



SUSTAINABILITY REPORT 2013

INTRODUCTION

ABOUT THIS REPORT



MATERIAL ISSUES FOR 2013

Our sustainability report is structured around our material issues, which emerged through the year and were confirmed in a research exercise. They are organised in three groups, with additional case studies on countries with an important sustainability focus for the year:

Safety, health and conduct	Environment and climate change	People and communities
Safety	Environmental performance	People and skills
Security	Climate change	Our local contribution
Health	Emissions to air	Working with communities
Ethical conduct	Water and biodiversity	Human rights
	Unconventional gas	

The report also includes:

- **High level view:** a letter from our Chief Executive, Chris Finlayson and a letter from the Chairman of the Sustainability Committee, Sir David Manning
- **Credentials:** our performance in sustainability indices
- **Data:** a section with all our environmental, social and governance performance data
- **Targets:** a section setting out our targets for the year and performance against these
- **Assurance:** a report from our independent assurers, DNV GL
- **GRI and UN Global Compact indices:** a guide to where in our report we provide information requested by the Global Reporting Initiative (GRI 3.1) and the UN Global Compact
- **Country case study:** Australia, Brazil and Trinidad and Tobago.

ABOUT THIS REPORT CONTINUED

MATERIAL ISSUES: OUR APPROACH

Materiality has become an important concept for sustainability reporting. In simple terms, it is a requirement for reports to focus on those environmental, social and governance issues that are of real significance to the business and of interest to its stakeholders.

As a resources company running long-term projects, the most material issues for us are very long term. We report annually on progress against these. They are captured in our Business Principles and include: responding to climate change, managing our impact on the environment, working safely and ethically and leaving a positive legacy in the societies where we operate. In any particular year, we expect to report on:

- **OUR SUSTAINABILITY OBJECTIVES, TARGETS AND PERFORMANCE** – for example, our climate change target, our safety data
- **PUBLIC DEBATE AND STAKEHOLDER CONCERNS** – for example, investor concerns on climate risk or human rights, Queensland community concerns around coal seam gas
- **POLITICAL AND SOCIAL CHANGE** – for example, security challenges in Egypt, entry into new countries, the new EU Accounting Directive
- **INVESTMENTS AND INITIATIVES** – for example, our new diversity and inclusion strategy or our partnership with Youth Business International.

Many of these issues emerge through our stakeholder engagement with investors, governments, business partners, NGOs, academia and other stakeholders during the year. We also conduct an annual research process ahead of the report, to discuss and confirm the key issues for the report. This year, Addison Group supported this research process, conducting face-to-face interviews and desk research to produce a report on material issues for 2013.

OUR REPORTING FRAMEWORK

There are a number of reporting frameworks available for sustainability reporting. The most widely recognised is the [Global Reporting Initiative](#) (GRI) which provides a regularly updated, voluntary framework. GRI published the latest iteration of its guidelines, G4, in May 2013. This led to considerable debate and responses, including commentary on the challenges involved in implementation and critiques from some organisations. GRI states that reports published after 31 December 2015 should be prepared in accordance with the G4 guidelines; until that time, GRI 3.1 can be used.

This report acknowledges the GRI G3.1 guidelines, including the oil and gas sector supplement provided for the second year. In our report, we provide an index that shows where, in our report, we provide the information required by GRI 3.1. However, we structure our report around the issues that our engagement, research and experience show are of importance to our stakeholders.

During 2014, we will review G4 and the options for providing an index to G4 in our 2014 report. We are part of the [IPIECA](#)¹ industry group on reporting, and will also review new reporting guidelines due from IPIECA in 2014. We also continue to monitor developments in integrated reporting from the [International Integrated Reporting Council](#). Our [Annual Report and Accounts](#) includes summary coverage of the issues covered in this report and, as required by 2013 amendments to the UK Companies Act, comprises a separate strategic report with disclosures on human rights, gender diversity and greenhouse gas emissions.

Our priority will continue to be to report on the material issues for our particular business, in an accessible and transparent way.

¹ The global oil and gas industry association for environmental and social issues.

LETTER FROM CHRIS FINLAYSON, CHIEF EXECUTIVE



Dear colleagues, partners, and stakeholders,

In 2013, we achieved some important milestones, while also facing political and social change and upheaval in parts of the world. In this report we set out some of the ways in which we worked with stakeholders during the year, and how we responded to immediate environmental, social and governance opportunities and risks, while also planning for the longer term.

For the fifth year, this report complies with the Global Reporting Initiative (GRI) reporting guidelines. We are also a signatory to the UN Global Compact and we remain committed to its 10 Principles. We detail how we fulfil this commitment throughout this report and on our website, particularly in the 'Our approach' pages of the Sustainability section of our website.

SAFETY

Safety is always my highest priority. During 2013, our occupational safety performance improved, in particular in our operations in Australia. Sadly, there was one fatality in Tanzania in December where Emmanuel Juma, a maintenance supervisor working for a local contractor, died of his injuries following a road traffic incident.

We continued work to improve the safety, or integrity, of our physical assets. We had no major releases of gas or liquid in 2013. However, not all our operations met their performance targets for asset integrity and I highlighted the importance of continuous improvement in this area.

We completed a number of asset shutdowns including five in Trinidad and Tobago, two in Tunisia, and three in our European offshore operations. In Kazakhstan, a shutdown at the Karachaganak field was completed with zero injuries – and five days ahead of schedule.

LETTER FROM CHRIS FINLAYSON, CHIEF EXECUTIVE continued

EGYPT

We faced a major security challenge as public protests affected Cairo and the wider country. We temporarily repatriated a number of personnel and families, protecting our Egyptian employees with additional security.

Continuing political instability led to the government diverting gas due to be exported to fulfil liquefied natural gas (LNG) contracts, into the local market. As a result, we became unable to fulfil export obligations and in January 2014 notified the market we had issued force majeure notices under these contracts. We remain committed to our Egyptian LNG Project and will continue to negotiate with the Egyptian authorities and other stakeholders to seek a long-term solution.

AUSTRALIA AND BRAZIL

We made good progress with investments in water quality monitoring and treatment systems in Australia. We installed more than 80% of a monitoring bore network and commissioned a major reverse osmosis water treatment plant. We are also committed to a major project to return more than 25 000 hectares of Curtis Island, where we are constructing an LNG plant, back to its natural state. We remain on track to deliver first LNG in the fourth quarter of 2014.

In Brazil, where two new floating production units came on stream, we invested approximately US\$50 million in research and development projects, and began constructing our Global Technology Centre in Rio¹. We continued support for [Science without Borders](#), a Brazilian government initiative to promote science, technology and innovation, and signed some important agreements for new joint projects. We made a number of voluntary investments in science, technology, engineering and mathematics (STEM) education programmes. [Project Blue](#), a major Brazilian ocean research project in which we are a partner, started its ocean monitoring work.

CLIMATE CHANGE

Our GHG intensity for the year, across our portfolio, was 99% of the previous year. This meant that we met our target of maintaining emissions intensity at the same level as 2012.

However, GHG emissions intensity for our operated assets for the year was 105% of 2012. This reflected the impact of lower throughput from some operations, the increased energy required to extract gas in maturing fields, and increased emissions in Australia, where we are flaring gas as we build up to full production.

We put plans in place to improve our management and measurement of methane emissions. 2013 was the first year of our new greenhouse gas emissions reduction target which runs to 2017.

Looking to the longer-term future of gas, we partnered with [Imperial College, London](#) to establish an institute, designed to become an international centre for research into technologies to strengthen the viability of natural gas as the fuel of choice for the future.

We also signed a contract with the [São Paulo Research Foundation](#) in Brazil, to invest in a Research Centre for Gas Innovation, which will seek solutions to mitigate greenhouse gases in our own operations and beyond.

LICENCE TO OPERATE

During the year, we put in place a Licence to Operate Policy. This commits us to seek to satisfy stakeholders, wherever we work, that our business is legitimate and makes a positive contribution to their country. Within this policy, we recognise the importance of environmental stewardship, social performance, government relations, human rights, local content, safety, and the implementation of our Business Principles.

¹ Our concession contracts determine that 1% of gross production revenue from large Brazilian oil and gas fields shall be invested in R&D in Brazil (the R&D levy). This levy is overseen by Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (ANP), the oil and gas regulator. Of the US\$50 million, nearly US\$35 million will qualify under the R&D levy.

LETTER FROM CHRIS FINLAYSON, CHIEF EXECUTIVE continued

PEOPLE AND SOCIETY

We recruited graduates from 12 nationalities and 58 universities worldwide. We supported initiatives to encourage young people and, in particular, young women to pursue careers in engineering and science.

We took a number of steps to improve diversity and inclusion. We published an aspiration to increase the percentage of women in leadership positions to 20% by 2020, and approved a Group-wide diversity and inclusion strategy. We developed a diversity code of conduct for our recruitment providers, commissioned diversity research, and formed corporate partnerships to support our diversity ambitions.

We made progress with social programmes in a range of countries and announced a global partnership with [Youth Business International](#), which aims to foster youth entrepreneurship, create new jobs and promote economic growth in countries where we work. Over the five-year period of the project, we expect to invest at least US\$16 million and aim to help 15 000 young people around the world to start up their own business.

As we grow, we will continue to be vigilant, and ensure that we retain our reputation for being a good partner and contributor to the societies in which we work.

Chris Finlayson

Chief Executive

LETTER FROM SIR DAVID MANNING, CHAIRMAN, SUSTAINABILITY COMMITTEE



In 2013, the Committee maintained its focus on safety, in particular in Australia, continued to review carefully the Group's proposed new country entries, took a close interest in the management of methane emissions in the context of the broader debate about climate change, and monitored the Group's approach to social investment and ethical conduct.

SAFETY

The Committee receives quarterly updates on safety and asset integrity. It noted with approval the steady improvement in safety performance in Australia, which was apparent from the first quarter and continued throughout the year. It also noted that the Group's overall performance on total recordable case frequency tracked ahead of target throughout the year.

The Committee took a particular interest in asset integrity, and in particular sought explanations from management as to the significance of the Group's performance against its internal asset integrity key performance indicator; the Group achieved 82% against a target of 92%. It noted a strong performance in the area of loss of primary containment.

The Committee was also briefed on the successful evacuation of non-essential staff from Egypt in July, as well as the efforts to manage the impact of the instability in Egypt during the year on our operations and employees.

NEW COUNTRY ENTRY

The Committee considered possible entry into a number of countries, on the basis of assessments by the company's management of the political and social risks, as a prelude to possible decisions by the Board. In July, the Board agreed on new country entry for Myanmar, and that the development of a robust Licence to Operate Strategy there, in the event of licence acquisition, would be essential. In October, the Committee was briefed on an opportunity in Colombia. On the basis of its positive recommendation, the Board approved new country entry later that month.

We also continued to monitor work underway in countries which the Group had recently entered, such as Honduras, as well as receiving advance briefings on possible new countries. These briefings are designed to allow the Committee to reach a considered view rapidly in response to a formal proposal from management.

SIR DAVID MANNING INTRODUCTION continued

LICENCE TO OPERATE

The Committee was briefed on the Group's work to establish its licence to operate in a number of countries covering the spectrum, from early stage preparation for a drilling campaign, to the final stage of project development. We heard about the approach taken in Kenya, where the Group opened a small office in 2013 ahead of a drilling campaign that started at the end of the year. The Committee was also updated on the Tanzania Licence to Operate Strategy covering the Group's efforts to explain to the Tanzanian Government, and public opinion in Tanzania more broadly, how the possible liquefied natural gas (LNG) export project could bring significant benefit to the country. It discussed how to manage the local sensitivities in the south of Tanzania where the Group's shore base is located, and how best to work with the Tanzanian authorities on the project.

The Committee took a close interest in the politics surrounding coal seam gas (CSG) in Queensland, and Australia more broadly, and the implications for the Group's Queensland Curtis LNG Project. It was briefed in the first part of the year on the impact of media stories highlighting opposition to the CSG industry and on the efforts made to counter this. The Committee returned to these issues during the Board's visit to Australia in November, when it discussed the potential impact of the Federal election results for the Group, and heard about the work underway to manage the reputation of the CSG industry in general and our operations in particular. It recognised the good work done in securing a wide measure of support in the gas fields in Queensland, but also expressed support for the work underway to ensure that the industry made the best possible case to influence public opinion in Australia.

CLIMATE CHANGE

At the beginning of the year, the Committee heard about the Group's involvement in a [University of Texas study](#) to establish accurately how much methane was emitted in the production of unconventional gas. Building on that work, later in the year the Committee invited management to bring forward proposals on how the Group could contribute further to winning public confidence on this issue. As a result, the Committee was briefed in the Autumn on the Group's work on a possible 1% target for methane emissions for the industry as a whole, and endorsed a decision to carry out further work in that area.

SOCIAL INVESTMENT

The Committee has reviewed the Group's approach to social investment on an annual basis since 2011. In 2014, it was briefed on management's plans for partnerships between the operations and external organisations, specialised in long-term projects, in the areas of science, technology, engineering, and mathematics (STEM) education, youth employment and sustainable livelihoods. It noted the establishment of an agreement between the Group and [Youth Business International](#), a global network of national organisations working in the field of youth entrepreneurship. It discussed techniques for measuring the impact of such activities, a subject which it followed up early in 2014. It also considered, during its visit to Brisbane in November, a long-term social investment strategy for our Australian operations to start from 2015.

ETHICAL CONDUCT

As well as considering the Group's annual review of ethical conduct issues, the Committee ensured that these were given due weight in consideration of possible new country entries and the Group's licence to operate strategies.

GROUP STAKEHOLDER ENGAGEMENT



KEY ACTIVITIES IN 2013

During 2013, we engaged with a wide range of Group stakeholders. Here, we highlight some of our sustainability-related Group activities in the year. As well as these UK-based activities, we engaged locally with a wide range of local stakeholders across the world. For examples of some of these activities, see:

[Our local contribution](#)

[Working with communities](#)

[Country case study: Australia](#)

[Country case study: Brazil](#)

[Country case study: Trinidad and Tobago](#)

[QGC Sustainable Communities Report](#)

[Kazakhstan 2012 Sustainability Report](#)

[Trinidad and Tobago 2012-2013 Sustainability Review](#)

SOCIALLY RESPONSIBLE INVESTORS

We engaged with socially responsible investors and analysts, in particular on the subject of climate change. We were one of 45 oil, coal and gas companies approached as part of the Carbon Asset Risk Initiative, coordinated by [Ceres and the Carbon Tracker Initiative](#), with support from the [Global Investor Coalition on Climate Change](#). We met a representative of the coalition to discuss our approach to climate change risks from current and future policy, and also with HSBC, which published a sector report '[Oil and carbon revisited](#)' in January 2013. We also responded to several individual investors on a range of climate change topics, including fugitive emissions, climate change advocacy, climate resilience, our emissions performance, and the [CDP Leadership Index](#).

We held one-to-one meetings with some European and US analysts and investors on social responsible investment (SRI) topics including biodiversity, diversity, human rights, labour relations, sustainability reporting, our progress against the UN's Communication on Progress and the concept of companies evaluating and reporting on their total impact. We responded to a query about our joint venture operations in Kazakhstan, Karachaganak Petroleum Operating (KPO) and in particular about KPO's environmental record and emissions.

[Read about how we responded to the KPO query](#)

We worked with the organisation [SRI Connect](#) to survey selected investors about our sustainability reporting. The research solicited views on integrated reporting, reporting frameworks such as the [Global Reporting Initiative](#), material issues and reporting format. The exercise helped to shape our 2013 Sustainability Report.

We also responded to the [Dow Jones Sustainability Index](#) questionnaire and contributed to, and reviewed, the [FTSE4Good report](#) on BG Group. We see these two indices as useful measures of the environmental, social and governance issues that interest our stakeholders and are helpful in indicating appropriate levels of disclosure.

[Read about our engagement with mainstream investors](#)

[Read more about our performance in the indices in 2013](#)

GROUP STAKEHOLDER ENGAGEMENT continued

GOVERNMENTS AND REGULATORS

We engaged widely with governments, regulators, academics and other policymakers across our operations. We provided advice on future energy policy, in particular securing sustainable gas supply.

- Australia: held discussions to help ministers and officials design a more liquid, transparent and sustainable gas market, learning from some of the experiences of the UK and Europe. Advised on existing and new emissions trading schemes
- China: participated in the launch of an initiative to help the country's energy department develop an efficient gas market, learning from UK and European experiences. Work began in November 2013 and will run on into 2014
- Kazakhstan: advised on emissions trading schemes
- Kenya: advised on gas policy and plans
- Tanzania: advised on gas policy and plans. We worked with Robert Gordon University on initiatives to help the government and other stakeholders build their understanding of the oil and gas sector, including liquefied natural gas (LNG). We funded [Oxford Policy Management Institute](#) to carry out a detailed review of the potential socio-economic impacts of the development of a LNG project in the country, to help the government develop appropriate public policy
- UK and European Commission: organised briefings to build understanding of the likely future for global energy, gas and LNG markets, and help officials frame policies to deliver secure energy supply. We provided advice to the UK government departments [Business, Innovation and Skills](#) and [Energy and Climate Change](#) on designing an oil and gas industrial strategy to support smaller companies in the areas of skills, technology and access to finance. Advised on emissions trading schemes
- USA and UK: worked with the [US State Department](#), [US Environmental Protection Agency](#) and UK Department of Energy and Climate Change to help shape the oil and gas methane initiative under the Climate and Clean Air Coalition.

