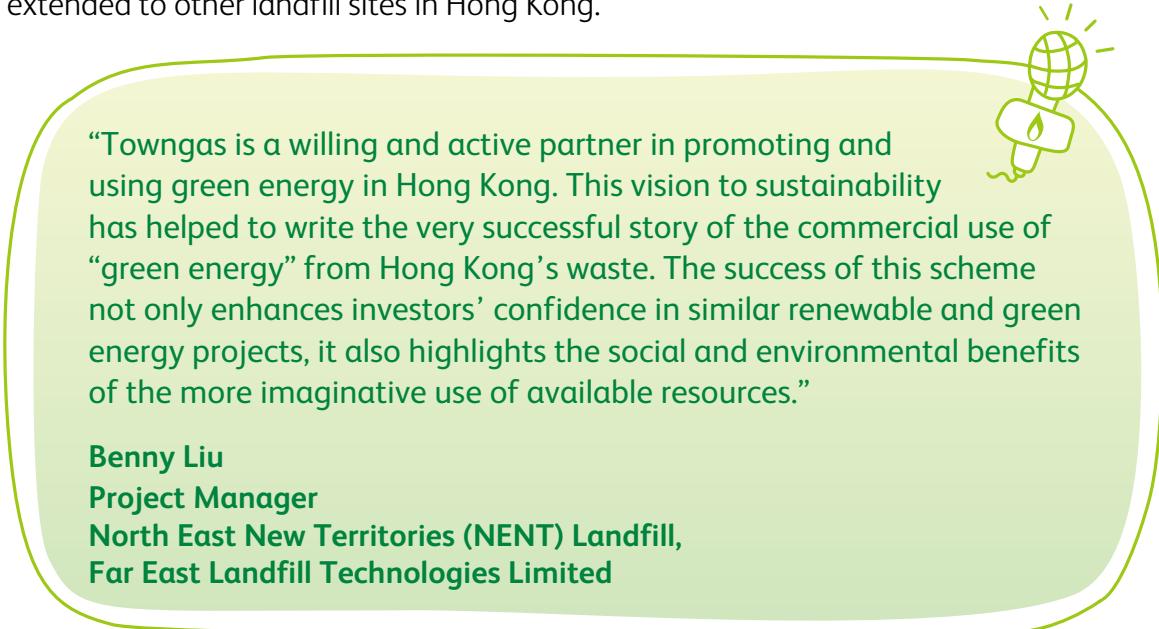
## Clean Fuel Facilities

We began our activities in this direction in 2000 when ECO Environmental Investments Limited (ECO), our eco-friendly energy arm, began the building and operation of five dedicated liquefied petroleum gas (LPG) filling stations in Hong Kong to serve Hong Kong's fleet of 18,000 taxis and most of light buses. These activities have since expanded onto the mainland and nine compressed natural gas and liquefied natural gas filling stations have been established 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, they also provide an alternative source of supply for our city-gas businesses in the vicinity. Providing a much cleaner alternative to diesel fuel, the use of these fuels is expected to increase yet again as technology increasingly makes it possible for natural gas to power other forms of transport as well.

## Turning Waste into Energy

### Landfill Gas

We are a pioneer in the use of landfill gas (LFG), becoming the first organisation in Hong Kong to use this "waste material" on a commercial basis. Commencing in 1999, LFG was harvested at the Shuen Wan landfill site and used 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 energy input, this LFG use not only reduces the release of greenhouse gases into the atmosphere – it currently saves some 45,000 tonnes of carbon emissions a year, it also conserves around 14,000 tonnes of naphtha annually. In view of these benefits, we are negotiating with the government and landfill operators to see if these activities can be extended to other landfill sites in Hong Kong.



"Towngas is a willing and active partner in promoting and using green energy in Hong Kong. This vision to sustainability has helped to write the very successful story of the commercial use of "green energy" from Hong Kong's waste. The success of this scheme not only enhances investors' confidence in similar renewable and green energy projects, it also highlights the social and environmental benefits of the more imaginative use of available resources."

**Benny Liu**  
**Project Manager**  
**North East New Territories (NENT) Landfill,**  
**Far East Landfill Technologies Limited**

## Coalbed Methane and Coal-mine Methane Activities

Based on the experience gained in the harvesting and use of LFG, we were able to expand this pioneering role with the opening of China's first large-scale coalbed methane (CBM) liquefaction plant in Shanxi. CBM, a natural gas found in coalbeds, was, like LFG, 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. Making history when the first tankers began to roll out in December 2008, the plant is now fully commissioned – with the opening of its phase-two facility in March 2011, it reached its full 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 and are currently studying possibilities at a CBM well in Guizhou.



In 2009, our LCBM plant was chosen as one of 50 Clean Energy Projects with the Highest Investment Value in China by the Financial Times and the China Chamber of International Commerce.



## 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<sub>x</sub> and NO<sub>x</sub> emissions and any CO<sub>2</sub> generated is in such pure form that it can be easily captured and stored for other uses.

In 2010, this vision turned into reality when our coal-based methanol plant was completed in Inner Mongolia. Currently in its pilot production stage, the facility is expected to be fully operational by 2012, with an annual production capacity of 200,000 tonnes. Methanol, with its dual applications as a chemical feed as well as a highly efficient and clean burning fuel, is proving to be a valuable commodity with excellent market potential.

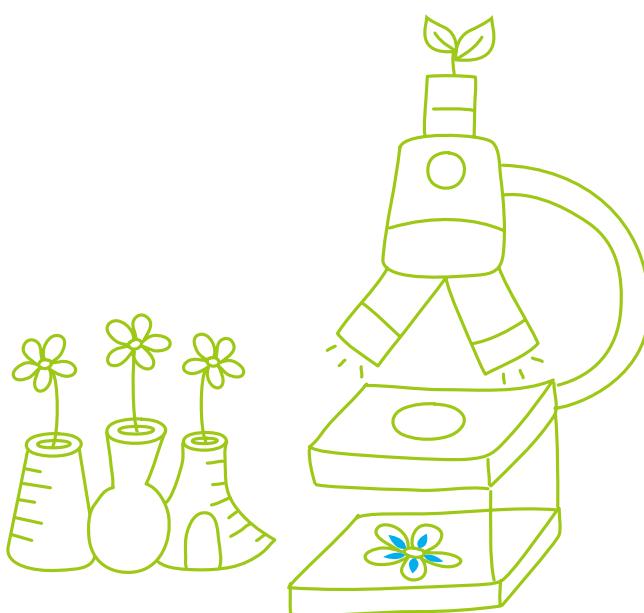
A second coal-based chemical project is taking shape in Fengcheng, Jiangxi province to produce coke from coking coal. Due for completion in 2012, the coke produced will be used in the steel industry while the coke-oven gas, a by-product in the process, will provide a further source of supply for our city-gas businesses in the vicinity.

These activities in turn are supported by a growing number of coal resource and logistical projects. These include the completion of a coal-mine in Inner Mongolia, to serve the needs of our methanol plant, as well as the acquisition of our first open-face coal mining facility, also in Inner Mongolia. Boosting our burgeoning clean coal activities, we also acquired a logistics hub in Shandong province for the transportation of coal. Currently under construction, the facility will link upstream suppliers by rail, while downstream it will extend all the way to Shanghai and the Yangtze River by canal.



## New Energy Developments

In addition to our clean coal activities we are also looking for new and more diverse ways to produce clean fuel. In 2010, ECO set up a new-energy research and development centre and in addition to this in-house resource, we also work in close partnership with a number of research and technology institutes both locally and internationally. Actively interested in the use of biomass energy with a particular focus on using renewable resources and waste materials, we are exploring opportunities to use biogas generated from Hong Kong's potential Organic Waste Treatment Facilities (OWTF). While these new developments will define our business and sustainability into the future, our goal is also to make sure that they will make an active contribution to the world of clean energy.

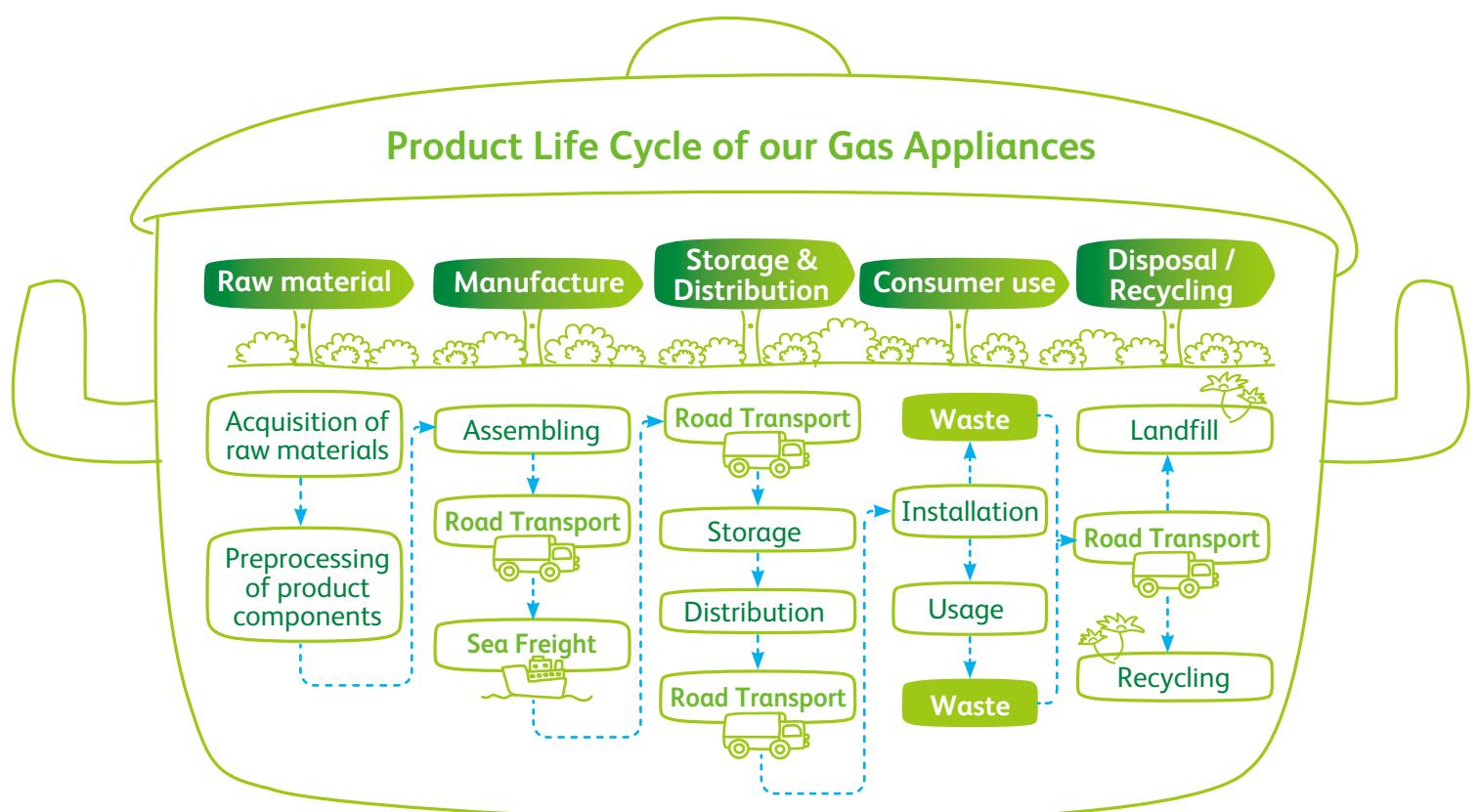


## Reducing Our Carbon Footprint & Conserving Resources

### Our Carbon Footprint

Ever since the completion of our first carbon audit in 2008, we carry out carbon inventory and accounting exercises on an ongoing basis. This practice was also extended to our mainland businesses in 2009. Spurred on 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, the audit was 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.

At the same time, making sure that the audit met the highest global standards, they were also verified under ISO 14064-1 specifications in 2008. The audit has been invaluable – not only did it provide a baseline for the calculation of carbon emissions resulting from the gas production process, it also enabled the establishment of carbon inventory accounting procedures.



Looking to reduce our carbon footprint even further while providing a greener choice for customers, our newly formed Green Development Steering Committee is also researching the carbon footprint of a typical gas appliance. The study takes the entire life-cycle of the appliance into consideration from the acquisition, processing and use of raw materials to manufacturing, storage, transport and distribution. It also takes the actual usage of the product into account as well as its final disposal and recycling possibilities.

### Carbon Intensity

CO<sub>2</sub> emissions per unit of town gas in Hong Kong



In view of the success of our Carbon Reduction Project Competition held by our mainland businesses in 2010, the exercise was repeated once again in 2011. The results have been equally positive. A total of 47 submissions were received, reducing carbon emissions by 10,000 tonnes during the year, equivalent to the amount of CO<sub>2</sub> absorbed by 430,000 trees annually. The winning proposal, which came from the Suzhou Water Company with the simple suggestion to prevent rainwater from entering the wastewater system, reduced the amount of wastewater to be processed by an impressive 3 million tonnes in one year alone, saving over RMB3 million in costs and 885 tonnes of CO<sub>2</sub> emissions annually.



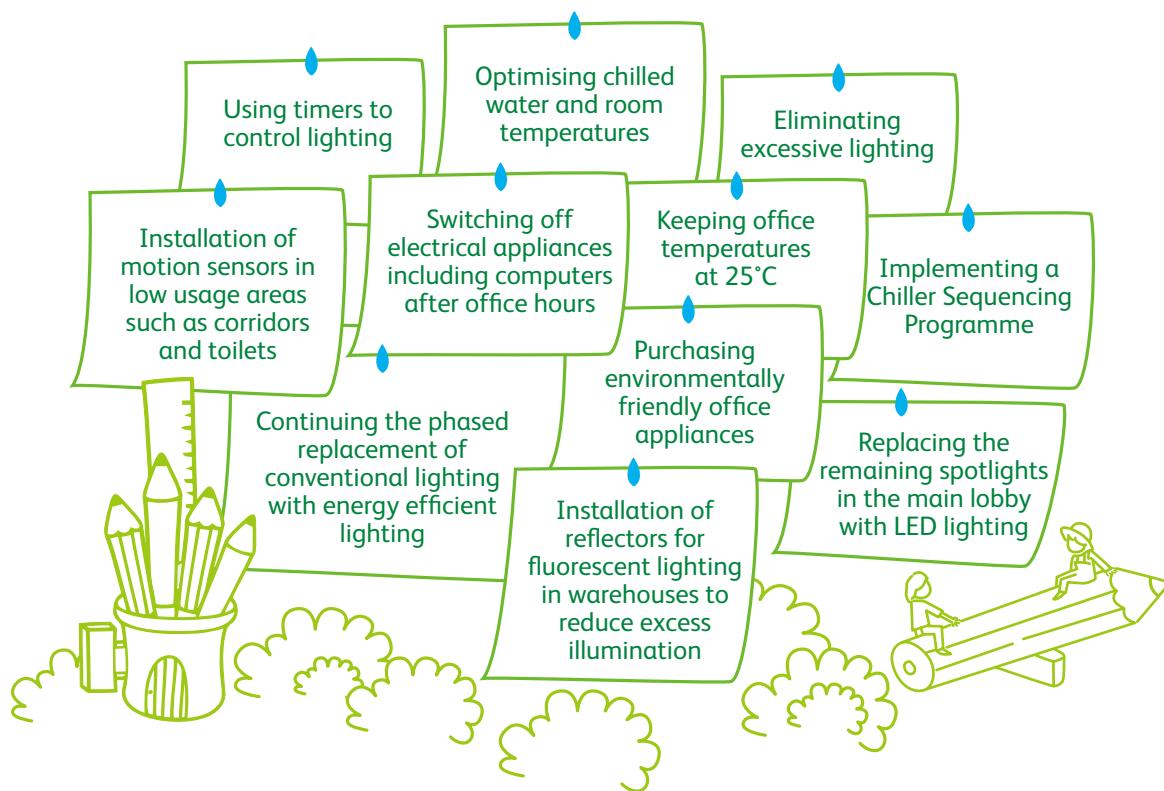
**“Over the past two years, our Carbon Reduction Project Competition on the mainland has brought in a total of 85 submissions reducing carbon emissions by a total of 23,000 tonnes annually. In addition to the cost-savings, this translates into the CO<sub>2</sub> absorbed by 995,000 trees every year.”**

## Conserving Resources

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



## Energy Saving Measures Implemented at TOWNGAS HEADQUARTERS



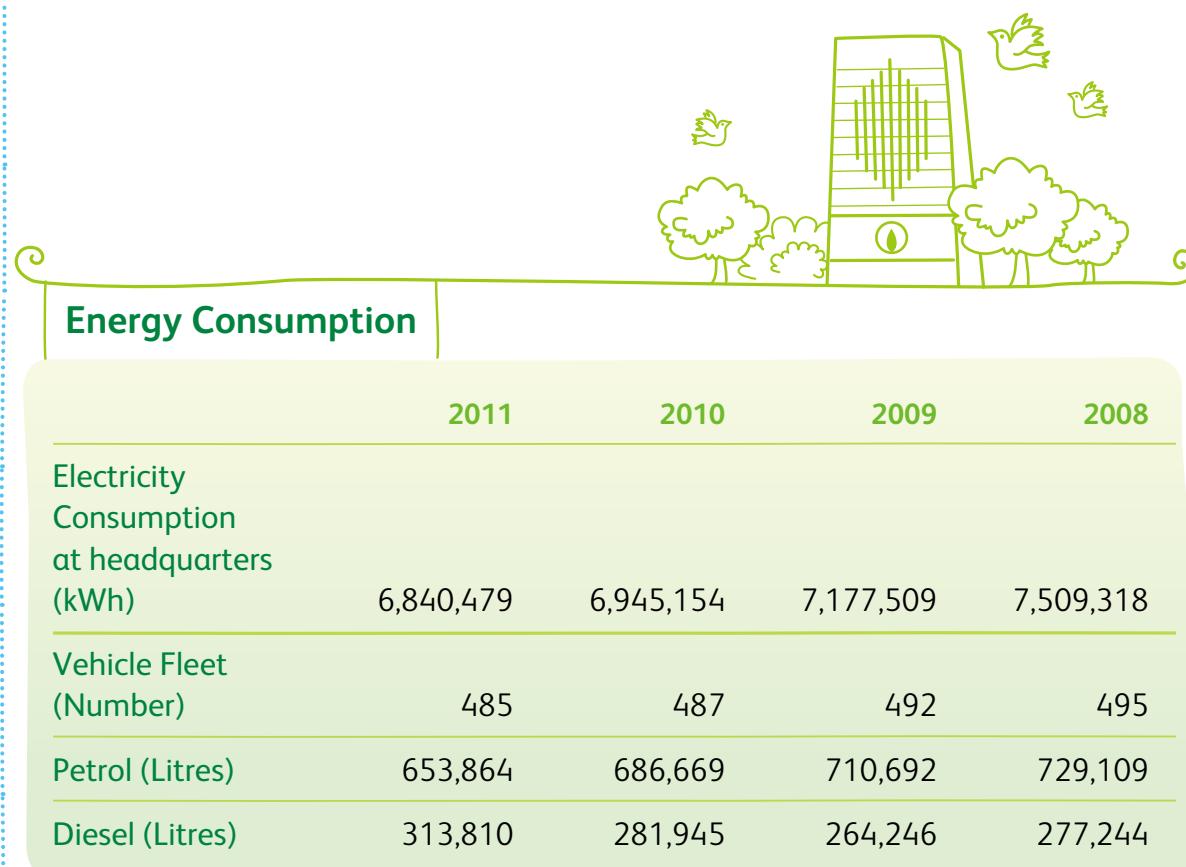
## Saving Electricity

Though our headquarters in Hong Kong achieved its classification as an Energy-efficient Building under Hong Kong's Energy-efficiency Registration Scheme, we are continuing the improvement of its energy efficiencies. In 2010, the building gained its BEAM (Building Environmental Assessment Method) certification, Platinum Grade (version 5/04) and in 2011, we conducted a further gap analysis study 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.

The building also 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. Improving facilities in this area as well, we are completing work on the upgrade of a primary air unit.

On an operational level, we continue to reduce our consumption of electricity on a number of fronts. The large-scale introduction of LED lighting in our customer centres, which began in 2010 and resulted in an amazing two-thirds saving in electricity costs, continued and at the end of 2011, 18 out of 20 centres had made the switch. The electricity savings at these 18 centres is estimated to be 75,000 kWh.