[Read more about our work to encourage transparent reporting for extractive industries in Europe, and to promote EITI in 2013](#)

GROUP STAKEHOLDER ENGAGEMENT continued

NON GOVERNMENTAL ORGANISATIONS, AID AGENCIES, AND DEVELOPMENT INSTITUTES

We work with many NGOs and other agencies to help us fulfil our environmental, social and human rights objectives at BG Group level, as well as in the countries where we work. Some examples of our Group activities in 2013:

- **Human rights:** We participated in the annual [UN Forum on Business and Human Rights](#), and the running of a side session on human rights impact assessments in partnership with [Oxfam America](#), [the Institute for Human Rights and Business](#), and [the Danish Institute for Human Rights](#). We took part in a discussion on Free Prior Informed Consent (FPIC) run by Washington-based [Resolve](#), a leading public policy dispute resolution NGO. We plan to continue to participate in their FPIC dialogue in 2014
- **Grievances:** We participated in the Social Responsibility Working Group of [IPIECA](#) (the global oil and gas industry association for environmental and social issues). We co-chaired IPIECA's grievance mechanism working group, which is developing best practice guidance on grievance mechanisms for the industry
- **Society and development:** We launched a global partnership with [Youth Business International](#), an international network of independent non-profit organisations that help young people start their own businesses. We visited the World Bank, [International Finance Corporation and International Monetary Fund](#) to discuss our developments in East Africa in particular. We reiterated our commitment to work with them on areas such as local capacity development. We engaged with the [African Development Bank](#) to identify opportunities for collaboration. We took part in the [International Association of Impact Assessment](#) annual conference and shared a paper about our Social Performance Standard
- **STEM education:** We continued our partnerships in science, technology, engineering and mathematics (STEM), with [Exscitec](#), [Imperial College London](#) and the [London Science Museum](#)
- **Social investment:** We worked with the [University of Queensland's Centre for Social Responsibility in Mining](#) (CSRSM). In collaboration with CSRSM, we published a report on shifting trends in social investment. CSRSM participated in our indigenous relations review in Queensland and provided expert input to our [Reconciliation Action Plan](#), which sets our commitment to Aboriginal and Torres Strait Islander communities in Queensland
- **Climate change:** We collaborated with the [US Environmental Defence Fund](#) (EDF) on the issue of methane emissions from the oil and gas sector and joined them in a project to advance methane monitoring technologies internationally. We also joined the Methane Leadership Group and were involved in a [University of Texas study](#) also backed by EDF. We engaged with IPIECA, the global oil and gas industry association for environmental and social issues, on a number of issues, as well as with a range of organisations with interests in climate change.

[Read more about our membership of climate change organisations](#)

OUR PEOPLE

Following his appointment as Chief Executive, Chris Finlayson engaged actively with employees, holding four global town hall meetings at our head office and 13 town hall meetings in operations around the world. He visited a further four businesses, and hosted regular informal lunches with small groups of employees. We consulted our employees on specific issues including:

- Their understanding and view of the new strategy introduced in May 2013
- Their perceptions of our brand attributes
- The closure of our defined benefits pension scheme in the UK. The feedback received from employees resulted in some modifications being made to the original proposal
- How to build a diverse and inclusive culture. This led to the appointment of a Head of Diversity and Inclusion
- Improving the experience of new starters. This led to the measurement of the existing new starter process with suggestions on how to improve this
- Improving collaboration across the company. This led to trialling new social media platforms to support global collaboration
- The drivers for people to join and stay at the company. We will respond to results from this survey in 2014.

We improved our internal communications channels, increasing employee readership of our key publications by around 30% as compared with 2012. We launched a blog, BG Talks, in which senior managers update on a range of themes, and launched our head office communications channel, Live Talks, in a new format showing a senior manager talking to another employee.

[Read more about our approach to our key stakeholder groups](#)

PERFORMANCE IN SUSTAINABILITY INDICES



OVERVIEW

We see sustainability indices as a useful barometer of stakeholder interests, and a helpful guide to how our performance and disclosure against our sector are viewed.

Performance in indices reflects not just our underlying environmental, social and governance performance in the areas covered, but also our levels of disclosure. It is liable to change as questions, methodologies and the universe of companies rated change, so year-on-year comparisons are not always meaningful.

We take note of the 'Rate the Raters' Phase 2 analysis of rating agencies, published by [SustainAbility](#) in October 2010. This rates [Dow Jones](#), [CDP](#), and [FTSE4Good](#) as the three most credible ratings systems. During the year, we responded to questions from the annual Dow Jones Sustainability Index (DJSI), the biannual FTSE4Good index and the annual CDP index. We completed the CDP water questionnaire. We also reviewed the Goldman Sachs GS SUSTAIN report on BG Group. We review our results on an annual basis and present a paper to the Sustainability Committee.

DOW JONES SUSTAINABILITY INDEX

We have been included in the [DJSI](#) each year since its launch in 1999. In 2013, the average score for the oil and gas sector was 42%. We achieved the best score in our sector, at 83%. This made us the Energy Industry Leader, and the only UK company to be included in the [DJSI Leadership Group](#). Our score improved by two points over the previous year.

[Read more about our scores](#)



FTSE4GOOD

We have qualified for the [FTSE4Good](#) every year since its creation in 2001. The FTSE4Good methodology¹ scores companies between 0 and 5 for each of 6 themes: environmental management, climate change, human and labour rights, supply chain labour standards, countering bribery and corporate governance.

A score of 3 is the level for inclusion in the FTSE4Good Index and a score of 5 is considered best practice. Our score overall increased from 3.5 out of a possible 5 in March 2012, to 4.2 in March 2013. The score increased again in September 2013 to 4.7. Our 'supersector' score, which ranks us relative to other oil and gas companies in the index, increased from 94% in March 2012 to 98% in March 2013, and again to 100% in September 2013, making us the leading oil and gas company in the index.



¹ More information on the FTSE4Good methodology is available at: <http://www.ftse.com/analytics/ftse4good-esratings>.

PERFORMANCE IN SUSTAINABILITY INDICES continued

Within this, our absolute scores in September 2013, out of a possible 5, were 4.5 for environment, 5 for social and 4.6 for governance.

Our supersector relative score was 10 out of a possible 10 for each one of the three FTSE 'pillars': environment, social and governance.

[Read more about our scores](#)

CDP

CDP produces two indices: the Carbon Performance Leadership Index (CPLI) and the Carbon Disclosure Leadership Index (CDLI).

In 2013, we improved our score in the CPLI performance index, achieving an A band rating compared with B in 2012. The CPLI measures performance against three main criteria: greenhouse gas (GHG) emissions reductions in the year, having and meeting a GHG target, and remuneration being linked to GHG reductions. We were one of only two energy sector companies in this index.



Our score in the CDLI was 89, the same as in 2012.

GOLDMAN SACHS GS SUSTAIN

Goldman Sachs ranks BG Group as an oil and gas industry leader in its [GS SUSTAIN](#) focus list, which identifies sustainable leaders through analysis of return on capital, industry positioning, and also environmental, social and governance performance. We have been one of the GS SUSTAIN leaders since 2011. A GS SUSTAIN report on BG Group, issued in November 2013, gives the company an environmental, social and governance score of 77%, against a global oil producers' average of 57%.

SAFETY, HEALTH AND CONDUCT



We believe our success depends on providing a safe workplace with high ethical standards. We are committed to provide healthy, safe and secure work environments. We have zero tolerance of corruption and are committed to acting with integrity, fairness and transparency, as our business evolves and we face new challenges.

SAFETY



OVERVIEW

During 2013, we continued to implement our safety strategy which focuses on a number of themes: leadership and culture, major accident hazards, risk management, capacity and capability, organisational learning, and contractor management.

We look at safety performance in two main categories: occupational safety and process safety. Occupational safety covers protecting the safety, health and wellbeing of people engaged in work for us. Process safety, or asset integrity, covers the safety, reliability, efficiency and general fitness for service of our physical assets.

Internally, we measure performance against a range of safety key performance indicators (KPIs). During 2013, we met our targets for the majority of these.

Our occupational safety performance, as measured by the headline indicator of total recordable case frequency (TRCF), improved significantly to 1.64 (compared with a 1.75 target for the year, and a 2012 performance of 2.26.) This reflected effort right across the Group in 2013, in particular in our operations in Australia.

Process safety, or asset integrity, aims to prevent hydrocarbon releases which can escalate into fires, explosions or major spills. A key indicator of process safety is loss of primary containment (LoPC) – the unintentional release of gas or liquid. During 2013, we had no major releases of this kind. However, performance against our asset integrity KPI stood at 82% at year end, compared with a target of 92%.

- > [Read about our approach to managing safety](#)
- > [View our safety data for 2013](#)
- > [View our targets for 2013](#)

SAFETY continued

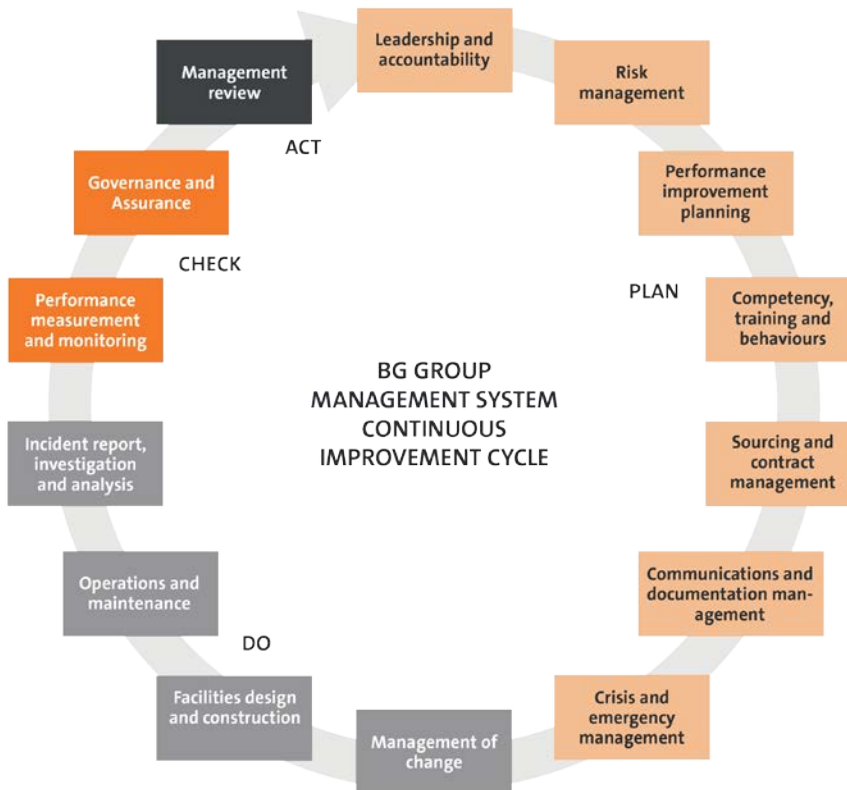
SAFETY IN NUMBERS

- In Australia, TRCF halved from 6.39 in 2012 to 3.13
- Our fleet of LNG vessels¹ covered a total distance of 1 454 314 nautical miles, equating to circumnavigating the earth nearly 65 times. This was achieved with a TRCF of 0.30, zero Lost Time Injuries (LTI)², and no pollution to the marine environment
- We had a number of successful planned maintenance shutdowns including five in Trinidad and Tobago, two in Tunisia, three in our European offshore operations and one in Kazakhstan. Shutdowns were achieved on time and on budget, and with good HSSE records
- We completed 15 220 individual Competence Assurance Management System (CAMS) assessments involving 4 155 people across our operations
- We gave 53 individual employees and contractors, and one team, Gold Hard Hat Awards. These awards recognise individuals who make outstanding contributions to safety.

SYSTEMATIC MANAGEMENT OF HSSE RISK

During 2013, we revised our Group HSSE Management System Framework, to improve the way we manage HSSE risk in our business. We plan to roll out the new approach in 2014. It will require all our businesses to develop a local management system which addresses their particular risks, within a Group framework. This will ensure we have a consistent approach across the company, while allowing more flexibility in how we manage risks locally. We will also provide our workforce with tools to improve risk management.

The new framework aligns with recognised management system approaches such as ISO 14001 (Environment), OHSAS 18001 (Health and Safety), ISO 9001 (Quality), and the International Association of Oil and Gas Producers' (OGP) Report No. 453. It consists of 14 complementary elements, shown in the diagram below, that form a continuous improvement cycle.



¹ Including one part-owned vessel.

² LTIs are accidents or injuries that oblige the person involved to remain away from his or her work for any day after the date of the incident.

SAFETY continued

SAFETY LEADERSHIP AND CULTURE

We recognise that leadership and culture are fundamental to good safety performance.

SAFETY LEADERSHIP PROGRAMMES

During 2013, we piloted a series of safety leadership development programmes in India and Tunisia, and established local improvement plans to target areas highlighted by these programmes. These programmes initially involved the senior teams in our operations and were then run with other local leadership groups. We plan to roll the programmes out across our business.

Supervisor workshops

In Australia, India, Trinidad and Tobago and the UK, we delivered a series of workshops designed to strengthen culture and behaviours among front line supervisors – the people with day-to-day accountability for safety on construction projects.

Two-day workshops in Australia and the UK, for example, focused on safety leadership and management. Supervisors discussed the barriers to better safety performance and identified a number of common themes including communication and collaboration, planning and leadership.

“The front line supervisor workshops represent a key element of good safety leadership – listening. Only by engaging our workforce and acting on their needs can we expect to achieve our stated safety objectives. A key component of establishing a ‘One Team’ work environment is engaging all employees – and understanding from all perspectives– the challenges associated with creating a safe work environment.”

VICE PRESIDENT HSSE DELIVERY PAT COOK

OCCUPATIONAL SAFETY

KEY PERFORMANCE INDICATORS

We use a number of key performance indicators (KPIs) to measure our occupational safety performance, notably total recordable case frequency (TRCF).

[See our KPIs](#)

TOTAL RECORDABLE CASE FREQUENCY

Total recordable case frequency is an industry-wide indicator for measuring and benchmarking safety performance. It looks at the total number of recordable injuries per million hours worked by the labour force. In 2013, our TRCF improved significantly from 2.26 to 1.64. This was due to better performance across most operations, in particular in our operations in Australia, where TRCF fell from 6.39 in 2012 to 3.13 in 2013.

Three operations did not meet their TRCF targets. Our joint-venture operation in Kazakhstan could not achieve its challenging internal target, our operations in Tunisia experienced a number of lost time incidents and our head office in the UK recorded a small number of minor incidents.

The improvement in Australia reflected good progress against the main commitments made in the previous year, notably an organisational efficiency review, new induction and site safety manager training upgrades, the roll-out of frontline supervision training, and holding contractor safety forums.

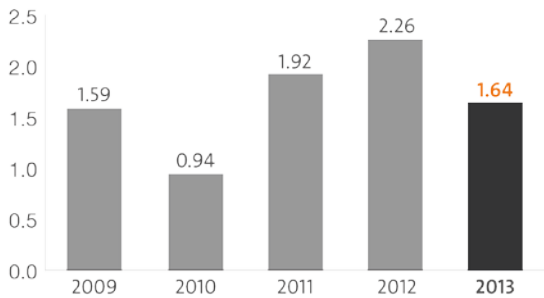
[Read more about our safety progress in Australia in 2013](#)

Excluding Australia, the Group TRCF of 0.83 compared favourably with our internal target of 1.00 and with the current [International Association of Oil and Gas Producers](#) (OGP) top quartile benchmark of 1.03³.

³ OGP Safety Performance Indicators report, May 2013.

SAFETY continued

Total recordable case history 2009-2013^a



^a Per million work hours. Includes employees and contractors working in operated assets. Data for the year ended 31 December.

Sadly, there was one fatality in Tanzania in December. A maintenance supervisor, Emmanuel Juma, who was working for a local contractor, died of his injuries following a road traffic incident.

WORKING WITH CONTRACTORS

Working safely with contractors is a key issue for the oil and gas industry. Contractors make up a significant percentage of the industry's workforce and often carry out the highest-risk activities.

In 2013, the total tracked hours worked for the Group were 108 million. Of these, 13 million were worked by Group employees (equating approximately to our 2013 year-end workforce of 5 422 employees). An additional 10 million hours were worked by employees of those joint ventures where we track hours worked (in line with the [OGP reporting requirements](#)). The remaining 85 million hours were worked by contractors. This underlines the significant role that contractors play in our safety performance.

Key contracts

Our Contracts and Procurement standard sets minimum requirements for contractor selection and management. In particular, it sets specific requirements for key contracts - those contracts which we have assessed as having high HSSE, human rights and ethical conduct risks.

In 2013, we established a new KPI, which evaluates how well each individual key contract is being managed against a number of criteria. These include whether a named owner of the contract was in place, whether a detailed contract management plan had been drawn up and was being executed, and whether regular meetings were being held with contractors to review progress.

Over the year, performance against this KPI steadily improved as a result of increased management attention. We finished the year with 91% of contracts meeting these criteria, slightly below our target of 95% for the year, but within our agreed internal tolerance level. The target of 95% has been set again for 2014.

During 2013, we partnered with a leading business school to develop a programme aimed at improving contractor performance, including safety performance on key contracts. The programme will be rolled out in 2014.

Safety forums

A number of our operations held contractor forum sessions in 2013. These aim to encourage open discussion on safety issues and are an example of our 'One Team' approach. 'One Team', a pillar of our approach to safety, asks everyone working for and with us to think of themselves as a single team with a shared purpose: to deliver our business plan safely.



SAFETY continued

In July 2013, our operations in Kazakhstan organised a safety forum for major contracting partners in the city of Aksai. It was attended by senior managers and over 40 contractor personnel. Round table discussions focused on learning from the root causes of incidents and on sharing ideas for improvement.

“Such events provide a platform between our business and contractors to share information and discuss various ideas for improvement in achieving our common goal of creating a safe working environment for all our employees.”

OUR KAZAKHSTAN OPERATIONS GENERAL DIRECTOR DAMIANO RATTI

[Read more about our approach to working with contractors](#)

PROCESS SAFETY

Process safety, or asset integrity, covers the safety, reliability, efficiency and general fitness for service of our physical assets.

MAJOR ACCIDENT HAZARDS

A major accident hazard is an event connected with the operation of our facilities, such as a fire, explosion or release of a substance, which has the potential to cause multiple fatalities, serious injuries or damage to the environment.