The ongoing replacement of T8 lighting with T5 lighting, and the increased use of LED lighting saved some 89,900 kWh of electricity in 2011 at our Towngas headquarters, lowering CO<sub>2</sub> emissions by some 63 tonnes. Extending these activities, a pilot test is currently being carried out on the use of induction lighting in our warehouses and we are also exploring measures to reduce energy consumption in lifts. Plans are also in hand to install LED lighting in carparks and staircases, up-grade rooftop chiller systems into more environmentally friendly water-cooled models, and we are also implementing energy saving measures in our IT database centre in Hong Kong.



## Saving Paper

The greater use of digital communication is increasingly seeing our transition into a paperless operation. In addition to minimising the use of paper and ensuring it is recycled in our day-to-day office pursuits, these endeavours are particularly visible in our e-procurement and e-billing activities. The former reduces the need for paper both among our suppliers and ourselves, while the latter not only saves paper, it also reduces postage costs and saves the energy required to deliver these bills. With the launch of a lucky draw to promote eBilling applications during the year, there were 59,676 registered eBilling customers at the end of 2011. This figure translates into the saving of some 7.5 tonnes of paper annually.

## Saving Water

In 2010, a new reverse osmosis water treatment facility was installed in our Tai Po Plant. In its first year of operation, it saved more than 40,000 cubic metres of effluent water as well as 65,000 kg of sulphuric acid and 96,000 kg of sodium hydroxide in comparison to the previous facility.

In 2011, in view of the problems encountered with Legionnaire's Disease in Hong Kong, a major emphasis was placed on water quality. We participated in a territory-wide Quality Water Recognition Scheme for Buildings and also completed a water quality assessment at our headquarters, which confirmed that the disease was absent in our water systems. Looking forward, we are also exploring 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.

## Environment Performance Table (Hong Kong)

					
<b>OZONE LAYER PROTECTION</b> All of our vehicle air-conditioning systems now operate with refrigerant R134A.  All BCF portable fire extinguishers have been replaced by dry powder extinguishers.	<b>AIR QUALITY</b> Total NOx output was 4.65 kg/TJ of town gas.  Total SOx output was 0.02 kg/TJ of town gas.  Total CO <sub>2</sub> output was 11.91 metric tonnes/TJ of town gas.	<b>GREENHOUSE GAS EMISSION</b> Greenhouse gas emissions from major gas production equipment were 362,307 metric tonnes in terms of CO <sub>2</sub> equivalent.	<b>WATER QUALITY</b> Total wastewater output was 5.84 m <sup>3</sup> /TJ of town gas.	<b>CHEMICAL WASTE</b> Total chemical waste output was 0.67 kg/TJ of town gas.	<b>NOISE</b> 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.



## Other Projects

During the year, a heat recovery system was installed to collect and recover waste heat generated from our production processes. The heat is then used to help warm the hot water boiler at our natural gas receiving station. Plans are also in hand to extend this use – to provide hot water for showers for example. The recovery of this heat not only reduces the energy needed to operate the systems in question, it also fosters a cooler environment as less heat is discharged into the atmosphere.

As naphtha vapourises easily in the heat, a new chiller system was installed in 2010 to cool the naphtha circulating within our operating systems. In 2011, the foam system for the naphtha tanks was enhanced and plans are also in hand to lower temperatures yet again, which will reduce vapourisation as well as the emission of volatile organic compounds (VOCs) into the atmosphere even further.

Supporting our initiative to purchase more environmentally friendly vehicles, a charging station for electric vehicles was installed for the use of these vehicles within the company.

## Waste Management

Highlighting our ongoing commitment to effective waste management, we have received our “Class of Excellence” Waste Label for 10 consecutive cycles, together with the meeting of two new targets – collecting some 200 old glass trophies (around 92.5 kg) for recycling and gathering about 21 tonnes of polyethylene (PE) waste pipes for re-processing into other useful applications. Over the past years, 28 targets have been met under this initiative and a further target to collect 10 tonnes of waste cardboard for recycling has been planned for 2012.



### Major Types of Materials Collected for Recycling or Reuse

Materials	Amounts Collected in 2011
Used CDs/DVDs	137 kg
Retired Uniforms	31 kg
Obsolete Rechargeable Batteries	500 pcs
Spent Fluorescent Tubes	1,865 pcs



### Other collected materials

• Paper	• Metal Drums
• Spent Catalyst	• Plastic Chemical Drums
• Spent Laser Toner Cartridges	• Computers
• Polystyrene Foam	• Retired Safety Helmets
• Used Gas Appliances and Spare Parts	• Old Gas Meters
• Used Polyethylene Pipes	• Abandoned Service Pipes and Fittings
• Abandoned Aquaknect Hoses	• Plastic Waste

## Recycling Programmes

### Used Gas Appliance Recycling Programme

Under this programme, we collected 841 tonnes of appliances for recycling in 2011. When we install new gas appliances in customer premises, we offer free removal of their old, unwanted equipment. Rather than ending up in landfills, these appliances are sent to contractors, where they are safely taken apart for recycling.



**“We are pleased to cooperate with Towntgas both in our Save Food cooking competition as well as our Lai See packet recycling programme. They are committed to many different environmental initiatives and also show strong leadership with regard to the environment and in the area of social responsibility. I hope they will continue to help more local and smaller NGOs.”**

**Angus Ho  
Executive Director  
Greener Action**



### Other Programmes

In view of our close association with the food industry, we are highly committed to the management of food waste. We are thus exploring the possible installment of a food waste treatment machine at our own in-house catering facilities.

Other recycling pursuits include the collection of plastic waste for recycling at the Yan Oi Tong EcoPark 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.

## Achievements – Wastewi\$e Scheme 2011

Paper saved from Bi-monthly billing	> 1,064 tonnes	
Reduction in polyfoam packaging materials	> 122 tonnes	Since Dec 2000
Polyfoam packaging materials recycled	> 150 tonnes	
Spent catalysts recycled	> 471 tonnes	
Disposed appliances recycled	> 7,300 tonnes	Since Dec 2003

## In Partnership with our Stakeholders

In carrying out our green initiatives, we work in close partnership with our stakeholders – our aim however is not simply to gain their participation and buy-in to our programmes. Our ultimate goal is to inspire everyone, who comes into contact with our programmes, to work for the protection of the world and our environment.

### Our Employees and Contractors

As part of their daily work and everyday responsibilities, 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 – using recycled paper or paper bearing the FSC logo, whenever we can for example – to promote awareness and drive greater green engagement.



During the year, the Environmental Committee placed a special focus on incorporating the environmental theme into product sales. As a result, external professionals were invited to talk about these environmental benefits to staff. Also making sure that the green message would remain at the forefront of staff minds, environmentally friendly tips were distributed through screensavers. A further initiative was the display and sale of organic vegetables, grown by local farmers, at our Towngas offices.

On the mainland, we have actively launched a number of tree planting activities. In March 2011 for example, more than 90 of our businesses participated in the “Month of Tree Plantation and Carbon Reduction” programme initiated jointly by our city-gas and water operations. 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

A key objective of our sustainability programme is to provide cleaner choices as well as a green lifestyle for our customers. Thus in addition to our green production processes, we also offer a comprehensive range of modern, eco-friendly and energy-efficient appliances that improve the quality of life for users. Highlighting their efficiencies, all gas water heaters have received approval from Hong Kong's energy watchdog, the government's Electrical and Mechanical Services Department, to carry an energy efficiency label.

A highlight of 2011 was our Mia Cucina kitchen series, which offers total kitchen solutions tailored to meet individual customer requirements in a cost-efficient and environmentally-friendly manner. During the year, we sold more than 2,000 Mia Cucina units.

Our Towngas smartphone app supporting different operating systems, was launched together with a low carbon action diary, which helps users to keep track of their low carbon activities. The app thus enables our customers to lead a greener and more environmentally friendly life.



**"Towngas provides customers with high levels of service excellence through its one-stop-shop services. These include high quality kitchen design services, innovative and eco-friendly gas appliances and excellent after-sales services. Furthermore, Towngas also encourages customers to work together to protect the environment through the collection and recycling of old gas appliances."**

**Lee Wai Ling  
Famous beautician**



On the commercial front, our aim is to provide both customised solutions and energy efficient strategies to enhance business. We have been particularly successful in the restaurant and catering trades where our efforts to create a cooler and more comfortable working environment resulted in our self-developed “Cool Kitchen Four Treasure” series. Featuring the four most common appliances needed in a commercial Chinese kitchen – steam cabinet, food steamer, stockpot and wok range, the appliances use various patented heat recovery and heat transfer techniques to enhance their heating efficiencies. This can help save energy by as much as 30% and kitchens are also cooler as the heat is better utilised rather than being released into the surroundings. An added advantage is that this also improves air-quality. In view of these benefits, the series won the “Machinery and Machine Tools Design Award” in the prestigious “Hong Kong Awards for Industries” in 2011. As an added bonus to these activities, we are also conducting a number of indoor air quality studies for various hotels and restaurants.

During the year, we also introduced a high-efficiency decentralised hot water system as well as a large capacity boiler, particularly tailored to meet the needs of medium to small-sized hotels. The two systems have efficiency levels of between 94% and 96% compared to the more usual 75% found in conventional equipment.

## The Community

Reaching out to the community, we carry out a number of promotional and publicity events – one of the most notable being our large-scale Low Carbon Action! campaign. This ongoing campaign encourages both our customers and the people of Hong Kong to lead greener lives under the action slogan to “lower our carbon emissions by a million tonnes”. In 2011, we organised a Low-Carbon Mid-Autumn Fun event to encourage Hong Kong’s young people to lead a low-carbon life. Low-Carbon Graffiti Lantern Workshops, promoting the benefits of low-carbon living and sharing the joys of the Mid-Autumn Festival were held for participants to design their own recycled-paper lanterns. Over 200 environmentally friendly graffiti lanterns were also displayed at an exhibition.



Making sure that our own green efforts are in line with activities carried out by green groups in the community, we sponsor, support and participate in many of their initiatives, seeking not only to create improved awareness but also greater impact and resonance. With our ongoing sponsorships and participation over the years, many of these activities now form a regular part of our annual community programmes.



Green Group	Programme	Activity
WWF – Hong Kong	Earth Hour 2011	We once again sponsored this event, “switching off” our lights both in Hong Kong and on the mainland for an hour on 31 March 2011.
	Walk for Nature at Mai Po	We are a sponsor of this annual outreach programme, which highlights conservation by creating a greater appreciation of nature.
Friends of the Earth (HK)	Tree Planting Challenge	As a major sponsor of this annual event, six Towngas teams participated in this event during the year. The event helped achieve our goal to plant a total of 10,000 trees under this initiative.

A photograph showing four individuals, likely volunteers, participating in a tree planting activity. They are wearing light blue vests over dark shirts and are holding large blue bags filled with soil and small plants. They are smiling and giving thumbs up, indicating a positive and successful event.

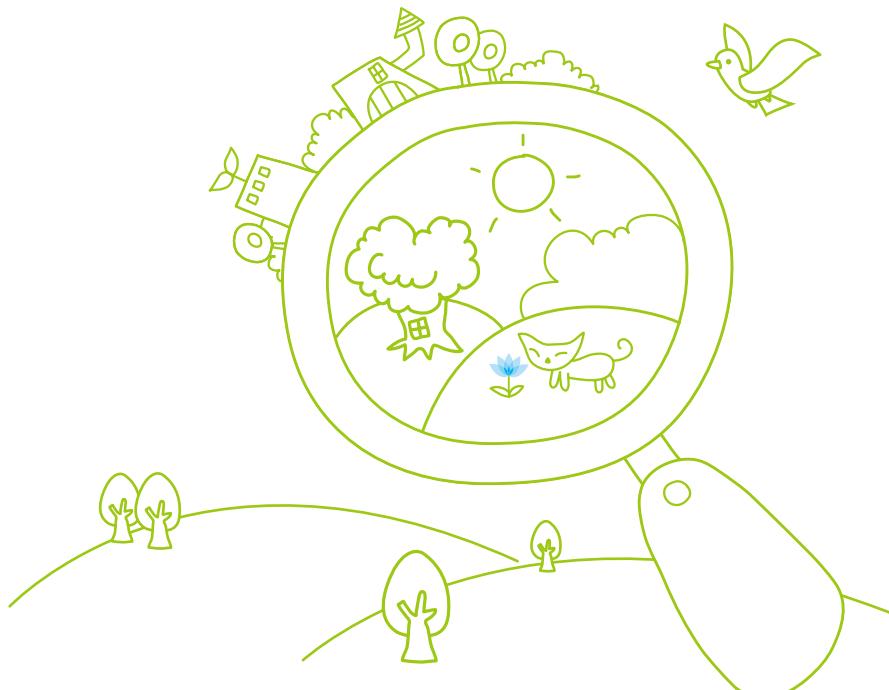


Green Group	Programme	Activity
Hong Kong Green Sense	No Air-con Night	<p>We once again sponsored and participated in this campaign to switch air-conditioners off overnight on 29 September 2011.</p> 
Friends of the Earth (HK), Green Power and WWF	Take a "Brake" Fuel Saving Campaign	<p>This initiative encourages Hong Kong's drivers to take a "brake" from their driving and use public transport, to both save fuel and improve air quality.</p>
Green Power	Green Power Hike	<p>Eight Towngas teams took part in this annual charity hiking event.</p>
		<p>World Environmental Day – Let's Go Low Carbon campaign</p> <p>Targetted at primary students, the campaign included an eCard design competition and the publication of a storybook about Emperor Penguins.</p>
Conservancy Association	Green Leaders Bloc	<p>We sponsored this programme to recruit university students who are keen to protect the environment, and cultivate a new generation of green leaders.</p> 
Greeners Action	Save Food Cooking Competition	<p>This event, which encouraged the best use of leftovers as cooking ingredients to reduce food waste.</p>

## 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.

A project application to relocate a pair of submarine gas pipelines from To Kwa Wan to North Point to cope with the South East Kowloon Development was submitted under this scheme, receiving its Environmental Permit in 2010. Having obtained further statutory approvals and its licence, the project is now under construction.



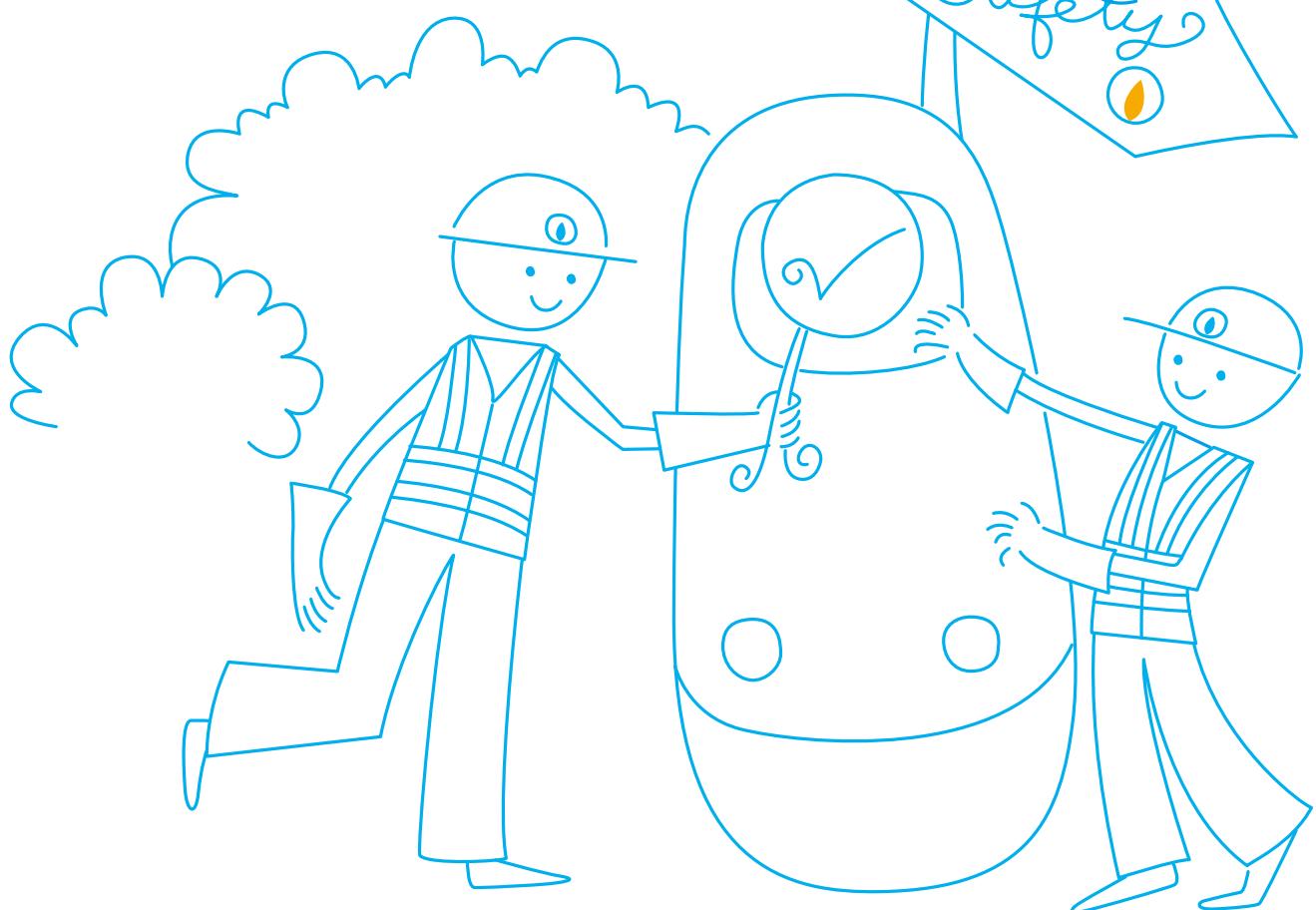
# safety performance



**The Safety of our Gas Infrastructure**

**Customer Safety**

**Occupational Health and Safety**



Our Health, Safety and Environment (HSE) Policy 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. In addition to this policy, we also identify, evaluate and guard against potential and possible risks, however remote the risk may appear to be. We are for example, producing a corporate safety video, which will introduce the basic safety rules to be observed for visitors entering our plant.

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.



## Our 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

The commitment and effort we put into the safety and reliability of our gas systems and infrastructure mean that our customers in Hong Kong enjoy highly secure gas supply networks with a supply reliability of 99.99 %. However making sure that these systems not only perform, but are certified, to the highest global standards, we have implemented the PAS 55 certified Asset Management System throughout our gas production plants, transmission and distribution networks in the territory. PAS 55, the British Standard Institution's Publicly Available Specifications, not only certifies the safety of our infrastructure and network, it also provides a checklist to guarantee proper systems operation.

Our plant, equipment, network and processes are also 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 highest 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 the smooth operation of our network, it also improves our ability to track down and deal with emergencies both quickly and effectively.

We carry out a rigorous schedule of inspections for our pipeline network, completing 167,053 inspections at 16,533 sites and surveying about 7,000 km of pipelines in 2011. Using an advanced electronic inspection tool, a major “fingerprint” inspection of the 34 km twin natural gas high-pressure pipeline that links the Guangdong LNG Terminal to our Tai Po production plant was also completed during the year.

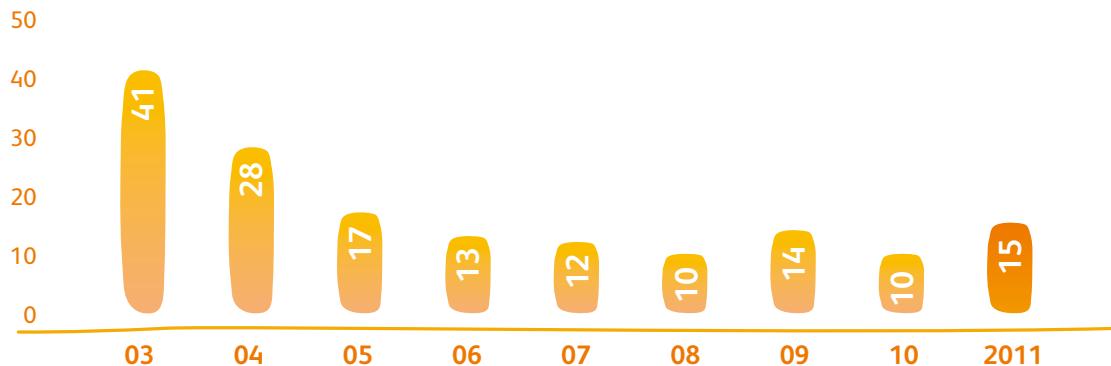


These activities are aided by the most up-to-date equipment and technologies, our Riser Inspection Robots being a prime example. These “robots” combine digital imaging and gas leakage detection equipment carrying out routine preventive maintenance for service risers in difficult, remote and hard to access areas. In our underground network, with an ongoing programme to replace older pipelines with more modern and durable materials, we are seeing greater security overall in our pipeline network.