Managing major accident hazards is a key aspect of our approach to safety. This involves putting in place a range of safeguards that prevent or limit the consequences of any such incident. During 2013, as in every year, we regularly tested, inspected, and monitored these safeguards.

Major accident hazard training

We continued to implement our Major Accident Hazard Awareness Programme, developed in 2010; this uses reconstruction techniques to raise awareness of major safety risks. During 2013, 317 employees and contractors undertook the training at locations including Australia and the UK.

We hosted representatives of another upstream operator on the programme, providing them with the opportunity to learn from our experience as they embarked on a programme to raise major accident hazard awareness in their own organisation.



Major accident hazard training at Whyte Island, Australia

In preparation for the hook-up and commissioning of the Knarr project in Norway⁴ in 2014, the operations team on the project (from both BG Group and our contractors from Teekay Petrojarl, which is building the FPSO) participated in a special major accident awareness session. The training is due to be repeated in 2014 and extended to include the contractors that will undertake the drilling operations on the Knarr project.

[Read more about the Group-wide campaign on major hazard awareness](#)

Piper Alpha anniversary

On 6 July 2013, the twenty-fifth anniversary of the North Sea Piper Alpha disaster, we conducted a safety stand-down⁵ across the Group, to discuss lessons learned from this tragic incident which claimed 167 lives. Among other issues, we covered the design of offshore installations, and control of work and emergency evacuation procedures. A video showing a reconstruction of the incident helped to prompt discussions between employees and contractors.

⁴ The Knarr field is due to start up in 2014. In mid 2011, we contracted Teekay Petrojarl to provide a floating production, storage and offloading (FPSO) unit for the field.

⁵ A safety stand down is a designated time for senior managers to talk about safety issues with frontline workers.

SAFETY continued

LOSS OF PRIMARY CONTAINMENT

Loss of primary containment (LoPC) is an unintentional release of gas or liquid, for example through leakage or corrosion. It is an important measure of the safety and integrity of our physical assets, from well sites to plants. LoPC incidents are classified by severity, in line with industry and [American Petroleum Institute](#) classifications, with Tier 1 being the most severe.

There were no Tier 1 LoPC incidents during the year and 18 Tier 2 incidents. This compares favourably with 18 Tier 1 and 45 Tier 2 releases in 2012, in part reflecting the disposal of a number of transmission and distribution businesses. We are satisfied that none of the loss of primary containment incidents in 2013 resulted in material damage to the environment.

ASSET INTEGRITY

We measure asset integrity through an internal KPI that tracks a range of asset integrity factors such as maintenance activity and alarm management. It monitors both lagging indicators (those that track events that have occurred), and leading indicators (those which monitor the ‘health’ of the systems we use to provide early warning of risks and help anticipate hazards).

Compliance against this asset integrity KPI stood at 82% at the end of the year, against a target of 92%, and a 2012 performance of 82%. Asset integrity management received significant organisational attention during the year, but substantial improvement against the target metric requires continuous improvement and investment which will take time to achieve.

In 2013, there was particular emphasis on alarm management. For example, we worked with local operations in Queensland, Australia to develop a new alarm management strategy.

During 2013, we completed a number of successful planned major shutdowns at our operations including long and complex shutdowns at our North Sea operation and our Karachaganak operation in Kazakhstan.

KAZAKHSTAN: ZERO INJURIES IN KARACHAGANAK SHUTDOWN

In [Kazakhstan](#), we jointly operate the Karachaganak gas and condensate field as part of Karachaganak Petroleum Operating BV. The field covers an area of more than 280 square kilometres and represents around 14.5% of our global production for 2013.

A planned shutdown (closure for maintenance) took place at the field in April and May 2013. Shutdowns are major exercises that typically involve extra crews and the goal is to complete necessary work safely and efficiently with minimal disruption.

The Karachaganak shutdown was completed with zero injuries – and five days ahead of schedule. It took two and a half years to plan and involved nearly 3 000 people working for over two million hours in a highly complex and hazardous environment.

BG Group Chief Operating Officer Sami Iskander, said:

“Achieving this milestone – which involved stopping production so that equipment could be checked and repairs and improvements made – was no mean feat. The team working on the shutdown proved that planning, planning again, and then planning some more, is the key to success. They didn’t try to work around or shortcut it at any point and nor did they try and reinvent the wheel. They had faith in the process, and then they executed it well.”



Our Karachaganak shutdown took two million man hours and was completed with zero injuries

 [Watch a video about the shutdown](#)

[Read more about the shutdown](#)

COMPETENCE ASSURANCE

Maintaining high standards of competence is a key dimension of managing major accident risk. We have now rolled out a Competence Assurance Management System (CAMS) across 11 operations, including some of our joint ventures. CAMS systems are used in industry to assess the competency levels of people performing safety-critical tasks.

During 2013, each operation continued to assess the competency our frontline personnel against CAMS. By the end of the year, 15 220 individual assessments involving 4 155 people were completed across our operations.

SAFETY continued

OPITO accreditation

In 2013, [OPITO](#), the industry body for global oil and gas standards, skills and workforce development, approved our CAMS system as an industry leading global competence management system. This makes us the first company in our sector to have an OPITO accredited global competence management system for both onshore and offshore assets.

Achieving OPITO accreditation demonstrates that we have an approved tool to assess the competency of people doing hazardous and safety-critical work. Subsequently, our teams worldwide began OPITO monitoring audits. Four operations completed this audit successfully in 2013.

Our operation in Bolivia was the first to achieve local OPITO approval, following a monitoring audit to ensure compliance with CAMS. By December, our Tunisia and Europe exploration and production operations, as well as Kazakhstan, had also achieved local OPITO approval.

In 2014, our operations in Egypt, India, Trinidad and Tobago, together with our [Dragon LNG](#) joint venture and our shipping business, will go through the monitoring audit to demonstrate to OPITO that they too comply with CAMS.

LESSONS LEARNED

We investigate all safety incidents to ensure that lessons are learnt, both in the location where the incident occurred, and also in other operations in the Group. In 2013, the quality and effectiveness of our investigations were assessed with a new KPI, which demonstrated continued improvement, quarter-by-quarter, during the year.

We aim to learn lessons not only from our own incidents but also from those of our partners, or the wider industry. For example, following a fatality on a drilling rig operated by a joint-venture partner in Brazil, we had a safety stand down⁶ for our well engineering personnel across the Group. The potential for the incident to occur was addressed together with the mitigating actions that were required to prevent any such incident on a BG Group operation.



Sir John Grant, Executive Vice President for Policy and Corporate Affairs, accepts accreditation award from David Doig, OPITO CEO, in April 2013

⁶ See footnote 5.

SECURITY



OVERVIEW

In 2013, we faced challenges arising from terrorism, crime, piracy, political instability, and other security threats. The most significant threat was in Egypt, but we also addressed issues in Kenya, Tanzania and Thailand. Our security personnel supported our early development activities in Honduras, where we took action to promote the [Voluntary Principles on Security and Human Rights](#) (VPSHR).

[Read about our approach to managing security](#)

PIRACY

During 2013, as in 2012, we had security teams on board our LNG vessels transiting the Gulf of Aden, which international maritime organisations designate as a High Risk Area (HRA). The number of piracy incidents against shipping in the HRA has decreased, due in part to the presence and intervention of NATO and EU naval anti-piracy forces, and the deterrent effect of vessel security teams. Nonetheless, attacks do still occur and we believe that it is essential to maintain a strong, visible security presence on our ships passing through this area.

Our exploration activities offshore Kenya and Tanzania also need to be protected against piracy. We worked closely with the Kenyan and Tanzanian authorities on the use of their respective national security forces and private security providers to support drilling and seismic survey work.

ADDRESSING COUNTRY RISKS

EGYPT

In Egypt, following the removal from office of Mohammed Morsi, we faced a major security challenge as public protest, disorder, and widespread acts of violence affected Cairo and the wider country. We activated crisis teams and temporarily repatriated a number of personnel and families as a precaution.

We protected our local employees and expatriate staff remaining in the country by putting in place extra security staff, providing regular security updates, and imposing travel restrictions amongst other measures. We reduced working days and encouraged all our employees to work from home. We liaised closely with the UK government and other international companies in Egypt, and kept our employees informed as the situation developed. While no employees or their families were injured during the crisis, the political environment remains troubled and unpredictable. We continue to monitor the situation closely and maintain an enhanced level of security for our staff and operations.

KENYA

In Kenya, the terrorist bombing of the Westgate Shopping Mall in Nairobi in September 2013 was a sharp reminder of the unpredictability and dangers in some of the places where we work. We conducted a review of our local security arrangements including offices, accommodation, travel and training. We appointed a security manager in Nairobi, to develop and drive the security programme and incident management readiness.

SECURITY continued

TANZANIA

In February and May 2013, violent public protests broke out in Mtwara in southern Tanzania, from where we support offshore operations. The protests were not directed at us, and none of our employees or facilities were harmed in either outbreak. Nonetheless, we took precautionary steps to safeguard our people, and reviewed and rehearsed our business contingency and evacuation plans.

THAILAND

There was political unrest in Thailand in November 2013, including mass demonstrations in Bangkok and other cities. Violent clashes between opposing factions led to fatalities and numerous casualties. Our BG Group security team worked closely with our operations on the ground to ensure that our incident management, country evacuation and business continuity plans were at full readiness. We also put local security measures in place, to minimise employee exposure to protest activity.

HONDURAS

Our Group security team supported our exploration activities in Honduras, providing physical and personal security services, and liaising with local military and law enforcement agencies. In particular, they supported community engagement and consultation activities in the rural La Mosquitia region. We took action to promote the Voluntary Principles on Security and Human Rights (VPSHR) with the country's military forces and local police

[Read more about our work in Honduras in 2013](#)

VOLUNTARY PRINCIPLES ON SECURITY AND HUMAN RIGHTS

An important dimension of our overall approach to security is our commitment to these Principles, and we stepped up our efforts to promote them. We introduced standardised VPSHR clauses into our contracts with armed private security providers.

[Read more about our work promoting the VPSHR in 2013](#)

ETHICAL CONDUCT



OVERVIEW

During 2013, we followed legislative developments in countries where we work, including in the UK, Brazil and China. We strengthened our procedures for managing ethical conduct risk and fraud risk, and assessed corruption risk in possible new countries for us, such as Colombia, Honduras and Myanmar. This included reviewing the ethical conduct track record of potential business partners. 106 cases were reported using our Speak Up (whistleblowing) facility, compared with 120 in 2012 and 134 in 2011.

- > [Read about our approach to managing ethical conduct](#)
- > [View our ethical conduct data for 2013](#)
- > [View our targets for 2013](#)

ANTI-CORRUPTION AND BRIBERY

In recent years, many governments have sought to combat corruption, either through the introduction of new anti-corruption and bribery laws, or by a more aggressive approach to the enforcement of existing laws. In 2013, we monitored legislative developments of this kind in the countries where we work.

In the UK, the Serious Fraud Office (SFO) indicated that it would fight more proactively against corruption, focusing on industry sectors including oil and gas. This followed the introduction of the [UK Bribery Act 2010](#), which came into force in July 2011. The SFO has said that it is investigating a number of companies for suspected breaches of this Act. In Brazil, tough new legislation was introduced during 2013. In China, anti-corruption authorities launched investigations into some large multinational companies.

We strengthened our procedures for managing ethical conduct risk. We analyse all our business units for corruption risk, as part of our Business Risk Management Process.

We sought to support the operators in our non-operated joint ventures to strengthen ethical conduct – for example, in Brazil, where we are working with our partners to enhance the ethical conduct standards in the procurement of goods and services for our joint exploration and production activities.

In 2013, no significant fines for non-compliance with laws and regulations were imposed on the Group.¹

FRAUD

During 2013, we took the following actions in response to findings from a 2012 Group-wide review of our fraud management processes, conducted by the independent global risk consultancy, Control Risks Group:

- Issued a new Group-wide Fraud Standard in October 2013 to revise and simplify roles and responsibilities for detection and prevention of fraud, as well as reporting and communications throughout the organisation

¹ We only report on significant fines or non-monetary sanctions where these have been made through a formal external legal or regulatory process. Finally determined significant fines and/or non-monetary sanctions of more than US\$2 million are reported, subject to legal restrictions and commercial confidentiality. We have excluded fines and penalties imposed by tax regulatory authorities that are subject to ongoing external or legal and regulatory process (for example, where we are in appeals processes with the relevant authority).

ETHICAL CONDUCT continued

- Gave the Chief Financial Officer accountability for the prevention and detection of fraud
- Set up a permanent Fraud Prevention and Detection Steering Group
- Improved our cross-functional approach to fraud prevention and detection; for example, we held a workshop to assess our fraud risks and controls, and promote collaboration between functions
- Began to develop training for those who play a key role in preventing and detecting fraud.

DUE DILIGENCE

As part of our strengthened approach to analysing potential new countries, we further integrated our due diligence approach with our broader political and macro-economic risk analysis. We assessed the corruption risk in countries that we were considering entering, such as Myanmar, Honduras, and Colombia and conducted due diligence into the ethical conduct track record of potential joint venture partners in these countries. Our due diligence in Myanmar ruled out a number of potential local partners. In Honduras, we are at an early stage of exploration. In Colombia, operations are also at an early stage; we acquired exploration acreage in 2014 and have a 3D seismic programme planned.

TRAINING

We provided guidance on managing ethical conduct risk and rolled out additional training on ethical conduct risk to our contracts and procurement function. We also provided training through our fraud and bribery e-learning course, which encourages individuals to be alert to risks and possible instances of fraud and bribery, and to report concerns. This training is mandatory for our people including our Group Executive Committee. More than 2 500 people, both employees and individual contractors, completed this training in 2013.

AUDITING AND ASSURANCE

We continued to test the robustness of our anti-bribery and corruption processes using independent assessors. In-house teams visited a number of our businesses during the year and worked with local leadership to identify, assess, and manage bribery and corruption challenges.

WHISTLE-BLOWING (OUR SPEAK UP POLICY)

Our [Speak Up Policy](#) requires our employees and individual contractors to report any situation where they have a reasonable belief that there has been a breach, or potential breach, of our [Business Principles](#), policies or standards, or laws or regulations. We also encourage third parties to raise concerns of this kind.



In 2013, we revised the Speak Up Policy in the light of changes to the UK Enterprise and Regulatory Reform Act 2013. The revised law no longer requires a whistle-blower's disclosure to be made in good faith. Instead the whistle-blower just needs to have a reasonable belief that there has been wrongdoing. The revised law also makes employers liable for any detriment caused to a whistle-blower by a co-worker, and imposes liability on any individuals who subject a whistle-blowing co-worker to any detriment.

During 2013, 106 Speak Up cases were reported, compared with 120 in 2012 and 134 in 2011.

Of the 106 cases reported in 2013, some are still under investigation. Of the cases that were investigated and closed in 2013 (reported in 2012 or 2013), 18 cases resulted in actions recommended against individuals, employees or contractors, ranging from training or disciplinary action, to contract termination or other appropriate action. A further 20 cases resulted in follow-up actions, such as changes to procedures and to organisational controls.

Of the cases reported in 2013:

- 48% raised general workplace concerns (including allegations of harassment, discrimination and unfair treatment)
- 29% were allegations of malpractice (including allegations of breaches of BG Group's Ethical Conduct Policy and Standards, including corruption)
- 12% raised concerns relating to health, safety, security and the environment
- 11% related to fraud allegations (including allegations of theft or misuse of funds).

As far as we are aware, in 2013, there were no cases of a law enforcement authority making an evidence-based corruption allegation against a BG Group employee. Of the Speak Up cases closed in 2013, there were three cases in which employees were dismissed or disciplined for breaches of our Ethical Conduct standards. We had no cases where contracts with business partners were terminated or not renewed due to violations related to corruption.

HEALTH



OVERVIEW

In 2013, we assessed and responded to key health risks and workplace health hazards, strengthening our approach to protecting employee health. There were 18 occupational illness cases reported during the year compared with 15 in 2012.

- > [Read about our approach to managing health](#)
- > [View our health data 2013](#)
- > [View our targets for 2013](#)

OCCUPATIONAL HEALTH

During 2013, recognising the role that fatigue, poor fitness for work, and inadequate medical emergency response can have in causing safety incidents, we decided to incorporate training in these areas in the Major Accident Hazard training, which will be run by our safety function in 2014. We reviewed the health risks in our business and strengthened our approach to managing these. The key risks include travel to countries with particular health risks, such as malaria in North Africa, exposure to chemicals such as benzene, and the risk of disease from foodborne organisms.

We took steps to raise awareness of, and control these risks, including developing a global health matrix and an occupational hygiene strategy. We also modified our approach to travel vaccination, to the spread of endemic disease and to fatigue, to respond to new thinking.

Our operations in Australia introduced a back care programme which responded in particular to the problems faced by workers laying pipes and doing jobs involving manual handling. The programme included providing exercises to help prevent injuries and onsite treatment services, as well as giving other advice. It introduced warm-up exercises that helped to prevent injury as well as responding to existing problems, and succeeded in reducing the incidence and duration of neck, back and shoulder problems during 2013.

We managed heat-related risks in Australia and North America through continued education. We also introduced changes to our work clothing which reduced its thermal effects, while maintaining its fire retardant properties.

During the year, we surveyed our operations to identify the activities involving most risk of exposure to chemicals, and assessed the controls in place. Benzene is one such chemical risk. It is found as a liquid or vapour in crude oil and natural gas and our people could be exposed during sampling of gas, purging pipes, breaking containment and vessel entry, if appropriate controls were not in place. We monitored for benzene and are strengthening our approach to mitigating this risk.

HEALTH continued

COMMUNITY HEALTH AND WELLBEING

Vector-borne diseases¹ like malaria, dengue fever and Lyme Disease, are on the increase in many regions where we work, for example Brazil, East Africa and Trinidad. Our Chief Medical Adviser led the [International Oil and Gas Producers' Association](#) health sub-committee project on vector-borne disease, which led to the development of an industry good practice guidance document. Following a number of cases of vector-borne diseases in our operations, as well as other travel-related health conditions, we put further controls into place. We developed a new e-Learning module on travel health and security for launch in 2014.