## Leakage and Pipeline Surveys

Type of Pipeline	Frequency of Leakage Surveys
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 or steel pipes over or enclosed within structures	At least twice a year
Others	At least once a year

## Number of Third Party Damage Incidents



During the year, our wholly owned subsidiary, Quality Testing Services Limited also gained accreditation under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) for its gas calibration services, enhancing our existing accreditation for the testing of gas appliances and stainless steel 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. While such motivational schemes are not new in Hong Kong, we believe that our system is unique in that 50% of the incentive payments is paid to frontline workers.



## Network Safety

Area	Achievement	Target
Gas Supply Reliability	99.999 %	>99.99 %
Emergencies attended to within 30 minutes	96.7 %	>90 %
Public Reported Gas Seepage incidents per 10km of gas pipes	0.25 <sup>1</sup>	≤0.230
Third Party Damage incidents	15 <sup>2</sup>	11

### Notes

- <sup>1</sup> The persistent cold spell in early 2011 caused a greater number of major seepages in the mechanical joints of the older metal pipes in our network. As such, the number of Public Reported Gas Seepage incidents for the year exceeded targets slightly. Addressing the situation, additional measures including enhanced trench inspections, pre-excavation coordination with roadwork parties and leakage surveys were implemented.
- <sup>2</sup> There was a drastic increase in roadwork activities during the year due to the many mega-projects being carried out in Hong Kong. This additional activity raised the number of third party damage incidents over the year's target.

## Mainland China

As one of the leading provider of energy in mainland China, with a 138 businesses in our portfolio spread out over 21 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 activities build on the systems and practices which have been tried and tested in Hong Kong. Our SCADA system for instance, which provides the control and monitoring backbone for our safety operations in Hong Kong, is also 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 International Organisation for Standardisation (ISO) Technical Sub-committees on PE pipes and fittings.

Our “Year of Safe Production” campaign, which was first launched in Xi'an in 2008, extended to northeastern and southwestern China in 2009 and 2010 and reached Shandong province in 2011. It will further be rolled out to Jiangsu, Zhejiang and Anhui in 2012. This initiative analyses every aspect of a business, from its geographical location, climate, operations history and safety awareness, together with other key factors to identify risk areas and establish Key Performance Indicators.

Safety systems and processes were also established for many of the new businesses commencing operations in mainland China. These included safety management systems both for a new coal mine as well as the methanol plant in Inner Mongolia and, in view of ECO's growing portfolio of projects, some 60 safety documents, from manuals to guidelines to safety instructions were prepared. Risk assessments identifying the top 10 risk factors in these operations were also completed.

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 during the year showed that safety improvements in gas performance are rising. The 2011 audit achieved a safety score of 85 out of 100 against the 71 recorded just two years earlier in 2009.



This commitment to safety is also visible in our individual businesses. During the year, our business in Xinmi, Henan received a “Safety Production Model Company” award, while Dalian Changxing and Shandong Jihua received their “Building up of a Safety Culture Model Company” and “Work Safety Pioneer Company” awards respectively.

## 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. Additionally, 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.



During the year, we enhanced our RSI activities on the mainland, focusing on customer premises, which, due to a lack of access, have not been visited for some time. As a result, by the end of the year, we were able to realise our goal to conduct safety checks on the gas equipment of all our customers within a three-year cycle. 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 contribute 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 not only tailored specifically for local markets, they also meet all established safety standards and include modern safety features such as flame failure devices, etc. These appliances continue to prove their popularity. We sold 234,000 gas appliances in Hong Kong while the grand total of our Bauhinia sales on the mainland passed the million mark in 2011.

In providing safe services to our customers, a further factor in the safety equation is the importance of customer awareness. It is not enough for us to provide safe products and services, customers must also use these products and services safely. 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.

## Occupational Health and Safety

During the year, we enhanced our safety culture yet again, when, in addition to being the first utility to sign Hong Kong's Occupational Safety Charter in 1996, we also became 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. Offered under the auspices of the Occupational Health and Safety Council (OSHC) in Hong Kong, the programme 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, healthy and pleasant workplace.

A new refreshment safety driving programme to ensure safer driving practices among our staff, helped to lower the traffic accident injury rate from 3.71 in 2010 to 3.11 in 2011.

We are also delighted to report that we achieved the lowest accident rate in our history – the figure fell from 16 in 2010 to 10 in 2011, with no serious injuries. These positive figures are bringing us closer to our goal to achieve a zero accident rate throughout our operations.



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

Remarks:

<sup>1</sup> Accident – an accident that results in incapacity of one day or more.

<sup>2</sup> Reportable Accident – an accident that results in incapacity of more than 3 days.

“Seeking to achieve higher standards and benchmarking themselves against the highest international standards of health and safety, Towngas has worked hard to achieve its designation as an International Safe Workplace under the framework of the World Health Organisation’s Safe Community Programme.”

**Tang Wah Shing**  
**Executive Director**  
**Occupational Safety and Health Council**



## HSE Highlights in Hong Kong – 2011

### 10th Hong Kong Occupational Safety and Health Award

Organised by the OSCHC, we were delighted to not only win the Gold Award in both the Safety Management and OSH Annual Report categories but also to receive a Safety Performance Award. The event attracted over 360 submissions from many of Hong Kong's leading companies.

### Contractor HSE Programme

Seeking to promote better HSE practices among our contractors, a Site Housekeeping Matching Game together with a Site Safety and Housekeeping Award were held during the year. A Contractor HSE Forum also took place in November 2011. Attended by over 270 contractors and employees, the Forum featured guest speakers covering key issues such as working safely at a height. A representative of the Occupational Health and Safety Council also discussed "Pointing and Calling" which seeks to avoid mistakes by pointing at important indicators which then call the status out loud.

### Safety Talks

Safety talks were held for 85 supervisory and managerial staff. The speaker, a legal professional, discussed the safety duties and liabilities of contractors, proprietors and individuals from a civil and criminal perspective, covering topics such as the interpretation of legal terms, health and safety contract requirements as well as relevant court cases.

### Occupational Safety and Health Training

Making sure that our employees are fully cognisant of our OSH practices, we also carried out a number of tailor-made Safety Supervisor Training Courses for managers and staff.



## Emergency Safety Exercises

An integral part of our safety management systems, emergency drills and table-top exercises are held on a regular basis. These exercises not only ensure that employees will know just what to do in case of an emergency and that our emergency handling procedures will work as well in practice as in theory, they also give us the opportunity to try out new safety equipment and to work in partnership with our counterparts in the emergency services – the police and fire services for example. During the year, in addition to fire drills and other such safety exercises, we conducted a Corporate Emergency Table Top Exercise for the Corporate Emergency Management Team and their deputy managers.



## 2011 Health, Safety & Environment (HSE) Day

Our HSE Day took place once again in December under sunny skies at the Fa Hui Park in Mongkok. This popular event, which was attended by 2,100 staff and their families, local district councillors, contractors and stakeholders, featured game booths, safety and environmental exhibits and other displays together with bands, music, games and competitions. The Fire Safety Games added a high level of excitement to the event.



## Mainland China

Our commitment to safety is also reaping strong dividends on the mainland as the accident rate continues to fall and as we continue to win awards for our safety practices and production processes.

As with our safety activities in Hong Kong, our OSH activities 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. In addition to the mainland businesses, which have already received their OHSAS 18001 certification, seven further businesses achieved this global standard during the year.

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 – regular safety meetings are conducted and personal safety inspections are also carried out throughout our operations. Reinforcing this safety mindset, our highly visible “General Manager Monthly Safety and Risk Management Inspection Programme” also continues to prove its effectiveness.

In view of ECO’s rapidly expanding business portfolio, a strong focus has been placed on the company’s safety activities. The “General Manager Monthly Safety and Risk Management Inspection Programme” was extended to three ECO companies during

the year and it will also expand to cover ECO’s compressed natural gas filling stations in 2012. Trial runs of our Corporate Emergency Management System also took place in 12 of our city-gas businesses.

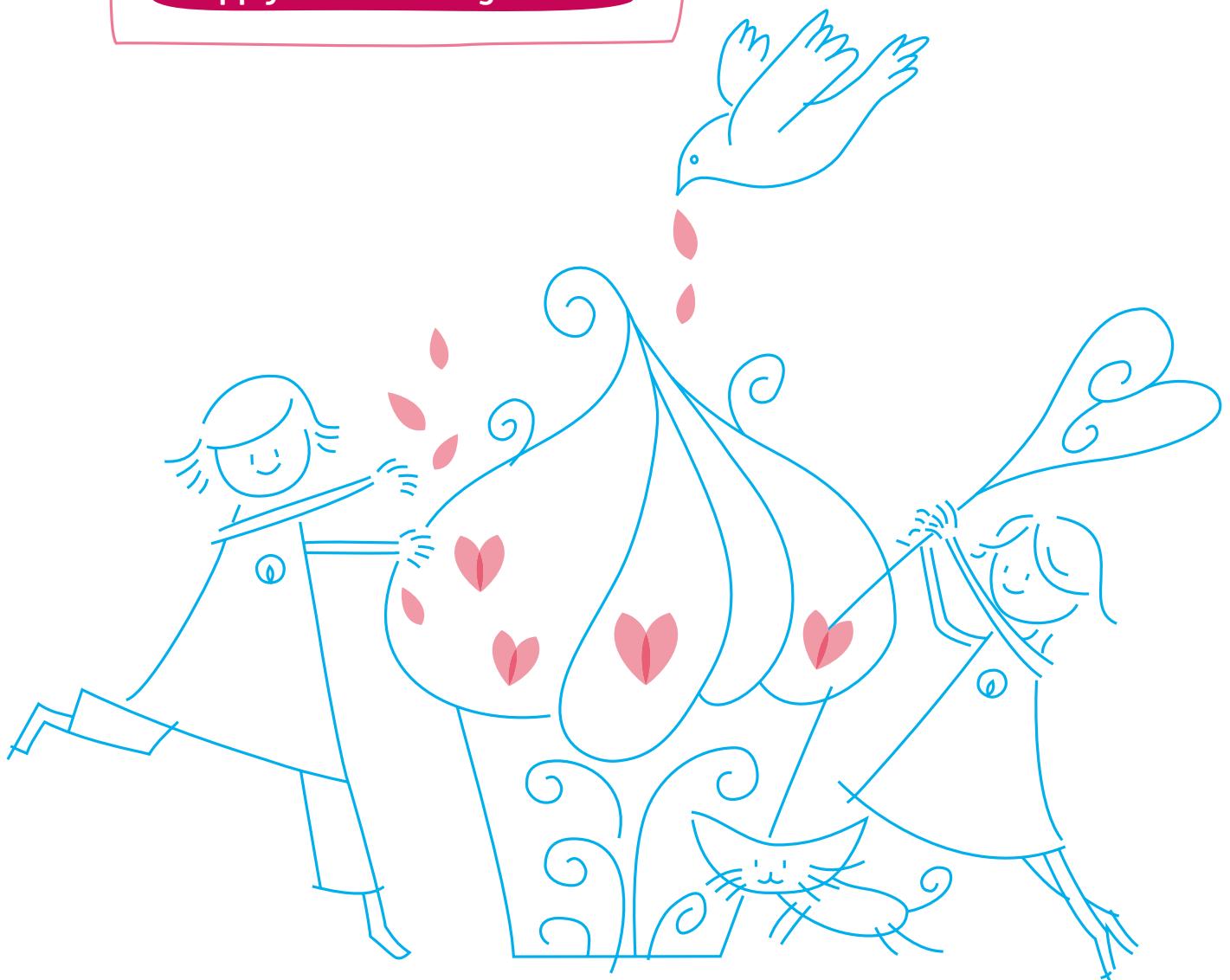


# Social Performance

Human Resources

Community Services

Supply Chain Management



Rounding 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.