As our operations expand in Tanzania, so does the exposure to malaria and dengue fever. We are active members of [Malaria Safe](#) and work with the [Ifakara Health Institute](#), a leading health research institution in Tanzania, to support research and raise awareness of malaria in the community, in our operations and internationally.

EMPLOYEE HEALTH AND WELLBEING

We entered the [Global Corporate Challenge](#) for the first time this year. This initiative encourages staff to walk 10 000 steps a day to gain health benefits. At the end of the programme 74% of participants achieved the 10 000 step target, compared with 9% at the start. We added a new module on fitness to our wellbeing tool, an intranet resource which gives information on a range of aspects of wellbeing, including nutrition and resilience.

OCCUPATIONAL ILLNESS REPORTING

Occupational illness frequency is a key performance indicator for the Group. We monitor the reporting of health incidents (our people being ill or injured at work). This enables us to identify new risks and any gaps or breakdown in our health risk management system. Our understanding of occupational illnesses improved in 2013, following a review of key risks and the development of our global health matrix.

We targeted improved reporting of cases of occupational illness arising from the key health risks identified in this matrix. These include illnesses associated with benzene, damage to hearing from noise, and foodborne illnesses. There are numerous sources of noise in our operations due to machines, such as compressors, drilling activities and construction. Two cases were reported in 2013.

We also focused on increasing reporting of risks likely to occur in any of our operations, and which could potentially affect large numbers of people – such as stress-related illnesses, asthma and dermatitis. These are common ailments which have not, to date, been widely reported. Reporting of vector-borne diseases was also an important concern for us because of the risk of fatalities, and we also encouraged reporting of any instances of these diseases.

Occupational illness frequency by type in 2013 (reported cases only)

	Africa	America	Asia	Australia	Europe	Total
Number denotes number of cases, number in brackets denotes number of people affected						
Foodborne illness	3 (3)				1 (1)	4 (4)
Vector-borne diseases	2 (2)	1 (1)				3 (3)
Deep vein thrombosis		1 (1)				1 (1)
Musculoskeletal disorder		1 (1)		2 (2)	1 (1)	4 (4)
Noise-induced hearing loss			2 (2)			2 (2)
Heat stress				2 (2)		2 (2)
Work-related stress					2 (2)	2 (2)
Total	5 (5)	3 (3)	2 (2)	4 (4)	4 (4)	18 (18)

¹ Vector-borne diseases are transmitted to humans and other animals by insects such as mosquitoes, ticks, and fleas. Examples of vector-borne diseases include dengue fever, viral encephalitis, Lyme disease, and malaria.

ENVIRONMENT AND CLIMATE CHANGE



We are committed to reducing our environmental impact, including our impact on the climate. We aim to improve our energy efficiency and emissions performance and manage our impact on water and biodiversity. Our Environmental Business Principles set out our commitment to minimise the impact of our operations and make a positive contribution to the protection of the environment.

ENVIRONMENTAL PERFORMANCE



OVERVIEW

During 2013, we revised and reissued our Environmental Standard and maintained our 100% certification to ISO 14001 for our major operated businesses. We supported the International Association of Oil and Gas Producers (OGP) in its work on oil spill prevention and response. We also reviewed our oil spill response capability and efficiency, including carrying out an audit in Brazil.

We had no major incidents and our hydrocarbon spills performance was stable. Waste increased by 27%. In addition, we maintained the amount of water we withdrew and increased water disposed during the year. We improved our approach to biodiversity management and reduced the amount of oil in produced water discharged from our operations.

- > [Read about our approach to managing the environment](#)
- > [To view our environmental data for 2013](#)
- > [To view our targets](#)

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION

Our [Environmental Standard](#) requires all our operated businesses to gain ISO 14001 certification within two years of start-up or acquisition.

By the end of 2013, all our eight major operated interests were re-certified to ISO 14001, as were our joint-operated joint ventures Dragon LNG in Wales, and Karachaganak Petroleum Operating BV (KPO) in Kazakhstan. This gave us a total of 10 out of 11 certified businesses, compared with 13 out of 15 in the previous year¹. Our joint venture in Egypt, Rashpetco, continued to work towards certification, and strengthened its environmental management system during the year.

Throughout 2013, we continued the transfer of certification of operations across to a single provider, [ERM Certification and Verification Services](#) (ERM CVS). The aim of this transfer is to ensure a consistent approach to the scope and standard of certification.

¹ The number of certified businesses decreased due to the sale of some of our businesses: in Brazil (Comgas), India (Gujarat Gas Company Ltd) and Italy (BG Italia) and, as we are no longer a joint operator with EXCO Resources in our US operations, we are no longer certifying this business. In January 2013, we ceased our joint operation interests in Pennsylvania, USA. EXCO Resources is now sole operator of both our US interests. In non-operated joint ventures, we are unable to mandate certification.

ENVIRONMENTAL PERFORMANCE continued

By the end of the year, ERM CVS had completed the transfer, or initial certification, for six of our operations (in Tunisia, Bolivia, UK Exploration and Production, India, Trinidad and Tobago and our Reading head office), and had begun the process for our Norway operations.

The only major operated businesses not being certified by ERM CVS are our business in Australia, which is certified by [Lloyds Register Quality Assurance](#), and our global shipping business, which is certified by [American Bureau of Shipping](#), a specialist marine provider.

During 2013, as part of our corporate HSSE audit programme, we also did an internal audit of our environmental management systems in Tanzania, in our head office at Reading, and in our joint venture operations in the USA², as well as in a number of seismic operations and projects. There were no significant environmental findings.

“During our assessments, we have raised no major environmental management system weaknesses. Minor weaknesses and observations have most commonly related to operational control practices, monitoring systems and the company’s approach to taking corrective and preventative action.

It is particularly noteworthy that both the operation in Trinidad and Tobago and the head office in Reading had no management system weaknesses raised at their most recent assessments, with observations only.”

ERM CVS

In 2014, as well as continuing to help us meet ISO 14001 requirements, ERM CVS will review how our operations are progressing in key strategic areas, such as the implementation of energy management plans, and water and biodiversity risk assessments.

During the year, we also engaged [The Biodiversity Consultancy](#) to help us develop our corporate biodiversity management strategy. The consultancy is working closely with our businesses to understand our biodiversity risks and how we manage them.

[Read more about water and biodiversity in 2013](#)

OIL SPILL PREVENTION AND RESPONSE

During 2013, there was progress on a number of cross-industry initiatives to improve oil spill response, in which we participate:

- The [OGP](#) and [IPIECA](#) (the global oil and gas industry association for environmental and social issues) three-year joint industry project on oil spill response ([Oil Spill Response Joint Industry Project](#)) produced a new IPIECA oil spill risk assessment and response planning guideline³
- [Oil Spill Response Limited](#) (OSRL) established a new Global Dispersant Stockpile agreement, to which we subscribed. This gives us access to oil spill dispersant in the event of an incident
- The [Subsea Well Response Project](#), which was set up in May 2011 to design equipment to control a major well blow-out, delivered three of four well capping devices to storage locations around the world. The fourth is due to be delivered by the end of March 2014. We have access to these well caps through our participation in OSRL.

In our own operations, we carried out a programme of work to review spill response capability and efficiency in our global shipping division. We also conducted an audit of our oil spill response capabilities in Brazil. This led to several recommendations for improvements. Work on these began in 2013 and will continue into 2014. In Tanzania, we established a spill response capability to cover offshore wells, including positioning spill response equipment, and training teams to mobilise the equipment in the event of an incident. In Kenya, where drilling started in January 2014, we are in the process of developing a similar response capability.

[Read about how we manage oil in water in India in 2013](#)

[Read about our approach to oil spills](#)

² From January 2013, we were no longer an operator in our US joint-venture. We do, however, conduct internal audits of non-operated joint ventures, though not on a routine basis.

³ Oil spill risk assessment and response planning for offshore installations available at <http://oilspillresponseproject.org>.

ENVIRONMENTAL PERFORMANCE continued

TANZANIA: OIL SPILL CONTINGENCY PLANNING

Since December 2011, we have operated an offshore concession in Tanzania which is supported from Mtwara harbour.

THE LOCAL ENVIRONMENT

The large natural harbour, about 550 kilometres south of the capital Dar es Salaam, has coral reef systems close by. These reefs fringe the interior of the bay and connect to other reefs in the north west and south east. Mangrove creeks run to the east and south east, with natural environments including sandy beaches and seagrass beds. Species living in close proximity to the harbour entrance include seahorses, ghost pipefish, sea moths, some species of grouper fish, as well as humphead wrasse. Some of the species are on the [International Union for Conservation of Nature Red List](#) of endangered species. For others, limited information means the threat has not yet been assessed.

OUR PLAN TO PROTECT BIODIVERSITY

We are responding to the need to protect biodiversity in the harbour and the nearby [Mnazi Bay Ruvuma Estuary Marine Park](#). While oil cargoes will not be landed or loaded there, chemicals and hydrocarbons, including fuel oil and diesel, are used and transferred within the harbour.

In 2011, we put an oil spill prevention plan in place. This covers procedures and actions for the personnel who would be directly involved in managing a spill response, operational guidance for different response strategies, and an overview of our spill response resources. We have also been researching biodiversity in the area and in 2012, led a major environmental baseline assessment of the port and surrounding area, supported by other operators in the port.

During 2013, we worked with [Statoil](#), [Ophir](#) and [Petrobras](#) to provide oil spill response equipment for the harbour area, as well as for Mnazi Bay Ruvuma Estuary Marine Park. As deployment of spill response equipment requires specialist training, we also worked with [Oil Spill Response Limited](#) in the UK to deliver training, both at the harbour and at the Marine Park. In total, we trained 148 people, including nine rangers from the Marine Park and seven local fishermen.

[Read case studies on our biodiversity activities in 2013](#)



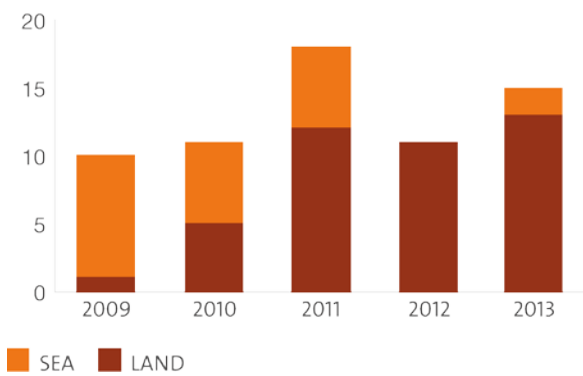
Oil Spill Response Limited delivered training in Mnazi Bay Ruvuma Estuary Marine Park during 2013

ENVIRONMENTAL PERFORMANCE continued

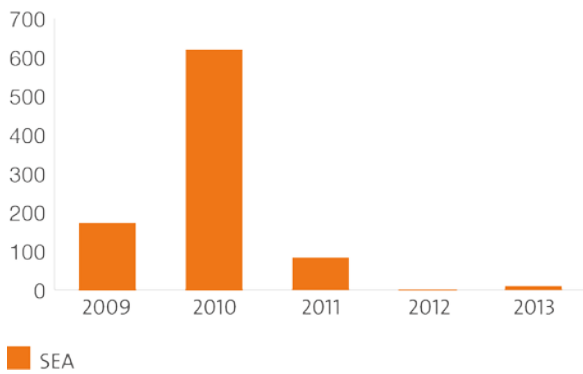
HYDROCARBON SPILLS

The total amount of oil spilled was 62 barrels, a 2% increase from 2012. There were 173 hydrocarbon spill incidents reported during the year, compared with 209 in the previous year. There were 30 hydrocarbon spills to sea, totalling seven barrels – two spills to sea were a barrel or greater in volume.

Number of hydrocarbon spills ('000 tonnes)



Total volume of hydrocarbon spills to sea (barrels) ('000 tonnes)



WATER SPILLS

While we aim to contain and dispose of the water produced by our operations safely, we did experience some uncontrolled releases of saline and desalinated associated water. The total number of water spills in 2013 was 41, with a total of 6 229m³ water spilled. This compared with 25 spills in 2012 totalling 170m³. This increase was due to heavy rainfall, experienced over an extended period of time, during the construction phase of numerous central network ponds in early 2013, in our Australian operations gas field.

ENVIRONMENTAL PERFORMANCE continued

WATER DISPOSED

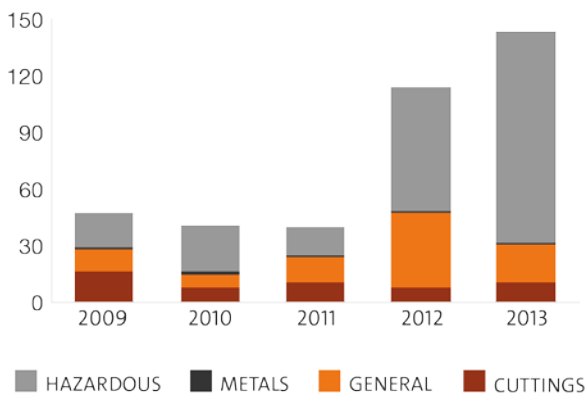
Water disposal from our operations increased by 113%, from 11.7 million tonnes in 2012, to 25.0 million tonnes in 2013⁴. This increase reflects the commissioning of a major water treatment plant in Queensland, Australia, during the year. This plant is approved to dispose of up to 85 000 tonnes of treated saline water daily, which is treated to near drinking quality. Excluding the Queensland operations, levels of water disposed across the Group remained broadly in line with 2012.

[Read about our water activities in Australia in 2013](#)

MANAGING WASTE

We aim to minimise resource use and reduce the volume and hazardous nature of waste. This helps to reduce costs as well as environmental risks. However, short-term changes in our activities can substantially affect the quantities of waste we produce, as activity such as construction of new facilities, will mean more waste.

Total waste disposed from 2009 - 2013 ('000 tonnes)



Total waste disposal in 2013 was 143 00 tonnes, compared with 113 000 tonnes in 2012. This was due to increased offsite treatment of sewage in Australia.

Cuttings waste was 10 tonnes, compared with 7 tonnes in 2012. This was primarily due to the nature of drilling activity during the year. Different geologies will result in different waste levels.

34% of our total waste was sent for re-use or recycling. This includes 30% of our hazardous waste. The majority of general waste was sent to authorised landfill, and the rest incinerated.

⁴We report the water produced by our Queensland coal seam gas operations at the point where it is disposed, or treated, not at the point of withdrawal. Prior to the commissioning of water treatment plants, water was stored in ponds, and only water evaporating from these ponds was reported as disposed.

ENVIRONMENTAL PERFORMANCE continued

TANZANIA: WASTE SOLUTIONS

A NEED FOR WASTE MANAGEMENT FACILITIES

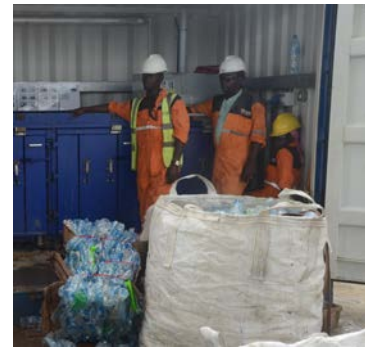
Waste management and disposal in Tanzania are a challenge, as there are limited waste management infrastructure and international-standard disposal facilities. When we entered Tanzania, we recognised this as an issue for the management of waste generated by our operations in the Mtwara port and, with other oil and gas companies operating out of the port, took steps to develop a solution. We contracted [Supply Base Solutions](#) (a logistic service provider to the resources industry in East Africa), and identified [IVE Design](#), a specialist environmental consultancy, to provide technical support.

OUR SUPPORT

The strategy had to exclude waste to landfill, as there were no landfill sites in the area. We supported the setting up of a waste segregation and recycling facility, and found outlets for recycled materials. We imported treatment and incineration units so that non-recyclable waste could be disposed of in line with our own standards and international best practice. Balers, crushers and other processing units were introduced so recyclable waste, such as plastic bottles, could be packaged for easier onward transport to recyclers.

The project then brought in the [Nature Group](#), to process light liquid waste generated on rigs and drill cuttings. Their Compact Treatment Unit separates water from oily waste and so minimises the volume of waste to be incinerated. The oil and gas operators in Mtwara Port organised training sessions on all supply vessels and rigs, to ensure incoming waste was segregated, and so reduce handling times.

The Supply Base Solutions waste facility near Mtwara is now fully established and has plans to expand. It effectively treats all the waste generated by the oil and gas companies operating in Mtwara port, as well as many others, and employs 40 local people.



Supply Base Solutions waste facility near Mtwara

OFFSHORE CONTROLLED DISCHARGES

Our offshore gas exploration and production processes result in water discharges that contain oil, known as controlled discharges.

In 2013, the amount of oil in produced water⁵ discharged from our operations decreased by 22 tonnes (16%), from 139 tonnes in 2012 to 117 tonnes in 2013. The total quantity of oil in drill cuttings discharged offshore in 2013 increased by 531 tonnes (222%), from 239 tonnes in 2012 to 770 tonnes in 2013.

⁵ Produced water is water extracted from the subsurface with oil and gas which may include water from the reservoir, water that has been injected into the formation and any chemicals added during the production/treatment process. See our [Data tables](#).

CLIMATE CHANGE



OVERVIEW

We monitored global climate change policy and trends, and engaged with stakeholders on a range of issues, including carbon trading and pricing mechanisms in some countries.

We met our 2013 target of maintaining greenhouse gas (GHG) intensity at the same level as the previous year. We put in place measures to deliver our new five-year GHG targets, set in 2012, and to improve our monitoring and management of methane emissions. We reported methane emissions by source for the first time.

Our approach to managing and reporting carbon was recognised with our inclusion in the CDP's leadership indices for 2013. We worked with academic institutions, industry partners and governments, to research new technologies to reduce the emissions from gas.