## Human Resources

To say that our Towngas people are our greatest asset is no exaggeration. Without our workforce we would be helpless – without the hands or feet to go about our everyday business. We therefore make every effort to cultivate, build and maintain a competent, committed and professional team of employees, who are passionate and will give their best in everything that they do. At the end of 2011, this engaged team consisted of 2,255 employees in Hong Kong and over 35,570 people in our diverse businesses on the mainland. In Hong Kong, the employee turnover rate for 2011 was 5.8 %, while an average of five days of sick-leave was taken.

## Employee Wellness

Service excellence is only possible if we treat our employees with 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 and development. Our aim is to not only foster the full potential of our people but also to ensure their ongoing satisfaction, with careers rather than just a job.

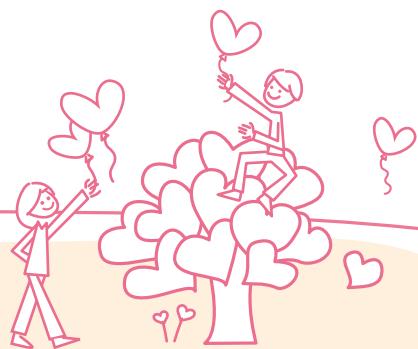
### Ratio of Male to Female Employees in Hong Kong

2009	3.9 : 1	
2010	4 : 1	
2011	4 : 1	

### Ratio of Male to Female Senior Managers in Hong Kong

2009	4.9 : 1	
2010	3.5 : 1	
2011	4.5 : 1	

Recognising the importance of living a fulfilled life in the maintenance of their health and happiness, we place a particular emphasis on initiatives that improve the work-life balance of our people. Through our Sports and Recreation Club, we offer a comprehensive range of sports, leisure and recreational events, many of which are subsidised by the Group. Activities such as Yoga, Kick-boxing, Qi Gong and Pilates, with their healthy and de-stressing qualities, sports events, overseas tours, carnivals and fun days, as well as cookery lessons have all proven their popularity over the years, and in 2011, 10,210 employees and their families spent their personal time on these programmes in Hong Kong.



### Our Wenxin Programme

As part of our 150th Anniversary celebrations, our Wenxin programme was introduced during the year. “Wenxin”, translating into “warmth and care” in English, aims to show our appreciation and thank our people for their sterling service, while also gaining their greater involvement in our Towngas family.

Under the programme, our Executive Committee and senior management shared the difficult working conditions of employees, visiting them on site in the hot summer, to distribute towels and cooling herbal tea. A 24-hour hotline, “Warm Express”, was also launched to provide a listening ear as well as professional help for employees with any personal issues to resolve.

A “Smiles Brighten Life” campaign was also held in our mainland businesses under this initiative, encouraging our employees not only to smile at each other but also our customers. Rounding out this programme, a lyrics-writing contest, looking for lyrics for our corporate theme song “Sunshine and Air” that would highlight our warm and caring Towngas culture also brought in excellent results.



This commitment to family values continues to bring us recognition from within the community, and during the year, we were honoured with the “Distinguished Family Friendly Award” presented by the Hong Kong Family Council. We also received the 2010 Human Resources Management Pioneer Company honour from the Institute of Human Resources Management in Jilin City.

## Effective Communications

Building trust and understanding, 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.

Providing official lines of communication, regular meetings with staff unions and committees also help to deal with labour and management issues.



## 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. As such we seek to maximise the potential of our people while at the same time creating a team of nimble and proficient individuals who will rise to the demands of any and every requirement.

Training also plays an important role in the culture of our Group, ensuring that our people not only understand our business objectives but also that they share our vision, mission and goals. Recognising our achievements in this direction, we won the American Society for Training and Development (ASTD)’s “BEST Award” for the corporate culture and employee development programmes established in our China operations. ASTD is one of the world’s most well-known associations dedicated to workplace learning and the development of professionals.

## Towngas Engineering Academy

Our Towngas Engineering Academy (TEA) is responsible for all 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 China, and conducts Continuous Professional Development seminars with industry

specialists and leading academics participating as guest speakers. In addition to our Shandong Technical Training Centre, two additional regional training bases in Sichuan province and Changchun have been established, operating under the auspices of TEA. The Sichuan base also provides technical training in collaboration with the Gas Association of Sichuan and Southwest Petroleum University, and has gained recognition as one of the China Gas Association's authorised training bases.

Meeting the needs of the industry both in Hong Kong and the mainland, TEA has seen a surge in the number of its training hours in the past year. In Hong Kong, with a focus on training new blood for the industry both for our own needs and that of our contractors, some 38,000 training hours were completed. On the mainland, requirements have been much more demanding. In addition to the training of frontline staff, there has also been an acute shortage of trainers. As such, not only did the training hours increase from 74,664 in 2010 to 83,208 hours in 2011, TEA also carried out a focused and intensive "train the trainers" programme to turn out qualified trainers. Tackling the huge requirement for training, TEA is also working on the set up of a further two training locations in Eastern and Southern China, aiming to establish a total of five permanent training centres and bases in the country. So far, a site in Shenzhen has been identified for the centre in the South China region.

In addition to these activities, TEA also extended its professional training activities onto the mainland, leading to an internationally recognised chartership route under the Institution of Gas Engineers and Managers for our gas engineers in China.



### TEA Training in 2011

	Training Man-hours	Number of Courses/Talks	Number of employees trained
Continuing Professional Development seminars	2,030	18	1,312
Gas Fitter Apprentice Training Scheme, Network Trainee Fitter Scheme, Registered Gas Installer Training for Contractors, technical skills and refresher training programmes	38,069	263	3,808
Technical Training in mainland China – 56 categories	83,208	156	2,907

## 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 2011, a total of 371 managers participated in this programme. We also organise cross-regional recreational activities, such as football, badminton, cooking and singing contests, quizzes and photo competitions to enhance inter-staff communication and team spirit as well as fellowship and the sharing of common goals and objectives, between our employees in Hong Kong and our businesses on the mainland.

## Community Initiatives

We work with the Labour Department and the Vocational Training Council in Hong Kong to extend our training initiatives into the community, with on-the-job internship and mentoring programmes. The personal and working skills gained by the young trainees help them, when entering the workplace, to do so with greater confidence and ability. We operate a similar programme on the mainland. Under our Jingqi Mentoring Scheme, which is operated in collaboration with the Virya Foundation, our business managers in Sichuan province, Xi'an and Chongqing provide a one-year mentoring programme for Virya students. This initiative was also extended to Hunan province during the year.

## Management Development

In addition to the development of technical and professional competencies, management development also plays a crucial role in our training activities as we seek to develop leadership competencies and create a pool of talent for our future needs. A highlight during the year was our “Leading Others” programme which was held to strengthen leadership skills among our supervisors and managers in Hong Kong. A total of 56 employees have completed this course so far.

## Towngas Leadership Competency (TLC) and TLC+ Models

These models form the basis of our performance management and management development system. TLC not only provides fair and objective performance assessments, it also seeks to build personal development platforms that enable the advancement of core leadership competencies which tie in with the Group’s culture, values and business strategies. More than 75% of our General Managers on the mainland have now completed this assessment.



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. The first group of 25 participants have now completed their 18-month programmes, with more than 60% of them taking on broader roles and greater responsibilities since then. Nineteen executives have also been chosen for the second round of this programme which was launched in August 2011.

### Executive Development Programme

We continue our collaboration with leading universities on the mainland, to provide Executive Development Programmes for the leaders of our mainland businesses. A total of 153 general managers and senior managers completed courses organised under this programme with the Tsinghua, Nanjing and Dalian Polytechnic Universities, as well as the Southwestern University of Finance and Economics, in 2011.

### Graduate Trainee Scheme

This scheme is set to celebrate its 30th anniversary in 2012. Attesting to its success, 16 graduates joined us in the first intake in 1982. Thirty years later, nine of them are still with us and all of them are now in senior management positions. In 2011, 10 new graduates were selected to join the programme, and in view of its rapidly expanding needs, ECO launched its own scheme, to train around 18 graduates a year. Commending us for our efforts in this direction, the programme received an award from the Hong Kong General Chamber of Commerce during the year.

### Superior Quality Service (SQS) Scheme

Our SQS programme was set up in 1992 to improve quality and drive performance throughout our operations. Still going strong almost 20 years later, its focus is to encourage staff to take the initiative, solve problems and play a greater leadership role in their day-to-day activities.



Over the years, more than 3,963 SQS projects have been completed both in Hong Kong and on the mainland, saving over HK\$628 million in costs. In 2011, 693 employees in 95 teams in Hong Kong completed 71 projects saving HK\$27.7 million, while on the mainland, some 7,059 team members completed 563 projects with cost savings of over RMB78.04 million.



## Q-Unlimited – An SQS Case Study

During the year, U-Tech our engineering services arm formed Q-Unlimited, which carried out an Aboveground Steel Pipe Bypass project. This project won one of our best SQS team awards in view of its innovation and benefits.

Q-Unlimited developed a steel bypass pipe, maintaining downstream supply to town gas customers via a single pipeline feed using the more environment friendly and cost efficient trenchless technology. The benefits are multifold – in addition to tangible savings of HK\$0.8 million a year, they also include safer operation, less public disturbance, shorter construction times, reduced materials wastage as well as minimal impact to the surrounding environment. Camouflage covers and materials are also used to make sure that the bypass blends into its surrounding environment.



## Equal Opportunities

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.

## Community Services

In serving our communities, we work on both a global as well as a local level. On the international front, we take part in programmes and events that reflect our standing as a responsible and caring member in the world community. We are actively involved in the activities of the Fair Trade Association in Hong Kong for instance, serving both as a member and on its executive committee. In our local 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.



### Hong Kong

Initially providing warmth and care 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.

Our aim is to lend a helping hand to those in need, particularly where our help will enable recipients to also help themselves. Thus in addition to our programmes for the elderly, we also place a strong emphasis on social investment and social enterprise schemes.



### Towngas Concession Schemes

This scheme, first introduced in 1995, began by providing concessionary rates for our town gas services to the elderly. 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. Currently a total of some 47,000 families and elderly customers benefit from this scheme.

## 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 2011, the number of volunteer service hours increased an encouraging 33% rising from a total of 48,831 hours in 2010 to 64,956 hours in 2011. The number of activities also increased by 29%. This positive picture won us the championship once again in the Social

Welfare Department's "Highest Service Hour Award 2010, Private Organisations – Best Customer Participation". We have been the happy recipients of this award now for four years running. The Team, which was officially formed in 1999, has accumulated over 326,000 community service hours over the past 12 years.



## Community Care Projects

### *Rice Dumplings and Mooncakes for the Community*

These two initiatives form the backbone of our annual community events. They not only build on our focus on cookery, they also help to 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 time-honoured delicacies.

During the year, around 220 legislative councillors, district councillors, Towngas volunteers, customers and volunteer groups gathered together to make and distribute 230,000 rice dumplings. Similarly, with the support of 50 non-profit organisations, employees and volunteers, we distributed over 100,000 mooncakes to the less privileged in our community.



### *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 to install safety rails to create a safer environment in their homes. During the year we extended these activities with computer classes, helping them to better deal with and understand the electronic world.

As part of our equal opportunities programme, we also provide a range of services and products for our visually-impaired customers. In addition to gas bills in Braille, Braille instructions for our gas appliances, we also set up a barrier-free website for the visually impaired. Our volunteer service team also supported and participated in the “Stargaze Camp for All and the Blind 2011” event which encouraged participants to overcome their obstacles and experience with hearts their surroundings so as to promote inclusion and harmonious community.



### *Cook for Love – Nurturing Harmonious Family Relationships*

In partnership with the Social Welfare Department, we launched our “Cook For Love” programme in September 2011, to promote harmonious relations in single-parent families. This programme not only involved *Towngas* volunteers but also their families. These individual “Family Volunteer Teams” work with a participant family on a long term basis, taking part in cooking lessons and other activities to create happier and more harmonious homes. Plans are also in hand to expand the scope and duration of this signature event under our 150th Anniversary celebration programme in 2012.





“Towngas is a socially committed enterprise. In the last few years, they have actively provided community services in partnership with our organisation. In their rice dumpling and cookie teaching activities, their skillful volunteers provide a wonderful performance, whether in their planning, the preparation of ingredients, or during the activity itself.

In their “Igniting Bright Futures” programme, Towngas not only provides Hong Kong’s young people with working experience, it also provides them with mentors to inspire and teach them good working skills and a positive attitude. These mentors are patient, enthusiastic and caring. This is truly a wonderful programme that provides these young people with better career paths.”

**Chan Chi Ho, Emmanuel**  
**Social Work Supervisor, Crisis Centre for Boys', Youth Outreach**

## Our Support to Social Enterprise

### *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. In addition to winning Next Magazine’s CSE Social Service Award in 2010 and the Home Affairs Bureau’s “Outstanding Friends of Social Enterprise” award in 2011, CookEasy continues to be recognised as a valuable initiative providing solid benefits for the community.



### *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 existing contractors to employ disabled employees wherever possible.

### *Igniting Bright Futures*

Brightening the future for disadvantaged youth in Hong Kong, this programme is operated in conjunction with our Flame restaurant in Tsim Sha Tsui. Under this scheme, trainees undergo a one-year internship, working to become a professional chef under the mentorship of our experienced chefs in the restaurant. With plans to create four new job openings in 2012, this initiative is supported by the Hong Kong Federation of Youth Groups, Youth Outreach, HKU School of Professional and Continuing Education as well as the Chinese Cuisine Training Institute.



### **Our Community Service Achievements in 2011 (Hong Kong)**

Corporate support through active participation, donation or in-kind sponsorship (Number of programmes)	89
Number of employees participating in the Company's voluntary services	1,215
Number of Towngas Customer Volunteer Team members	138
Number of voluntary activities in which Towngas volunteers participated	238
Number of voluntary service hours (including employees and customers)	64,956
Number of people benefiting from our services	380,450
Number of rice dumplings made	230,000
Number of mooncakes made	100,000
Number of soup servings distributed	38,838
Number of children attending 'Cooking for Fun' English classes	470
Number of households benefiting from Towngas Concession Schemes (all schemes)	47,000

## Mainland China

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. Over the years, these activities have gathered momentum and in 2011, over 70% of our mainland businesses had established volunteer teams, accumulating a total of 151,873 service hours, benefitting 366,194 people in the process.



These activities and projects won us “The Enterprise with Outstanding Community Service in China” and “Most Influential Enterprise in Corporate Social Responsibility” awards while both Towngas China and Hua Yan Water also received “China Best Corporate Citizenship” awards in December 2011.

### Community Service Highlights

#### Rice Dumplings for the Community

Over 90 companies in 17 provinces participated in this scheme preparing and distributing dumplings during the year. In June, working together with the BEA Charity Fund, we organised a “Rice Dumplings for the Community” competition in Wenchuan, Sichuan.



#### Book Donation with Love and Care Campaign

This campaign, which commenced in the aftermath of the devastating earthquake in Sichuan to provide “book corners” for schools in the region, has now expanded to schools in ten different provinces. During the year, we established a further 10 “book corners”, leading to the opening of our 20th such facility in Henan province and also collected 15,000 additional books for distribution.

#### The Shanghai Soong Ching Ling Foundation

Under the Shanghai Soong Ching Ling Foundation – Bank of East Asia Charity Fund’s Firefly Scheme, we helped to establish a “Firefly Playground” in Wenchuan, Sichuan province during the year.

## 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, all help to maintain quality levels throughout the entire process.



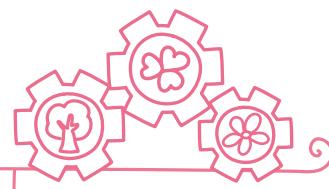
CSR practices have also been incorporated into our daily procurement practices. As a member of the Green Purchasing Charter, we expanded our endorsements to the procurement of induction lamps for warehouses in 2011. Green specifications have been formally defined with the involvement of user departments, potential suppliers have been assessed and included on our supply list upon meeting our criteria, and we have also shared 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. Covering about 80 % of the goods and materials purchased by our Hong Kong operations, we also conduct surveys and factory audits based on this Code.



## Towngas CSR Code of Practice for Suppliers

### Business Ethics

A high standard of ethics should be maintained, including:

- Business Integrity
- Disclosure of Information
- No Improper Advantage
- 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 2011 Targets

Targets	Progress
<b>Operation and Management</b>	
To implement a risk register programme in ECO's processing plants.	Job completed with the implementation of a risk register system in ECO's processing plants.
To start conducting environmental audits in HCIL and TCCL joint ventures.	A total of 44 environmental audits were conducted in 2011.
<b>Safety</b>	
To be certified as an International Safe Workplace under the framework of the World Health Organisation's Safe Community Programme.	The Hong Kong and China Gas Company Limited was certified as an International Safe Workplace.
To develop an electronic safety information system.	An electronic safety information system was established.
To develop an emergency management system for new energy businesses.	Guidelines for the establishment of emergency plans for new energy businesses were issued in July 2011. An intranet-based incident reporting system was also developed.
<b>The Environment</b>	
To reduce natural gas consumption by using waste heat from the phase II carbonate reboiler.	A waste heat recovery system was installed at the Tai Po Plant. This system reduced natural gas consumption of the hot water boiler by 233,151 cubic metres in four months.
To achieve a Wastewi\$e label for 10 consecutive cycles.	We obtained our Wastewi\$e Label in 10 consecutive cycles, demonstrating our high commitment to environmental protection.
To develop environmental key performance indicators.	20 environmental key performance indicators were developed for different departments.
To launch afforestation schemes in mainland China.	More than 90 companies participated in the Month of Tree Planting and Carbon Reduction Programme.

Targets	Progress
<b>Employees</b>	
To achieve a 3% increase in the required professional qualifications of staff in designated positions over 2010.	Engineers in TOWNGAS are striving for professional excellence, achieving a 5.5% increase in the required professional qualification of engineers over 2010.
To revamp the Performance Management System for general staff.	Revamped the Performance Management System for general staff and managers. The System provides a framework of planned goals, standards and competence requirements to raise performance standards through a positive and constructive structured dialogue between appraisers and appraisees.
To launch Corporate TLC+ Talent Acceleration Programme for the Group.	19 executives were chosen to participate in the 2011 TLC+ programme, which provides fast track personal growth as well as development opportunities in the building of a talent pipeline for the Group.
To identify and implement company-wide and department action plans based on the results of the Employee Engagement Survey held to make TOWNGAS a better place to work.	Various action plans were identified and are being implemented. These include the revamp of the Performance Management System, the enhancement of medical benefits, the launch of the Employee Assistance Programme as well as the "Leading Others" initiative.
To revamp the company's internal website as a platform for internal communication and the sharing of intellectual capital.	A revamped corporate portal was launched internally to provide a user-friendly and centralised platform for our employees offering easy access to corporate information and the sharing of intellectual capital.
<b>The Community</b>	
To enhance our community service support for the younger generation.	A total of 470 students attended our Cooking For Fun English workshop, a voluntary programme targeted at under-privileged primary students.