[Read about our approach to managing climate change](#)

[View our climate change data for 2013](#)

[View our targets for 2013](#)

[Download our Climate Change Public Position](#)

DEVELOPMENTS AND ENGAGEMENT

In September 2013, we reviewed the [Intergovernmental Panel on Climate Change](#) Fifth Assessment Report, which assesses how and why the planet's climate is changing. This report sets out the reductions in emissions required to avoid dangerous climate change. It is helping to inform our view of the likely future impacts of climate change and related policies, and to respond to these as far as possible.

During 2013, we worked with the [UK Meteorological Office](#) to identify options for assessing physical climate risks to specific developments and operations. We are also reviewing ground levels for our liquefied natural gas (LNG) project at Lake Charles in Louisiana, to ensure potential flooding as a result of climate change in the future would not disrupt operations. This reflects our recognition that our designs need to be resilient to future climate change.

During 2013, regional and national climate change policies, which put a price on CO₂ emissions, continued to develop. As set out in our Climate Change Public Position, we support government policies that provide long-term certainty through a price on carbon and encourage global cooperation.

CLIMATE CHANGE continued

We participated in the climate change working groups of trade associations, and continued membership of various climate change related bodies, including:

- [The Climate Change working group of IPIECA](#) (the global oil and gas industry association for environmental and social issues)
- [Australian Petroleum Production and Exploration Association](#)
- [International Emissions Trading Association \(IETA\)](#)
- [International Energy Agency Greenhouse Gas R&D Programme](#)
- [Global Carbon Capture and Storage Institute](#)
- [UK Emissions Trading Group](#)
- [Carbon Capture and Storage Association](#)
- [Gulf Coast Carbon Centre in the US](#)
- [Cooperative Research Centre for Greenhouse Gas Technologies in Australia](#)

We monitored global climate change policy and regulatory developments, engaging with governments and other stakeholders in markets most relevant to us, including through our membership of the IETA:

- We followed developments in the lead up to, and after, the Australian general election, and responded to post-election consultations on changes to the [Australian carbon pricing mechanism](#) and the design of future mechanisms. Our consultation response to the Australian government was aligned with our Public Position on Climate Change
- We analysed how the planned links between the European Union (EU) emissions trading system and the Australian carbon pricing mechanism could lower our compliance costs. Again, our approach was aligned with our Public Position on Climate Change
- We assessed opportunities to create tradable carbon credits from emissions reduction projects in Brazil
- In Canada, we took part in government-led workshops to shape future carbon regulation for the LNG sector
- We monitored developments in the EU emissions trading system. This included analysing the impacts of proposed structural reforms
- In Kazakhstan, we shared the lessons learnt from the EU emissions trading system to inform the design of a local emissions trading scheme
- In Tanzania, we assessed opportunities to offset emissions through participating in programmes to reduce deforestation and degradation of land.

CLIMATE CHANGE RISK

New reports, for example from [Carbon Tracker Initiative](#), [HSBC](#), and [Standard & Poor's](#)¹, looked at how oil and gas companies would be affected by a future scenario in which global carbon reduction policies resulted in low oil and gas prices and reduced demand for hydrocarbons. They concluded there would be a risk of some companies being left with reserves that they might not be able to develop.

We discussed the question of this kind of climate risk to our sector internally, and externally we discussed it with our peers through IPIECA, the global oil and gas industry association for environmental and social issues, and an investors' coalition. We also met with the authors of the HSBC report. While we believe we have a relatively low-cost, low-carbon portfolio and strategy, we continue to monitor the debate, and recognise the importance of lower carbon gas technologies in this context.

CARBON CAPTURE AND STORAGE

We supported the work of the [Carbon Capture and Storage Association](#) (CCSA) to promote carbon capture and storage (CCS) in the UK and Europe. We contributed to the CCAS responses to the European Union's communication on the future of CCS in Europe, to its letter on the NER 300 Phase Two (a funding programme for the CCSA), and to its response to the [UK Energy and Climate Change Committee](#) CCS Inquiry.

¹ Standard & Poor's 'What A Carbon-Constrained Future Could Mean For Oil Companies (March 2013);' HSBC's 'Oil and Carbon revisited: value at risk from 'unburnable' reserves' (January 2013) and Carbon Tracker's 'Unburnable Carbon 2013: Wasted capital and stranded assets' (April 2013).

CLIMATE CHANGE continued

GREENHOUSE GAS EMISSIONS IN 2013

GHG emissions intensity for our operated assets for the year was 105% of 2012. However, this was more than offset by relatively lower emissions intensity from non-operated assets. This meant that equity share emissions intensity overall was 99% of 2012's figure, and we met our target of maintaining emissions intensity at the same level as 2012.

The increase in GHG emissions intensity from our operated assets reflected the impact of lower throughput in our Egyptian and Indian operations and portfolio change. It also reflected an underlying trend of rising emissions intensity from maturing gas fields, where a decline in pressure meant we required more energy to extract gas. Another factor was the impact of increased emissions in our operations in Australia, where we are flaring gas in the early stages of production. As we move into commissioning in 2014, we expect our emissions from these operations to rise further².

Our actual GHG emissions for the year are presented in [Emissions to air](#). Intensity, which measures emissions relative to production, can rise, even when emissions volumes fall, due to changes in the portfolio and in production levels. While emissions intensity from our operated businesses rose in 2013, the underlying GHG emissions from these businesses fell by 10%. Our equity share emissions (the share of emissions from businesses in which we have an interest) decreased by about 13%.

CDP GLOBAL 500

We were one of only two energy sector companies to feature in the 2013 [CDP](#) Global 500 Climate Performance Leadership Index. The index ranks the world's largest 500 companies, based on both climate change performance and disclosure. We achieved an 'A band' rating for our carbon performance based on how effectively we manage, measure, and verify our carbon footprint.



OUR NEW 2013-2017 TARGETS

2013 was the first year of our new five-year greenhouse gas reduction targets. They build on our 2007-2012 GHG emissions target, which we met and exceeded. They are intensity targets – that is, they commit us to reduce our GHG emissions per unit of production, rather than by an absolute amount across the Group. They apply to our equity share of emissions from operated and non-operated businesses³.

The targets we have set are:

- An 8% reduction in GHGs per barrel of oil equivalent for our upstream production activities
- A 15% reduction in GHGs per barrel of oil equivalent for our natural gas liquefaction activities.

This equates to an overall reduction of our GHG emissions intensity per barrel by 10%. We will measure emissions intensity progress against these targets, with 2012 as the baseline year. Progress is not expected to be linear and the targets are sensitive to changes in our production profile and business portfolio⁴. Meeting them can also bring financial benefits. Gas or oil saved through improved efficiency can be sold, while lower emissions also mean lower costs from carbon taxes or emissions trading schemes.

² All emissions from our operations in Australia are reported and are subject to a charge under the Australian government's carbon pricing mechanism.

³ An internal target only was set for shipping activities due to difficulties associated with forecasting emissions for this segment.

⁴ For example, purchase or disposal of businesses with differing emissions intensities will affect the overall emissions intensity of our portfolio, and when production falls or rises, emissions do not typically fall or rise at the same rate.

CLIMATE CHANGE continued

ENERGY MANAGEMENT PLANS

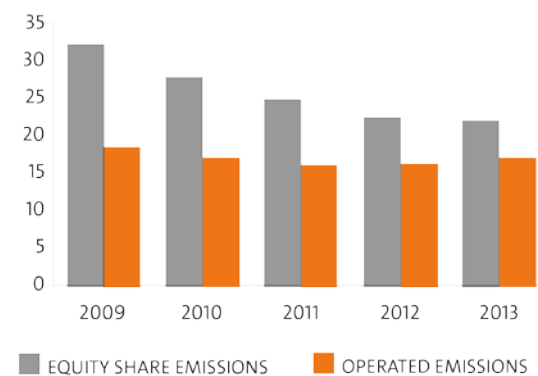
Delivery against the targets depends on improving energy efficiency in our operations. During the year, all our operations prepared five-year energy management plans, which are integrated into their overall business plans. These identify the emissions reductions they plan to deliver. These plans will be updated on an annual basis through the target period. They aim to:

- Embed a culture of energy efficiency throughout our company, helping us to improve environmental performance and cut costs
- Encourage operations to draw on best practice from other operated facilities, and to adopt reliable, high-efficiency technologies
- Promote energy efficiency improvements when working with partners in joint ventures
- Ensure that we consider the energy and emissions consequences at every stage of our value chain, from design to operation and decommissioning.

Embedding a culture of energy efficiency involves, for example, embedding energy efficiency into decision making and design, communicating achievements and lessons learned, building competence and awareness of energy efficiency and training where necessary, and setting energy-specific targets for projects.

During 2013, we implemented 10 reduction projects and estimate we achieved GHG reductions during the year of over 200 000 tonnes. We anticipate more energy efficient projects will come on stream towards the end of the period. We also took action to improve plant reliability, which increases energy efficiency as it reduces the amount of gas lost from unplanned events.

BG Group GHG emissions intensity ('000 tonnes/mmboe)



Some projects to reduce energy losses during 2013 included:

- In our Egyptian LNG operations, we installed equipment that recovers waste heat from two electricity generators. This can be used in place of burning additional fuel
- In our North Sea operations, we put in place initiatives to enhance plant reliability. These aim to reduce flaring from unplanned start-ups and shutdowns
- In our KPO joint venture in Kazakhstan, we altered the size of two reinjection compressors to match process requirements and improve efficiency.

Looking ahead, we aim to design facilities, using best available techniques, to maximise energy efficiency and reduce running costs, while remaining aware of the risks associated with introducing new technologies. At an early stage in the design process, we set an overall GHG emissions intensity target, specific to the development. We then identify the most appropriate technologies and measures to meet this target, assessed against best available techniques for each facility within the development. This approach encourages innovation and allows us to incorporate those emerging lower carbon technologies which we are confident have been tried and tested.

CLIMATE CHANGE continued

VIDEO:

[Designing for energy efficiency in our Shipping operations](#)



REDUCING FLARING AND VENTING

Reducing flaring and venting⁵ is an important way to improve overall energy efficiency and reduce emissions. These reductions also have an important economic benefit. Our business is getting gas to market, and we would rather capture and sell our product than flare or vent it. Flaring levels in 2013 were 6% lower than 2012 and represented 8% of our total GHG emissions. The most recent, available [International Association of Oil and Gas Producers](#) (OGP) benchmark data, provided in 2013 but based on 2012 data, shows our flaring levels as top quartile relative to the industry⁶.

Our flaring levels have fluctuated in recent years, principally due to changes in the level of well testing activity. We flare gas during well testing as at this stage, wells are typically not connected to distribution infrastructure. Increased drilling activity may therefore result in increased flaring.

The amount of GHG emitted through venting in 2013 was 18% lower than 2012, and represented 7% of our total GHG emissions. This includes venting of CO₂ included in the reservoir gas.

METHANE EMISSIONS

The oil and gas industry releases methane to the atmosphere in a number of ways, notably through flaring and venting, which are discussed above, and are standard ways in which the industry safely disposes of gas that cannot be commercially used or stored. Pneumatic devices that are used extensively in unconventional gas developments also emit methane. Another way in which methane can be emitted is from leaks from equipment and pipes. Such emissions are known as ‘fugitive’.

THE DEBATE

Methane is a potent greenhouse gas and has recently become a particular focus for the climate change debate. During 2013, the [International Energy Agency](#) identified the significant, cost-effective contribution to global emissions reductions that could be made by cutting methane emissions from the oil and gas industry. Several reports on this topic have been produced in recent years, including the World Resources Institute report, [Clearing the Air: Reducing Upstream Greenhouse Gas Emissions from US Natural Gas Systems](#), published in April 2013.

The debate about methane emissions focuses not only on reducing these emissions but also, as a first step, on improving their measurement. The current approach to measuring methane emissions across the industry is to use standard factors for emissions, by type of facility or equipment, rather than taking actual measurements on the ground. Getting more accurate measurements is becoming a priority for our industry.

In September, the [University of Texas](#) published a significant methane emissions study⁷ that provided new data on the level of emissions from hydraulically-fractured shale gas wells in the USA. The study, in which we participated with other energy companies and the [US Environmental Defence Fund](#) (EDF), was one of the first to use actual measurements from wells rather than generic estimates conventionally used to calculate methane emissions.

⁵ Flaring involves burning off gas through a vertical stack or pipe. Venting involves releasing the gas in its raw form without first burning it off. Gas is vented or flared for safety reasons, or because wells are not yet hooked up to pipeline infrastructure.

⁶ This data is provided to us by the OGP on a confidential basis and not for publication.

⁷ ‘Measurements of methane emissions at natural gas production sites in the United States,’ published September 16, 2013, in the Proceedings of the National Academy of Sciences (PNAS).

CLIMATE CHANGE continued

It confirmed that technology now being used to complete sampled wells captured 99% of escaping methane, significantly more than estimates released in 2011 by the [US Environmental Protection Agency](#) (EPA). Emissions from other equipment were found to be higher than previously estimated and, on balance, total methane emissions from natural gas production from all sources were comparable to most recent EPA estimates.

The University of Texas said the study was intended to inform policymakers, researchers, and industry on some of the sources of methane emissions from the production of natural gas. Following publication, we joined the newly-formed Fugitive Methane Leadership Group, led by EDF, to improve further measurement and reduction of methane emissions.

OUR METHANE EMISSIONS

We have been reporting our methane emissions since 1997. This year, we are reporting our methane emissions by source, in response to external stakeholder interest in this topic.

Our total methane emissions decreased by 23% in 2013⁸, due to the sale of downstream assets and operational improvements, particularly in our Tunisia operations (see below).

Our 2013 reported methane emissions represent only 4% of our total reported greenhouse gas emissions. Looking ahead, we estimate that methane will remain at less than 5% of our total GHG emissions. However, methane is a potent greenhouse gas and we recognise that managing methane is a critical issue for the future of our industry. We are therefore taking action not only to reduce our own emissions, but also to participate in initiatives which aim to improve industry measurement and management approaches. The OGP ranks us in the first quartile of oil and gas companies for total methane emissions per unit of production⁹.

[See our Data tables for a report on our methane emissions for the year](#)

IMPROVING MONITORING AND MANAGEMENT

Our reported methane emissions in 2013 were 13 500 tonnes. We plan to implement a methane assessment and management programme, across our portfolio, over the next two to three years. The aim of this programme is to improve the quality of our methane emissions data by, for example, taking actual measurements on the ground.

As part of this programme, during 2013, we ran two pilot fugitive emissions surveys in Australia and Tunisia, as examples of both conventional and unconventional gas operations. This was in addition to routine leak detection and repair programmes which we conduct across BG Group, in line with our Environmental Standard.

- In Australia, in February 2013, we began working with the [Commonwealth Scientific and Industrial Research Organisation](#) (CSIRO) on a study to gather methane emissions data by sampling production processes. Ten of our well heads were selected by CSIRO for this study, the results of which are due to be published in a report in 2014. Where leaks were detected, additional sampling was carried out by enclosing the leaks and measuring the emission rate generated. We also began our own study of fugitive emissions from the well head to the point of sale
- In Tunisia, in November 2013, we surveyed fugitive methane emissions using infrared cameras. This enabled us to detect and fix leaks in one of our two gas processing plants, Hannibal, reducing operational and health and safety risks, and saving gas that was being lost. Earlier in the year, following a review of best available techniques at the Hannibal plant, we diverted gas flows from a significant vent, cutting 15% of vented methane emissions from the site and improving energy efficiency.

As well as giving a more accurate picture of the methane emissions from these operations, the surveys will enable us to draw more general conclusions about our methane emissions. Once we have a clearer picture, we will be in a better position to refine our approach to methane management.



Surveying of methane emissions using infrared cameras, Tunisia

⁸ Based on current methodology for measuring methane emissions and for those operations under our control, see our [Data Methodology](#).

⁹ See footnote 6.

CLIMATE CHANGE continued

CLIMATE AND CLEAN AIR COALITION

In 2013, we were involved in developing the CCAC Oil and Gas Methane Partnership, a group of governments, public and private sector organisations and NGOs, which aims to increase awareness and understanding of the financial, environmental, energy efficiency, and safety benefits of reductions in short-lived climate pollutants, such as methane.

The CCAC seeks voluntary company commitments to reduce short-lived climate pollutants such as methane.

CARBON MANAGEMENT RESEARCH AND DEVELOPMENT

During 2013, we continued to research and develop lower carbon technologies, such as carbon capture, storage and use, and energy efficiency. Our focus is on finding new, commercial technologies to minimise the carbon intensity of our gas and oil, and collaboration and partnership are important aspects of our approach. Our global technology function, based in Rio de Janeiro in Brazil, is leading development in this area.

[Read more about our technology initiatives in Brazil](#)

[Read more about our research and development partnerships](#)

In February 2014, we signed a US\$15 million contract with [Imperial College London](#), to establish an institute that would develop solutions to support and improve the sustainability of natural gas. It will seek to address challenges and leverage opportunities in science, engineering, technology and policy, with the aim of strengthening the viability of natural gas as the fuel of choice for the future.

The institute will leverage our investments in technology in Brazil, where our global technology group is based, and where the Brazilian research and development (R&D) levy directs revenues from our large oil and gas fields into R&D investment. During 2013, we took forward three key Brazil-based initiatives which will support the institute:

- We prepared initial contracts to set up an Energy Efficiency Programme together with three leading Brazilian universities. Our US\$4 million investment in this programme will be funded through the R&D levy. It will initially seek to identify new techniques to boost energy efficiency across our floating platform operations. Ultimately, it will aim to develop a portfolio of technology projects, working with suppliers, equipment manufacturers and universities that already invest in innovation. A number of projects were approved during 2013 and will start in 2014
- Another Brazil-based initiative is a Research Programme for Gas Innovation. In October 2013, we signed a US\$20 million co-operation agreement with the [Sao Paulo Research Foundation](#), Brazil's leading regional grant-funding body, to establish this centre in Sao Paulo state. The centre will seek technological solutions to mitigate the impact of greenhouse gases, including solutions to detect and reduce methane emissions. It will also focus on developing natural gas as a shipping fuel, improving engineering techniques for gas production, and converting gas into chemical feedstock, including hydrogen. We, and the Sao Paulo Research Foundation, will each invest US\$10 million in the programme, over a five-year period
- We began work on a project with [Hytron](#), a start-up technology company with its roots in UNICAMP, one of Brazil's top universities, to reform natural gas into hydrogen. The three-year project, also funded through the R&D levy, involves the development of a natural gas reformer unit, to provide hydrogen to fuel cells in an environmentally and economically viable way. Hydrogen fuel cells can generate power with low emissions (ozone, for example, is reduced to zero). We are currently evaluating their use in offshore environments, vehicles, and decentralised generation systems. If it proved to be scalable, the technology could be used across our operations.



Hytron natural gas reformer

EMISSIONS TO AIR



OVERVIEW

In 2013, our greenhouse gas (GHG) emissions were 7.0 million tonnes, compared with 7.7 million tonnes in 2012. Our nitrogen oxide emissions rose by 3% and our sulphur dioxide emissions rose by 17%. We are taking action to cut our sulphur dioxide emissions in Tunisia, which represent around 30% of total Group sulphur dioxide emissions. We invested in research into technologies to mitigate generation of GHGs at the point of use, and enable development of gas as an alternative fuel.

- > [Read about our approach to managing the environment](#)
- > [View our emissions to air data for 2013](#)
- > [View our targets for 2013](#)

GREENHOUSE GAS REPORTING

We have reported the significant GHG emissions from our businesses – carbon dioxide, methane and nitrous oxide – since 1997. In the Data tables, we give a detailed breakdown of emissions. For the first time this year, we provide a more detailed breakdown of our methane emissions by source.

Our approach to managing and reporting carbon was recognised with our inclusion, this year, in the [CDP's](#) leadership indices. We were one of only two companies in our sector in the CDP Global 500 Carbon Performance Leadership Index, scoring an A rating. We were also included in the CDP FTSE 350 Carbon Disclosure Leadership Index for the third consecutive year.

[Read about our approach to managing climate change](#)

GREENHOUSE GAS EMISSIONS

We report these emissions in detail in our Data tables, where we cover GHG emissions from our operated businesses in detail, and also provide information on emissions from businesses in which we have an equity share.

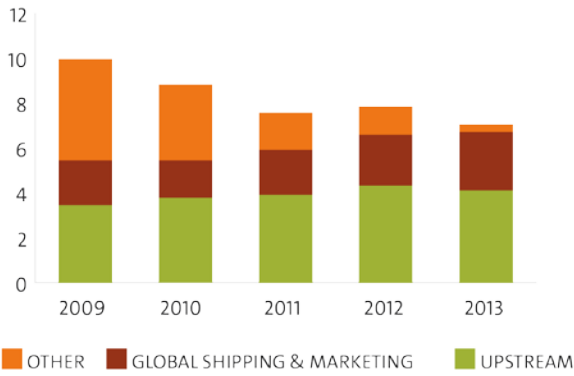
SCOPE 1 EMISSIONS

Our Scope 1 emissions are those that arise directly from sources we own or control. They derive principally from fuel use, flaring, venting, fugitive losses (leaks or other irregular emissions of gases from equipment), and distribution losses.

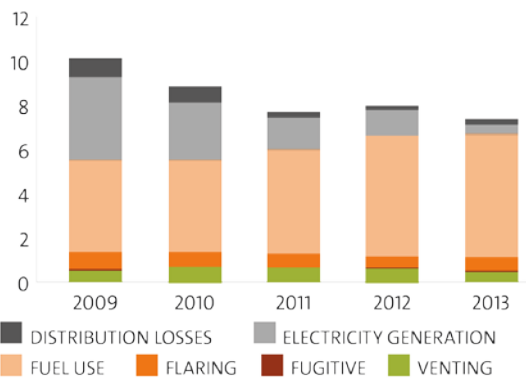
In 2013, operations directly under our control emitted 7.0 million tonnes of GHGs, a decrease of around 700 000 tonnes, or 10%, compared with 2012. Our equity share emissions were 8.3 million tonnes of GHG, a decrease of 1.3 million tonnes, or approximately 13%, compared with 2012.

EMISSIONS TO AIR continued

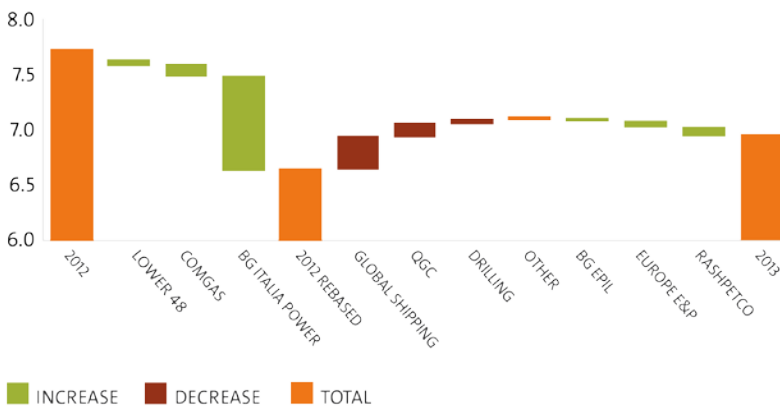
GHG emissions: by business 2009-2013
(million tonnes CO₂e)



GHG emissions: by source 2009-2013
(million tonnes CO₂e)



GHG operated emissions 2013
(million tonnes CO₂e)



EMISSIONS TO AIR continued

SCOPE 2 EMISSIONS

Electricity use is our only significant source of Scope 2 emissions (indirect emissions¹ that arise from the consumption of purchased electricity, heat or steam).

In 2013, businesses directly under our control purchased electricity that emitted 15 000 tonnes of greenhouse gases when originally generated at source. This compared with emissions of 19 000 tonnes in the previous year². Overall, our total Scope 1 and 2 emissions from these businesses fell by approximately 10%.

SCOPE 3 EMISSIONS

We also report an estimate of our Scope 3 emissions (indirect emissions associated with activities outside our direct control). We sell our gas or oil into the wholesale market, or to large energy generators or suppliers. The consumption of our products by these users is by far the largest source of our Scope 3 emissions. We estimate that Scope 3 emissions associated with the use of the fuel we supply were 88 million tonnes in 2013, compared with 90 million tonnes in 2012.

Our research into technologies that enable the more efficient use of gas, or use of gas as an alternative fuel, includes research into improved technologies at the point of use. Examples of this are:

- Research into fuel cell technology to convert natural gas into hydrogen fuel to generate electricity and heat without direct combustion
- Research into the potential application of hybrid technologies, where systems using natural gas work in tandem with renewable technologies, such as solar power, for the production of electricity.

We are also looking at future research into the use of liquefied natural gas as a transport fuel. This will examine opportunities to replace liquid fuels and reduce emissions to air.

[Read more about our approach to managing climate change](#)

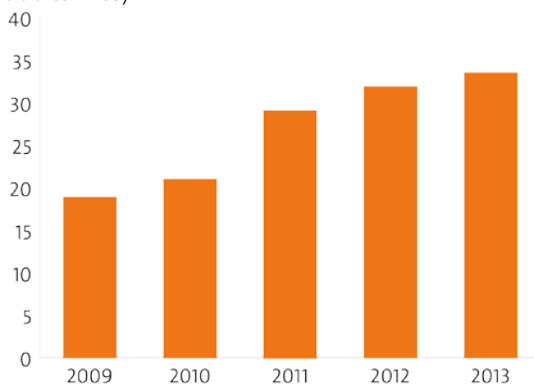
[Read more about our investments in technologies for gas in Brazil](#)

NON-GREENHOUSE GAS EMISSIONS

When we burn and flare gas, we generate nitrogen oxides (NO_x) and sulphur dioxide (SO₂). We also emit smaller volumes of carbon monoxide (CO) and volatile organic compounds.

Nitrogen oxide emissions 2009-2013

('000 tonnes)



¹ We calculate indirect GHG emissions from electricity consumption by applying country-specific emission factors (reflecting the average GHG emissions per unit of electricity produced on a country-by-country basis), to electricity purchased. See [Data Methodology](#).

² The 2012 figure was restated from 20 000, reflecting changed IEA emission factors. See [Data tables](#) for detail.

EMISSIONS TO AIR continued

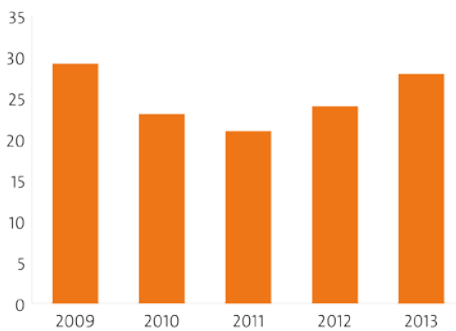
During 2013, NO_x emissions totalled 33 000 tonnes, an increase of 3% compared with 2012. Total NO_x emissions, per unit of throughput, increased by 24% between 2012 and 2013. This increase came predominantly from increased activity, and the use of oil as fuel in our shipping operations. The last six years have also seen an increase in NO_x, mainly due to increased activity in shipping, and to the fact that our ships are increasingly powered by diesel-electric engines. These engines, while having higher NO_x emissions than alternatives, are more fuel efficient.

During 2013, SO₂ emissions totalled 28 000 tonnes, an increase of 17% compared with 2012, due largely to increased oil used for fuel in our shipping operations. Our total emissions, per unit of throughput, increased by 35%, between 2012 and 2013. Around 30% of BG Group's SO₂ emissions arise from our operated Miskar gas field in Tunisia.

This gas has very high hydrogen sulphide content, and has to be treated in various steps to obtain sales quality gas. Hydrogen sulphide extracted from the gas used to be transformed into sulphur cake in a sulphur recovery unit, but currently it is sent to an incinerator, where it is converted to sulphur dioxide and dispersed in the atmosphere.

We are redesigning a sulphuric acid plant, originally commissioned in 2009, with the aim of achieving a sizeable reduction in SO₂ emissions. Redesigning the plant has been a slow process, due to technical difficulties. We expect the redesigned plant to be commissioned by 2015. This will enable us to meet Tunisian legislation on emissions, due to come into force in 2016 (originally due in 2013, but extended through a granted three- year grace period).

Sulphur dioxide emissions 2009-2013
('000 tonnes)



WATER AND BIODIVERSITY



OVERVIEW

Water management continues to be high on the international agenda. In 2013, we made progress against water monitoring and management objectives in Australia, and developed plans to address risks in Egypt and India.

During the year, we reviewed the biodiversity performance standard of the [International Finance Corporation](#) and continued to implement biodiversity action plans in Australia, Bolivia and Kazakhstan. In Trinidad and Tobago, we completed a five-year reforestation project and started work on a new five-year biodiversity action plan. In Tanzania, we worked with an environmental consultancy to explore the seabed where we are drilling, and gain greater understanding of the sub-sea ecosystem.

In Australia, we are committed to a major scheme to return more than 25 000 hectares of Curtis Island, where we are constructing a liquefied natural gas (LNG) plant, to its natural state. The plan involves donating purchased land to Queensland as a protected area, and contributing to the on-going costs of the reserve.

- > [Read about our approach to managing water and biodiversity](#)
- > [View our water data for 2013](#)
- > [View our targets for 2013](#)

WATER

During 2013, we continued to implement our water strategy, approved in 2012. Specific water management requirements for our operations were also incorporated into the Group [Environmental Standard](#). The strategy prioritises action in operations with the greatest water management risks; these operations produce water management plans which set down how to manage these risks. Three of our operations – Australia, Egypt and India – are currently assessed as having significant water risks and each has prepared a water management plan. Of these three, Australia faces the most significant risk relating to managing and treating large quantities of saline water in a way that is supported by the regulator and the local communities.

In Egypt and India, the key water risk is disposal of water from our operations, onshore in Egypt and offshore in India. In Egypt, the challenge is that treated water cannot be discharged offshore, and suitable alternatives have to be found. In India, the main issue is the quality of the water discharged, relative to our own standards. The water management plans for these countries set out how the operations will address these issues.

WATER AND BIODIVERSITY continued

MANAGING WATER IN OUR AUSTRALIAN OPERATIONS

BACKGROUND

Water is a vitally important resource in Queensland, where we explore for, and produce, coal seam gas in the Surat Basin, and have acreage in the Bowen Basin. Agriculture is a major contributor to the economy and periodic drought and flooding in recent years have made water supplies unpredictable. Making sure we manage our impact on water is critical to ensuring co-existence with rural communities. We are committed to monitoring groundwater quality and water levels where we operate, and to addressing and, where necessary, compensating for impacts on existing water users.

KEY STEPS IN 2013

- The Queensland regulator approved our Stage 3 Water Monitoring and Management Plan which details latest developments in our approach
- We finished installing around 80% of a network of water monitoring bores, or narrow wells, used to check water quality, pressure and levels in rock formations where we extract gas
- We completed a bore baseline assessment programme involving tests of more than 380 water wells on 250 private properties. The aim of these baseline assessments is to record water levels and quality before gas operations in the local area have begun
- We made progress against our strategy for managing the water produced from our operations, inaugurating the first of two large water treatment plants which will use reverse osmosis technology to treat the water produced from coal seams. The two plants are to the north west of Brisbane, in southern Queensland
- We continued to investigate the reinjection of water produced from coal seam gas operations into underground aquifers after treatment, as one way to manage water and maintain groundwater pressure in key areas. Investigating this option is a federal government requirement
- We reviewed options for the management of the brine produced by our reverse osmosis water treatment process. We expect to make a decision on this in 2014
- We worked with landowners and, in line with regulation, executed the first of our 'make good'¹ agreements with landholders whose water bores are predicted to be affected by our operations.



Kenya water treatment plant, Queensland

[Read more about our water activities in Australia in 2013](#)

¹ Under Queensland legislation, if water extraction by a gas operation is affecting an existing water bore, then the responsible gas company must 'make good' this impact. 'Make good' measures may include monitoring of the bore, deepening of a bore, providing alternative sources of water supply, drilling a new bore and/or compensation. For detailed information see <http://www.ehp.qld.gov.au/management/non-mining/documents/bore-assessments-make-good.pdf>.

WATER AND BIODIVERSITY continued

MANAGING WATER IN OUR EGYPTIAN OPERATIONS

CHALLENGES

Managing the risks associated with the disposal of produced water from our joint venture operations in Egypt is a major challenge. Disposal of any treated water to sea is not permitted, so the water is transported by road for treatment at an onshore water treatment and disposal facility.

In 2012, we completed a major study to identify and assess all possible options for the treatment and disposal of produced water. Options selected for analysis included a biological treatment plant, low energy evaporator technology, heated water ponds, and offshore water injection into an existing depleted reservoir.

Another option was to continue to transport the water by road, but to improve the solution being used



Trucks transporting water for treatment at our Egyptian operations

ACTIVITY IN 2013

In 2013, we and our partners decided that improving the trucking and disposal approach was the most practical option, given the difficult operating environment in Egypt. The approach has been improved by introducing:

- A small management team co-located with the operations team in Idku
- A modern fleet of trucks with global positioning system tracking
- Better servicing and maintenance facilities
- Better inventory management
- Trained drivers.

We also identified measures to manage and minimise the associated health, safety and environmental risks and retendered the contract. The new contract will be put in place during 2014.

WATER AND BIODIVERSITY continued

MANAGING WATER AND OIL IN OUR INDIAN OPERATIONS

Overall, the total amount of oil we discharge as a Group is relatively small for our industry (116 tonnes in 2013). Of this, over 93% is discharged from our offshore Panna oil and gas field in India.

We have had some success in reducing the amount of oil in water we discharge following field trials with new chemicals, and as a result, oil discharged in water from Panna has reduced from 32 ppm in 2011 to 25 ppm in 2013. The regulatory limit for oil in discharged water in India is 40 ppm. Our Environmental Standard was updated in April 2013 to set a target of 15 ppm. Our operations in India are currently not meeting this standard and are in the process of assessing whether, and how, it is feasible to achieve this over time.

We are currently reviewing the methodology used to measure oil discharge in water at Panna with the aim of bringing it in line with widely adopted industry good practice – the Convention for the Protection of the Marine Environment of the North-East Atlantic, ([OSPAR](#)) reference method – which may bring about a further reduction.

Given that Panna alone accounts for such a large proportion of total oil discharged with produced water, any improvements in India have a significant impact on our Group performance. Our challenge will be to maintain and improve on this performance while meeting our production and operational safety commitments.

[See our oil in water performance for 2013](#)



Our Panna field in India

MANAGING WATER IN OUR US SHALE GAS OPERATIONS

We worked with EXCO Resources, our joint-venture partner, to reduce the amount of chemicals used in hydraulic fracturing and improve water reuse rates in our Pennsylvania-based operations.

During the year, we set up the Energy Water Initiative with a number of other energy companies, to look at sharing best practices and advancing standards in water management in the US shale gas industry.

[Read more about our water management activities in the USA in the 2013 update to our Unconventional Gas Public Position](#)



Paper plant where water from our operations is reused in Pennsylvania

WATER AND BIODIVERSITY continued

OTHER INVESTMENTS AND TECHNOLOGY

As well as managing risks in Australia, Egypt and India, we took a number of actions to minimise the impact of our operations on water, by applying new technology or techniques.

In Trinidad and Tobago, we worked towards an upgrade of the water treatment system on one of our offshore platforms. At present, this platform produces only relatively small volumes of produced water, and these are brought onshore for treatment and disposal by a third party. However, we expect to produce more water in future, and the upgrade will help us handle these, as well as ensuring we can meet regulatory and our own standards for the amount of offshore oil which we discharge in this water.