# Future Targets and Initiatives

2012 Targets	Medium Term Targets (Two to Three Years)
<b>Safety</b>	
To establish a behavior based safety programme.	To achieve the certification of all managerial staff in our mainland joint ventures' Risk Management Department as certified safety engineers.
To establish a pointing and calling programme.	To further consolidate our safety and risk management systems in our Hong Kong and mainland operations.
To establish a probationary licence programme.	To ensure competence in OSH standards and practices after probation and to provide extra care to all new staff.
To implement a general manager monthly safety inspection programme in ECO's mainland CNG/LNG filling stations.	
To implement a safety audit system in ECO's coal mines.	
To enhance safety awareness and our safety culture through the organisation of workshops and competitions in our city-gas and water ventures.	
<b>The Environment</b>	
To calculate the carbon footprint for a typical gas appliance product.	To continue to explore new carbon management initiatives.
To reduce town gas consumption of water heaters in our Tai Po plant by using waste heat from the phase II carbonate reboilers.	To investigate the feasibility of using landfill gas from other landfills in Hong Kong.
To achieve a Wastewi\$e label for 11 consecutive cycles.	To study the feasibility of collecting rainwater at the naphtha tank farm area in Tai Po Plant for reuse.
To save electricity by introducing solar power supply to the LED display board at our Tai Po production plant.	

**2012 Targets****Medium Term Targets (Two to Three Years)**

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.

**Employees**

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

To establish a strong performance culture and equip supervisors with coaching skills for continuous improvement in our workforce performance.

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

To build a pool of future leaders both in our Hong Kong and mainland operations, while also fostering leadership capabilities within these operations.

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

To build a highly engaged workforce to drive our business performance and further enhance our employer branding.

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

To leverage the internal website to provide more structured documentation and knowledge management, reduce the use of paper and enhance interactive communication.

**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 explore new initiatives to help under-privileged low-income groups and to support social enterprises.

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

To distribute a grand total of 2,000,000 rice dumplings, 1,400,000 mooncakes and 300,000 servings of hot soup by the end of 2014.

# Key Statistics

Unit	2011	2010	2009	2008	2007
<b>Business</b>					
<b>Operations (Company)</b>					
Customers as at 31 December	Number	1,750,553	1,724,316	1,698,723	1,672,084
Customers per km of mains	Number	538	535	531	526
Employees as at 31 December	Number	1,938	1,923	1,908	1,922
Average turnover of workforce (Hong Kong gas business only)	%	4.6	4.5	3.3	5.6
Average turnover of workforce (all Hong Kong employees)	%	6 <sup>1</sup>	5.5 <sup>1</sup>	5.4	7.72
Installed capacity (Hong Kong towngas production)	Thousand cubic metres per day	12,260	12,260	12,260	12,260
Town gas sales (Hong Kong)	Million MJ	28,147	27,578	27,274	27,583
<b>Financial</b>					
Revenue	HK\$ million	22,427	19,375	12,352	12,352
Manpower costs	HK\$ million	1,700	1,466.6	1,120.2	1,006.2
Taxation	HK\$ million	1,344	1,038.8	747	562.6
Dividends	HK\$ million	4,147.8	2,513.8	2,285	2,333
<b>Safety and Social</b>					
<b>Safety (Hong Kong)</b>					
Urgent reports – total	Number	17,192	16,077	16,947	18,239
General incidents	Number	16,799	15,736	16,567	17,745
Gas related incidents	Number	393	341	380	494
513					

	Unit	2011	2010	2009	2008	2007
Major gas emergencies (including suicide cases)	Number	6	4	10	6	13
Incidents involving third party damage to underground pipes	Number	15	10	14	10	12
Average response time for gas incidents	Minutes	19.28	19.22	20.1	19.9	20.4
Third party excavation sites inspected	Number	16,533	18,400	17,496	15,541	14,665
Regular safety inspections – home visits	Number	1,177,367	1,110,744	1,177,170	1,229,128	900,634
Community safety exhibitions	Number	13	12	12	12	12
Community safety talks	Number	5	6	11	2	16
In-house safety training	Number of man-hours	14,047	19,075	18,031	21,597	19,819
External staff safety training	Number of man-hours	7,071	8,002	7,626	5,580	5,199
<b>Occupational Health and Safety</b>						
Accidents – all industrial injuries <sup>2,3</sup>	Number	10	16	14	12	16
(Accident Frequency Rate <sup>2,3</sup> )	(Number of accidents per 100,000 man-hours)	(0.19)	(0.31)	(0.27)	(0.24)	(0.32)

	Unit	2011	2010	2009	2008	2007
Reportable accidents <sup>2,3</sup>	Number	9	14	9	10	13
(Accident Incidence Rate <sup>2,3</sup> )	(Number of reportable accidents per 1,000 employees)	(2.9)	(5.7)	(3.7)	(4.1)	(5.4)
Traffic Accident Injury Rate <sup>3,4</sup>	Number of traffic accident injuries per 100 vehicles	3.11	3.71	3.05	4.44	1.81
Industrial Injury Man-days lost	Number of man-days	160	430	412	308	659
<b>Fatal accidents</b>						
• Hong Kong employees	Number	0	0	0	0	0
• HCIL, TCCL and JV employees <sup>5</sup>	Number	0	0	0	0	1
<b>Customer Service (Hong Kong)</b>						
Customer compliments	Number	5,658	5,532	5,554	4,100	4,069
Customer complaints	Number	10	9	17	16	17
<b>Community Involvement (Hong Kong)</b>						
Employees participating in voluntary services	Number	1,215	1,112	1,230	1,040	953
Members of Tenggas Customer Volunteer Team	Number	138	138	133	133	100
Voluntary service hours (including employees and customers)	Number of hours	64,956	48,815	44,939	38,852	38,935

	Unit	2011	2010	2009	2008	2007
<b>Environmental</b>						
<b>Resource Use / Conservation (Hong Kong)</b>						
Naphtha saved <sup>#</sup>	Metric tonnes	13,996	13,657	11,234	9,960	3,430
Town gas saved <sup>#</sup>	Cubic metres	3,528,364	4,089,133	3,626,266	3,849,776	3,818,419
Water saved <sup>#</sup>	Cubic metres	177,463	224,358	213,971	220,363	214,075
Photovoltaic (PV) panels installed	Square metres	75	75	75	75	75
Grid electricity saved through PV panels	kWh	86,600	86,600	86,900	86,600	86,200
Electricity saved (North Point headquarters and Ma Tau Kok office) <sup>#</sup>	kWh	4,232,725	4,142,825	3,993,105	3,763,818	3,737,070
CO <sub>2</sub> emissions avoided equivalent to electricity saved (North Point headquarters and Ma Tau Kok office)*	Metric tonnes	2,963	2,900	2,795	2,635	2,616
Landfill gas utilisation as heating fuel in gas production	Cubic metres from Shuen Wan from NENT SNG	2,364,000 20,789,390	2,761,000 19,925,269	2,361,000 16,065,375	2,528,000 14,381,262	2,716,366 5,390,254 (since May 2007)
<b>Air Emissions (Hong Kong)</b>						
CO <sub>2</sub>	Daily average in metric tonnes (Metric tonnes per million MJ of town gas)	913 (11.91)	896 (11.96)	896 (12.13)	929 (12.35)	909 (12.33)

	Unit	2011	2010	2009	2008	2007
NO <sub>x</sub>	Daily average in kg (Kg per million MJ of town gas)	356 (4.65)	344 (4.59)	324 (4.39)	342 (4.55)	345 (4.68)
SO <sub>x</sub>	Daily average in kg (Kg per million MJ of town gas)	1.5 (0.02)	1.9 (0.03)	2.5 (0.03)	3.6 (0.048)	3.1 (0.04)
Greenhouse gases <sup>6</sup> (production equipment)	Metric tonnes in terms of CO <sub>2</sub> equivalent	362,307	355,958	357,043	370,647	360,388
<b>Aqueous Emissions (Hong Kong)</b>						
Wastewater	Daily average in cubic metres (Cubic metres per million MJ of town gas)	447 (5.84)	351 (4.68)	404 (5.47)	493 (6.55)	515 (6.98)
<b>Waste Avoidance/Recycling (Hong Kong)</b>						
Chemical waste generated	Daily average in kg (Kg per million MJ of town gas)	51 (0.67)	178 (2.37)	64 (0.87)	185 (2.45)	27 (0.37)
Spent catalyst collected for metal recovery	Metric tonnes	41.1	36	12	114	23
Metal chemical drums reused	Number	216	161	211	201	219
Plastic chemical drums reused	Number	1,064	818	882	878	660
Spent lube oil recycled	Metric tonnes	16.1	15.17	3.41	5.85	3.91

	Unit	2011	2010	2009	2008	2007
<b>Scrap metal recycled</b>						
• Old gas appliances	Metric tonnes	840	989	930	891	1,091
• From the construction and maintenance of plant and pipelines	Metric tonnes	11	47	125	116	45
PE pipe recycled	Metric tonnes	27	11.66	10.9	10.5	1
Abandoned aquaknect hoses	Number	9,084	17,221	23,024	26,012	–
Abandoned service pipes and fittings	Kg	2,206	3,509	10,715	6,434	–
Gas appliances polyfoam packaging materials avoided	Metric tonnes	2.19	4.33	4.12	5.04	4.45
<b>Awareness Raising and Training</b>						
In-house environmental training (Hong Kong)	Number of man-hours	549	4,008	3,036	967	1,094
External environmental training (Hong Kong)	Number of man-hours	255	773	403	890	1,027
Environmental training for JVs	Number of attendants	213	135	168	48	30

## Remarks:

- 1 Employees from The Hong Kong and China Gas Company Limited, Towngas Avenue, U-Tech Engineering Company Limited, Towngas Telecommunications Company Limited, TSC Systems HK Limited, Manufacturing Business, Towngas International Company Limited, Towngas China Company Limited, ECO Environmental Investments Company Limited, ECO Aviation Fuel Services Limited are included.
- 2 Contractor and joint venture employees are excluded.
- 3 A revised definition for accidents was adopted in 2005.
- 4 Only Towngas employees in Hong Kong are included.
- 5 Towngas China Company Limited's employees are not included before 2008.

6 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 2011 (hereinafter called "the Report"). The Report stated Towngas' sustainability performance and efforts made for the period from 1 January 2011 to 31 December 2011. The verification team did not partake in the compilation of the data and information in 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 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 material and complete representation of the performance of Towngas in the context of sustainable development. The verification team confirmed that the Report was prepared based on factual statements and that the data contained within the Report are accurate. It is a fair and honest representation of initiatives, targets, progress and performance on Towngas' sustainable development achievements.

Opportunities for improvement on the reporting structure and contents 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



**Jorine Tam**

Assistant Director, Strategic Business



## We welcome your feedback!

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

**Or contact us:**

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