We considered various options, including alternative third-party treatment onshore, and selected offshore treatment as the most efficient and low risk solution. Returning the water to shore involves higher risks such as building a new pipeline, trucking and disposal issues. In 2014, we expect to carry out front-end engineering which will include finalisation of the design, and selection of the best technology for the upgrade.

Nanotechnology research

During 2013, we continued scoping work on a five-year research partnership with Rice University in Houston, USA, and the Federal University of Santa Catarina (UFSC), in Brazil, to look at the opportunities for nanotechnology to address water management challenges.

The research will examine ways to use nanotechnology to treat produced water for reuse, reinjection or disposal purposes, including using advanced membranes, and ways to treat contaminants in aquifers. Research will also be conducted on the use of nanotechnology for tracers, as well as in CO₂ capture and corrosion prevention. The programme will also study environmental impacts from the use of nanomaterials. Given the immature nature of the nanotechnology field, we are initiating studies to look at concerns about its potential environmental and safety impact. As oilfield nanotechnology moves out of the laboratory and into large scale fabrication, the safety impacts of nanoparticles will need to be rigorously tested.

New techniques in this area could benefit our business by reducing operating costs and lowering HSSE risks. The partnership, which is intended to lead to the foundation of a nanotechnology centre of excellence at UFSC, will run three programmes:

- Infrastructure development at UFSC will create a world-class training and research environment for researchers. Infrastructure expenditure will be used for renovation, laboratory equipment procurement, and construction
- Student exchange programme between UFSC and Rice University, which will involve 34 PhD students and five postdoctoral fellows, delivered through our existing BG Fellowship Programme
- Research and development programme at UFSC funding professors, technicians, postdoctoral fellows, and students not associated with the BG Fellowship Programme.

During the year, the scope of the partnership was agreed. We expect the nanotechnology projects will qualify under the Brazilian annual 1% research and development levy, and expect to sign contracts with the universities in 2014.

CDP GLOBAL WATER REPORT

We contributed to the 2013 CDP Global Water Report, which calls for a step change in water risk management. We were one of a small group of major companies that participated and disclosed results to CDP, and have participated in the report since 2011.

We reviewed the report and took note of its findings. It concludes that substantive water-related risks are becoming more immediate and that more should be done to manage these risks. It calls on companies to adopt a water stewardship approach, and on investors to encourage a step change within companies. We are conscious of the importance of managing water risks, including the key risks for our sector of water stress or scarcity, regulatory uncertainty, and the rising costs of complying with discharge regulations.

WATER AND BIODIVERSITY continued

BIODIVERSITY

In April, we strengthened our requirements for managing biodiversity at our operations and projects. We now ask all our operations to assess biodiversity sensitivities and the risks posed by our activities, and to implement a biodiversity action plan if those risks or sensitivities are significant. Measures to mitigate or compensate for any potential impacts should be set out in this plan.

We continued to implement biodiversity action plans for our operations in Bolivia and Kazakhstan, and have begun developing a plan for [Trinidad and Tobago](#). In Australia, by the end of 2013, we had completed more than 100 significant species management plans.

During the year, we engaged [The Biodiversity Consultancy](#) to work with us on developing our corporate biodiversity management strategy. The consultancy is working closely with our businesses, to understand our biodiversity risks and how we manage them. This work included analysing international best practice on corporate biodiversity management – specifically [International Finance Corporation Performance Standard 6](#), updated in 2012 – to assess how our approach aligns with this current practice. A programme to implement the key findings of the work will take place during 2014.

BIODIVERSITY IMPACTS AND INITIATIVES

AUSTRALIA: CREATING A NATURE RESERVE ON CURTIS ISLAND, QUEENSLAND

In 2013, we made progress with a plan to protect more than 25 000 hectares of environmentally significant land on Curtis Island, Queensland, where we are constructing an LNG plant. This plan will cost approximately A\$9 million (US\$8.6 million) and involves purchasing, protecting and managing the rest of Curtis Island (excluding the LNG development area).

It is being developed with Santos GLNG and Australia Pacific LNG (the two other companies constructing LNG plants on the Curtis Island site). We jointly expect to contribute approximately A\$34.5 million (US\$33 million) over a 25-year period to enable the establishment, preservation and management of a Curtis Island Environmental Management Precinct on the southern end of the island. This will provide ongoing conservation of the area, which has fragile and endangered ecosystems, and threatened fauna species, marine fish habitats and Great Barrier Reef wetlands.

The protected area, which falls within the [Great Barrier Reef World Heritage Area](#), is close to the LNG sites, so can provide species affected by the development there with a similar habitat. It will return the last major area of non-conservation land on Curtis Island, which is currently a cattle farm, to its natural habitat.

While all three LNG companies are required by Queensland law to offset their impact, this plan exceeds the regulatory and legislative requirements set out under each company's respective approval frameworks. It protects important habitat for threatened fauna species and ecological communities² that were not subject to approval requirements. By working together, we and the other two LNG companies can achieve a more significant biodiversity benefit than if we had offset our impacts individually.



Curtis Island, Queensland

² An ecological community is defined by the federal Australian government as a group of plants, animals, and other organisms interacting in a unique habitat, including woodlands, grasslands, shrublands, forests, wetlands, marine areas, and ground springs.

WATER AND BIODIVERSITY continued

AUSTRALIA: SPECIES MANAGEMENT

In Australia, protecting biodiversity is one aspect of a set of environmental conditions which our [Queensland Curtis LNG Project](#) (QCLNG) is committed to meet.

Our impact on the environment and biodiversity is managed by our field ecologists working in the local area affected by our operations, working with seismic, drilling, pipeline or other development teams.

By the end of 2013, we had completed more than 100 significant species management plans that identify potential impacts of our operations on threatened and near threatened flora and fauna species, and ecological communities³.

Significant species in the area include plant, butterfly, snake, lizard, fish, and marine mammals such as dolphins. Our management plans meet and exceed regulatory requirements by setting out how impacts upon these species are mitigated and integrated into our work plans.

During the year we published a [Protecting the Environment](#) information brochure, offering an overview of our programmes to protect plants, animals and biodiversity across the QCLNG Project area. With other LNG companies on Curtis Island, we also published a [Background Briefing](#) information brochure on the [Great Barrier Reef World Heritage Area](#), which gives an overview of measures taken to protect the marine and coastal environment.

[Search for significant species management plans on our website](#)



One of our Environmental advisors in Australia

AUSTRALIA: SAFELY RELOCATING FAUNA PRIOR TO DEVELOPMENT

In Australia, our environment field teams and contractors sought to relocate fauna safely when clearing sites for development, in accordance with our significant species management plans.

In the Surat Basin in southern Queensland, where our gas fields and processing facilities are located, contractors relocated species found in tree hollows, including the golden-tailed gecko, sugar glider, microbat, bearded dragon, and yellow-spotted monitor lizard.

In 2013, for example, Transfield Clough Joint Venture, which has a contract with us for earth works and building concrete foundations, moved whole tree sections in order to minimise human handling, disturbance and stress to animals, and not disrupt inhabitant breeding habitats. The relocation process, carried out with the help of our environmental officers, involved tree sections being rehung at their original height and with similar orientation and canopy cover. Where trees were found with nests containing incubated eggs of birds not suitable for hand rearing, these were left standing until the eggs hatched and fledglings were able to leave the nest.



Golden-tailed gecko

³ See footnote 2.

WATER AND BIODIVERSITY continued

BRAZIL: ENVIRONMENTAL STRATEGY DEVELOPMENT

During 2013, we worked on the environmental strategy for our Brazil operations. We sought advice from specialist biodiversity consultants and consulted internally on the strategy.

We continued our investment in [Project Blue](#), an oceanographic monitoring project studying environmental conditions in the Santos Basin. This project may be extended to include new development blocks.

[Learn more about Project Blue](#)



Project Blue studies ocean conditions in the Santos Basin off the coast of Brazil

CANADA: BIODIVERSITY ASSESSMENT

In British Columbia, we are proposing to develop a liquefied natural gas export facility on Ridley Island, near Prince Rupert.

During 2013, we carried out extensive biodiversity baseline surveys and continue to monitor biodiversity against these. We also worked on an environmental and social impact assessment, which is due to be completed and submitted to the government in 2014.

We are conducting environmental studies into subjects such as air and water quality, freshwater and marine fisheries, vegetation and terrestrial wildlife and habitat, and marine mammals and birds. Once fieldwork is completed, we will begin detailed analysis of the data collected.

These studies will inform the environmental and social impact assessment, and help us to design our project in a way that minimises disruptions to wildlife and fish, and reduces our environmental footprint.

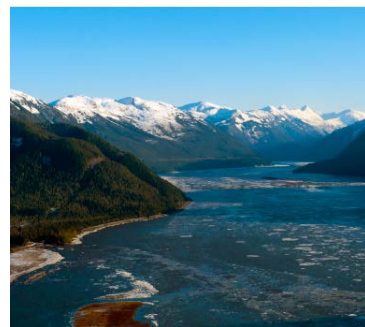
During 2013, we worked with the Vancouver Aquarium to support research into marine biodiversity, to help us understand the marine environmental conditions near the site of our project. This includes supporting [Aquavan](#), a mobile marine biodiversity education centre for schools.

MARINE SPECIES RESEARCH IN CANADA

During the year, we began providing financial support to the [British Columbia Cetacean Sightings Network](#) (BCCSN), a conservation and research programme run by the Vancouver Aquarium. The Network uses a volunteer network of 'citizen scientists' to collect sightings of British Columbia's sea turtles, whales, dolphins and other marine mammals.

Each marine sighting report is verified and entered in a database at the Vancouver Aquarium. We will support BCCSN at least until the end of December 2014, with the possibility of extension beyond that date.

[Read more about our Prince Rupert LNG Project](#)



Coastal area near Prince Rupert, Ridley Island

WATER AND BIODIVERSITY continued

KAZAKHSTAN: LAND REMEDIATION

During 2013, our joint venture operation in Kazakhstan, Karachaganak Petroleum Operating Company (KPO), completed remediation of an area of land known as Gryphon. This 53 hectare area of land was contaminated by a well blowout (or uncontrolled release of hydrocarbons) in 1987, before we became involved with the field, and the land was infertile.

Remediation work began in 2000 and by 2011 trial crops were being grown on the land. In 2012, we obtained formal certification of handover of the reclaimed land for agricultural use.

In 2013, we won an environmental award from the Kazakhstan government for the project, which was selected from many presented by international energy companies operating in the country.



Land surrounding our operations in Kazakhstan

TANZANIA: BIODIVERSITY ASSESSMENT

In Tanzania, we conducted a study to evaluate possible sites for a potential LNG processing and export facility in collaboration with Statoil. Subsequently, we submitted preferred locations to the government. As part of this process, we assessed biodiversity sensitivities and potential impacts.

We developed a tool, using geographical information systems technology that identified protected areas and key habitat types such as mangroves and coral reef.

We then engaged an environmental consultancy to test the biodiversity sensitivities at each shortlisted potential site. This work including carrying out coastal survey studies.

We also carried out a biodiversity assessment in the marine environment surrounding Mtwara harbour, from where we support our offshore drilling activities.



Tanzanian coastal region

WATER AND BIODIVERSITY continued

TANZANIA: DEEP SEA ANALYSIS

RESEARCH

We are exploring and drilling wells in three blocks in the Rovuma basin in southern Tanzania, and wanted to improve our understanding of the impact of our operations, in particular how drill cuttings waste affects the environment.

We approached [SERPENT⁴](#), an initiative set up by the UK's [National Oceanography Centre](#). SERPENT is a partnership in which marine biologists from the Oceanography Centre work with oil and gas companies, using the remotely operated vehicle (ROV) onboard industry drill ships to explore the seabed, pushing the boundaries of deep sea research, and extending knowledge of the oceans.

Through SERPENT, a scientist joined one of our drill ships at a number of drilling sites in Tanzania, and mapped the distribution of drill cuttings around the wells. Using a video camera, he recorded the appearance of the seabed, slowly moving away from the site and recording subtle changes in appearance. He found that typically, by the end of a 200-metre survey line, the seabed was undisturbed.

The ROV also sampled the top layers of the seabed, taking samples both close to and far from the well in several directions. These samples were then measured for chemicals found in drilling mud. Sediment grain size and the amount of organic carbon on the sediment's surface were also evaluated.

RESULTS

This process found a largely unexplored environment with many life forms. As the ROV moved away from the well, it gradually illuminated a diverse community of animals such as sea cucumbers, barnacles, starfish, sponges, and anemones, as well as deep-sea fishers.

This project not only offered scientists access to technology, and the opportunity to gather information directly from the deep sea, but also deepened our own knowledge of the potential environmental impact of our operations



A large jellyfish seen during BOP inspections

TRINIDAD AND TOBAGO: REFORESTATION PROJECT

In Trinidad and Tobago, we completed a five-year reforestation project and started work on a new five-year biodiversity action plan, reflecting increasing national emphasis on protecting and valuing diversity.

[Learn more about our reforestation project in Trinidad and Tobago](#)



Local forests in Trinidad and Tobago

⁴ SERPENT stands for Scientific and Environmental ROV Partnership using Existing Industrial Technology.

WATER AND BIODIVERSITY continued

INDUSTRY COLLABORATION

We have participated for several years in an [International Association of Oil and Gas Producers](#) joint industry project, exploring the effects of underwater sound, such as that produced by seismic exploration, on sensitive marine species including whales, dolphins and fish.

During 2013, the joint industry project developed and agreed a third phase of research activity which will start in 2014. We have committed to continue participation in this project, which will yield an improved understanding of the impacts of underwater sound in the marine environment, and the measures we can take to mitigate such impacts.

We also continued membership of the [IPIECA⁵ Biodiversity and Ecosystem Services Working Group](#). We also joined the [Cross Sector Biodiversity Initiative](#), which was launched by IPIECA, the [International Council on Mining and Metals](#) and the [Equator Principles Association](#) in February 2013.

⁵ The oil and gas industry association for environmental and social issues.

UNCONVENTIONAL GAS



OVERVIEW

Debate about the environmental impact of unconventional gas (gas trapped in rocks such as shale) continued during 2013. Our unconventional gas operations are now primarily in Australia, where we explore for, and produce, coal seam gas in Queensland. We also have interests through a joint venture with EXCO Resources (EXCO), in the Haynesville shale gas region in Texas and Louisiana, and in the Marcellus shale in Pennsylvania, in the USA.

Unconventional gas operations are onshore and can be near communities, so managing their impact on the environment, and on people's lives, is a critical dimension of responsible operatorship. In 2011, in recognition of concerns about unconventional gas, we published a public position setting out our approach in eight key areas: working in the community; well design and engineering; testing and monitoring; chemicals disclosure; responsible chemicals use; managing water responsibly; minimising emissions; and communicating and working with stakeholders. In recent years, unconventional gas has been a concern for some Group stakeholders, such as investors and analysts from socially responsible investment institutions, as well as for communities where we work. During 2011, 2012, and to a lesser extent in 2013, this topic was raised by a number of interested parties.

During the year, in both countries, we took steps to monitor and manage the environmental and social impacts of our activities, share knowledge and practice with our industry, and make a positive contribution where we work. We will update our Unconventional Gas Public Position in the first half of 2014 to show progress in the eight areas it covers.

- > [Read more about our approach to managing the environment](#)
- > [Download our Unconventional Gas Public Position](#)
- > [Read more about our approach to environmental, social and governance issues in Australia](#)

BUSINESS CONTEXT

2013 was a year of change as shale gas drilling activity in the USA was significantly reduced, due to the continuing low domestic gas price. We moved from being a joint operator with EXCO in the Marcellus shale region in Pennsylvania, to being a non-operator joint venture partner. While exploration and production activity was cut back, we continued to work with EXCO and external stakeholders to ensure a safe and professional working environment.

In Queensland, we made progress towards delivering the first liquefied natural gas (LNG) from our Queensland Curtis LNG (QCLNG) project in the fourth quarter of 2014. By the end of 2013, our Australian operation and its major contractors, near the peak of project work, were employing 14 500 people. As activity continued at high levels, effective resourcing and contractor safety remained top priorities.

UNCONVENTIONAL GAS continued

US SHALE GAS OPERATIONS: KEY DEVELOPMENTS

We took steps to improve water and emissions management in our jointly-owned shale gas operations, while continuing community engagement. Key developments during the year were:

- We worked with EXCO on a long-term project to reduce the amount of chemicals used in hydraulic fracturing. This includes field trials that aim to improve water reuse rates in the Pennsylvania-based operations
- Our Pennsylvanian operations did not meet their goal of 100% reuse of flowback water and 50% reuse of produced water. This was due primarily to substantially decreased activity, as the US gas price remains low. These operations recycle by storing flowback and produced water, and then recycling it in new wells. Far fewer new wells were developed in 2013, which meant there was limited opportunity to do this. EXCO stored 65% of flowback water and directly reused 54% of it. They disposed of all produced water
- We conceived and set up the Energy Water Initiative, which now has 18 US-based energy companies as members, and which seeks new solutions for managing water on a sustainable basis
- We reviewed the major [University of Texas study](#) on fugitive methane emissions in US unconventional gas operations, which was published during the year. We sponsored the [study](#) with other industry partners and the [Environmental Defense Fund](#)
- We continued to work closely with regulators as well as working with communities, holding town hall and other meetings.

QUEENSLAND COAL SEAM GAS: KEY DEVELOPMENTS

In Queensland, we made progress with our social investment programme, and with our investments in water quality monitoring and water treatment systems. Among other activities we:

- Completed implementation of our [Social Impact Management Plan](#) investing US\$6.3 million in 2013. We invested in a wide range of social projects including some providing medical services to remote locations. We also provided grants to 34 community groups and projects
- Helped local businesses in our supply chain as well as local chambers of commerce, regional economic development groups, and indigenous businesses, to access contracts
- Progressed baseline water bore monitoring in line with the regulatory requirements of the Queensland Water Commission
- Completed the installation of more than 80% of our programmed monitoring bore network, including early warning monitoring bores for listed springs
- Commissioned a major reverse osmosis water treatment plant, which now provides treated water to local councils and farmers
- Began advanced technical studies into leak detection and measurement from well heads and compression facilities, to confirm estimates of fugitive methane emissions
- Supported field studies by the Australian government into advanced measurement techniques for fugitive emissions
- Continued to run community information centres in Chinchilla, Wandoan and Gladstone. These engage with stakeholders on a daily basis. We coordinated four regional community consultative committees and completed about 1960 agreements with local landholders.

[Read more about our work to measure and manage methane emissions](#)

[Read more about our operations in Australia](#)

PEOPLE AND COMMUNITIES



The success of our business depends on our people and the communities where we work. We are committed to treating people that work with us fairly and with respect, helping them to develop their potential, and to engage with the communities where we work, listening to their views and taking their interests into account.

PEOPLE AND SKILLS



OVERVIEW

We made some key changes to our Group Executive Committee, including changes to support the new strategy introduced in May 2013. This followed the appointment of our new Chief Executive on 1 January 2013.

Resourcing, talent management, and succession continued to be a focus. We devised a new workforce planning model and put in place a new panel of recruitment suppliers, with greater global reach. We made progress against our aim of leveraging internal talent, filling more senior posts with internal candidates.

We recruited graduates from 58 universities, representing 12 different nationalities. We supported initiatives to encourage young people, and in particular young women, to pursue careers in engineering and science.

We took a number of steps to improve diversity and inclusion. We published an aspiration to increase the percentage of women in senior leadership positions to 20% by 2020, and approved a Group-wide diversity and inclusion strategy. We developed a diversity code of conduct for our recruitment providers, commissioned diversity research, and formed corporate partnerships to support our diversity ambitions.

- > [Read about our approach about managing our people](#)
- > [View our data about people and skills for 2013](#)
- > [View our targets for 2013](#)

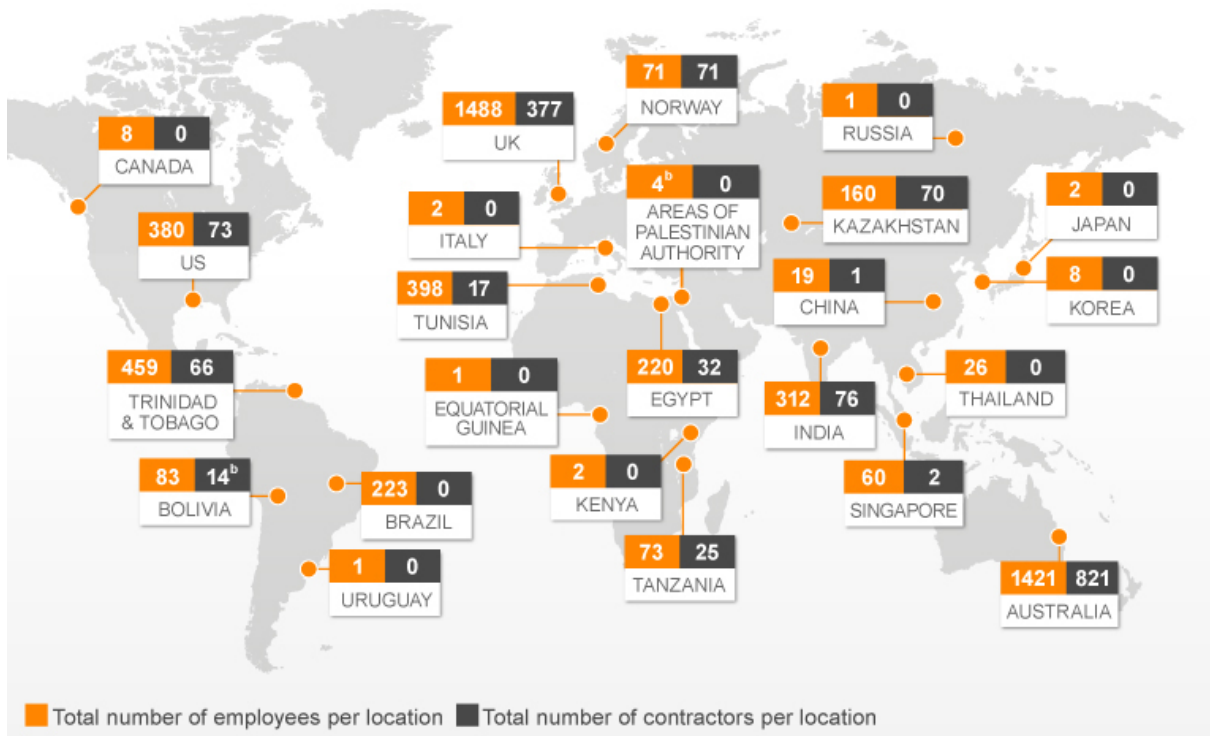
OUR PEOPLE WORLDWIDE

Our broad geographical spread means that we operate in different cultural, legal, and regulatory environments. In some countries we work through joint ventures or partnerships, and in others, as a sole operator.

A breakdown of our workforce in 2013 is shown in the following map. In 2013, we had 5 422 employees and an additional core (Category 1 and 2)¹ contractor workforce of 1 582.

¹ Category 1 contractors are those filling a substantive role of more than one month. Category 2 contractors are engaged to deliver a defined scope of work, typically for less than one year. In both these cases, we are involved in the selection of individuals. Category 3 contractors, a much larger part of the workforce, are engaged as part of an outsourced service contract and we are not involved in their selection.

PEOPLE AND SKILLS continued



We had people from over 70 nationalities working for us, and 14% of our workforce was covered by trade union agreements.

Read more about our [Human Resources policy and standards](#) covering issues such as how we treat our employees, equal opportunities, personal development, security, charity or community work, and ensuring health, safety and security.

[Read more about our approach to managing human rights](#)

OUR LOCAL CONTRIBUTION

As an international business, we encourage our employees to be globally mobile, but we also engage many people on local terms, as employees and contractors. These local jobs represent a major part of our contribution to the countries, and particularly the communities, where we work.

In 2013, 52% of our country management teams² were employed on local terms and conditions. This compares with 58% in 2012 and 51% in 2011. Nationals from non-OECD countries made up 43% of these teams, compared with 32% in both 2012 and 2011. The following table shows the split between local and non-local employees across our operations³.

During 2013, we created 284 new jobs⁴. The number employed on local terms grew, in particular, in some countries during 2013. In Australia (318 employees – an increase of 33%), Brazil (22 employees – an increase of 11%), Singapore (six employees – an increase of 19%), Tanzania (nine employees – an increase of 38%), and in Thailand (three employees – an increase of 21%).

² Management team includes all direct reports to the country manager, excluding administrative and support staff.

³ Local employees are those on local terms and conditions; non-local employees are on international assignments or on global contracts.

⁴ This is based on a core headcount of 5 138 at 31 December 2012 and a headcount of 5 422 at 31 December 2013. The 2012 year-end figure excludes employees at Gujarat Gas, which was subsequently sold, to give a like-for-like comparison.

PEOPLE AND SKILLS continued

Our employees worldwide in 2013^a

	Employees on local contracts	Employees working in country from other BG Group locations	Local employees working away at other BG Group locations	Total employees based in country	Contractors
Areas of					
Palestinian authority	4 ^b	0	0	4 ^b	0
Australia	1 278	189	(46)	1421	821
Bolivia	83	6	(6)	83	14 ^b
Brazil	216	41	(34)	223	0
Canada	0	8	(0)	8	0
China	19	3	(3)	19	1
Egypt	173	68	(21)	220	32
Equatorial Guinea	0	1	(0)	1	0
India	351	17	(56)	312	76
Italy	2	2	(2)	2	0
Japan	2	0	(0)	2	0
Kazakhstan	65	104	(9)	160	7
Kenya	0	2	(0)	2	0
Korea	0	8	(0)	8	0
Norway	53	29	(11)	71	71
Russia	0	1	(0)	1	0
Singapore	37	27	(4)	60	2
Tanzania	33	40		73	25
Thailand	17	10	(1)	26	0
Trinidad and Tobago	430	59	(30)	459	66
Tunisia	390	27	(19)	398	17
UK	1 791	126	(429)	1 488	377
Uruguay	0	1	(0)	1	0
US	402	57	(79)	380	73
Global ^c	76	0	(76)	0	0
	Total employees	Globally mobile employees		Total employees	Total contractors
Group total	5 422	826	(826)	5422	1 582

a Figures are for 31 December 2013.

b These figures are not reported on the central Human Resources software system (SAP).

c Employees on global contracts with no fixed location.

[Read more about our contribution to the countries where we work](#)

PEOPLE AND SKILLS continued

GROUP EXECUTIVE COMMITTEE APPOINTMENTS

There were changes to our Group Executive Committee (GEC) in 2013:

- Malcolm Brown, Executive Vice President Exploration, and Matt Schatzman, Executive Vice President, Global Energy Marketing and Shipping became direct reports to the Chief Executive. This reflects the importance of these two core strategic business areas
- Sami Iskander took on the role of Chief Operating Officer, following the announcement that Martin Houston would retire from this role. Sami was not replaced in his previous role of Executive Vice President, Operations, to help simplify the top level of the organisation
- Chris Cox was appointed to the GEC as Executive Vice President for BG Advance, the division responsible for technical and functional excellence
- Simon Lowth was appointed as our new Chief Financial Officer (CFO) and Executive Director. His previous job was as CFO at AstraZeneca. Simon succeeded Den Jones (who was Interim CFO and Executive Director) from February 2013, after Fabio Barbosa stepped down in 2012.

At the end of 2013, our GEC was still exclusively male. During the year, we put in place a diversity strategy to address this challenge. We are also seeking to improve the succession of women into senior management⁵. In 2013, 34% of progressions (career progress within one grade or level at BG Group) and 30% of promotions (grade changes) were achieved by women. Women made up 28% of our workforce, as at December 2013.

[Read more about diversity and inclusion at BG Group](#)

PEOPLE FOR THE FUTURE

In 2013, we planned for future skills requirements, both by developing our own people, and through recruitment. We also conducted succession reviews to identify talent for key roles. We anticipate continued strong global demand for experienced technical skill sets, including in the fields of subsurface and engineering, where hiring continues to be challenging.

To address this, we developed a new strategic workforce planning model, with human resources and our functions working together to identify future gaps. We also sourced a new panel of global recruitment suppliers. We expect this panel to deliver cost savings and improve our ability to source skills globally.

TALENT MANAGEMENT

2013 was the second year of implementing our talent strategy, which aims to identify high potential individuals for development and promotion. We are seeking to increase the number of internal promotions relative to external hires. We made progress after taking steps to make it easier to identify talented people across the Group, and to improve our development review process.

Data from our 2013 talent review, completed at the end of October 2013, shows that 21% of our senior talent pool⁶ was female, the average age was 43, and this group came from 12 different nationalities.

[Read more about our approach to talent](#)

LEADERSHIP PROGRAMMES

During 2013, we continued to deliver our leadership development programmes, extending these to Brazil and Tanzania. We provided internal and external development opportunities for senior people including mentoring, coaching, influence and impact programmes, and courses tailored to meet individual needs.

This was the second year of our Emerging Leaders Programme, which aims to give potential leaders the skills to take on senior leadership positions in the company over the next five years. Sixteen high-potential leaders participated in the programme this year and worked on projects sponsored by the business, which they presented to our executive team.

GRADUATE RECRUITMENT

We continued to attract high calibre graduates in all our operations. In 2013, we recruited 82 students onto our graduate programme compared with 85 in 2012. Of these, approximately 80% were for technical roles, with the largest group coming from Australia. 76% of graduates are still with us after 10 years; this compares favourably with an industry average of around 45%. There

⁵ Senior management is defined internally as down to two levels below the GEC (BG Group B grades and above), excluding Executive Directors of BG Group (CEO and CFO currently).

⁶ Senior talent pool is defined internally as potential successors to the senior leadership team. It includes people down to two levels below the GEC (BG Group B grades and above). The senior leadership team is defined as one level below the GEC (BG Group A grades and above).

PEOPLE AND SKILLS continued

is little difference in retention by gender, with 69% of women who joined us on the Graduate Programme in the past 10 years still with us, compared with 73% of men.

In 2013, we recruited graduates from 12 nationalities and 58 universities worldwide. 26% of the intake was female, compared to 31% in 2012. To encourage young people and, in particular, young women to pursue careers in engineering and science, we are actively supporting science, technology, engineering, and mathematics (STEM) initiatives, offering internships and providing bursaries for female students at selected universities. This is a global initiative which supports our strategy on diversity and inclusion, and aims to broaden awareness of BG Group.

TRAINING

We offer our employees a wide range of classroom and e-learning courses, and conduct formal and informal training across our wholly-owned subsidiaries and operated joint ventures.

GLOBAL PROGRAMMES AND KEY E-LEARNING COURSES IN 2013

- In 2013, we had training records on our e-learning system for 1 082 different courses

CLASSROOM COURSES

- 1 310 people participated on classroom courses, of whom 404 were on management and leadership programmes, 559 on business skills programmes, and 347 on personal development programmes

SAFETY TRAINING

- 35 965 employees and contractors completed our Life Savers modules in key aspects of safety
- 317 employees and contractors completed training on Major Hazards Awareness

ETHICAL CONDUCT AND BUSINESS PRINCIPLES TRAINING

- 7 389 people completed our new Insider Dealing e-learning
- 2 513 employees and contractors completed the Business Principles e-learning course and a further 285 completed the refresher course
- 2 821 employees and contractors completed our Information Security e-learning course

We also added a new online induction programme that was completed by 1 117 people. Throughout 2013, more than 89 550 courses (classroom or e-learning) were completed.

Video:

[Addressing resourcing challenges in our Global Energy Marketing and Shipping business](#)



DIVERSITY

We aim to improve diversity and create an inclusive working environment for all minority groups. We believe that we will deliver better and more sustainable results if we have a culture where different perspectives are encouraged and considered. In 2013, we

PEOPLE AND SKILLS continued

published a [diversity statement](#) setting out our aim of building a workforce that is diverse in ethnicity, gender, background, and approach. It includes an aspiration to increase the percentage of women in senior leadership positions⁷ to 20% by 2020.

During 2013, we identified five areas to focus on, in progressing our diversity agenda:

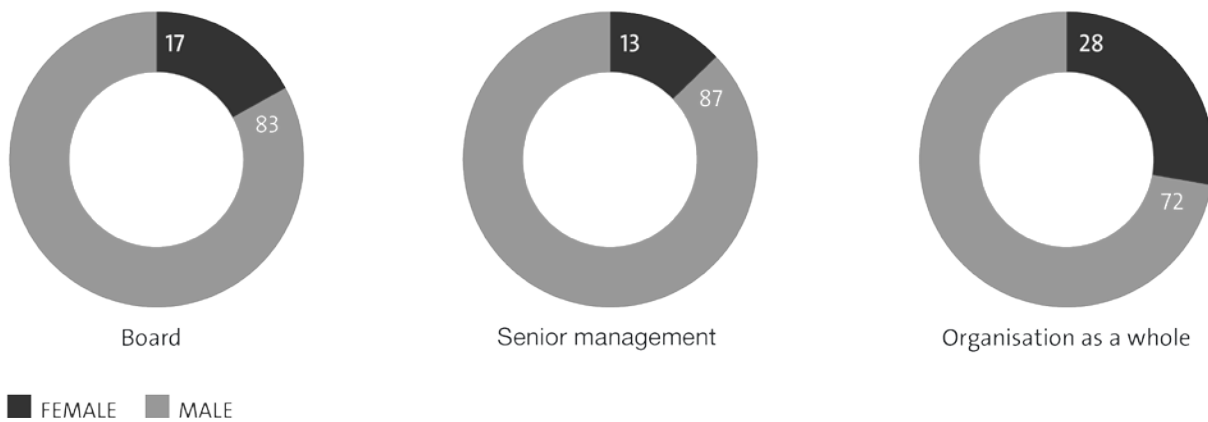
- Engaging and raising employee awareness of our position and commitment to diversity and inclusion
- Conducting further internal research to establish the barriers to gender equality in our company
- Determining if these barriers are similar for all minority groups, and if they apply at all levels in the company
- Reviewing existing policies, systems, and processes, to determine their impact on diversity and inclusion
- Exploring how to reduce the barriers to improved diversity and inclusion in the company, by providing additional support such as mentoring, coaching, training, development, and education.

In December 2013, we approved a Group-wide diversity and inclusion strategy, to achieve the aims of our diversity statement. It focuses on addressing the factors identified as limiting progression, particularly for under-represented groups, at each phase of an employee's career. We are developing our approach to monitoring other aspects of diversity, and will continue to conduct research into the factors limiting progression, both in our own business and the industry.

BOARD DIVERSITY

Our Board recognises that diversity is important for introducing different perspectives into Board debate, and for anticipating better the risks and opportunities in building a long-term sustainable business. Gender diversity remains an important aspect of achieving optimal Board balance and composition. The Nominations Committee supports the Board in this regard.

In line with the new reporting requirements of the Companies Act 2006, we disclose gender diversity at Board Level, senior management level and Group level, in our [Annual Report and Accounts](#). This information is also provided below:



DIVERSITY RECRUITMENT – CODE OF CONDUCT

In support of our diversity and inclusion strategy, we developed a diversity code of conduct for our external recruitment and executive search providers. This code is based on the voluntary code of conduct proposed by the [2011 Davies Report](#), and will set some new and specific diversity goals for candidate shortlists, on a role-by-role basis. The Code of Conduct will be included in all our recruitment contracts.

⁷ See footnote 6.

PEOPLE AND SKILLS continued

DIVERSITY RESEARCH

During the year, we commissioned a number of diversity research projects:

- We commissioned [Sheffield Hallam University](#) in the UK, to provide a research report into STEM education for girls. It produced a list of STEM education projects in the UK with a focus on girls, as well as data on female progression from school to early employment, and a summary of barriers and opportunities for women
- In partnership with organisational psychologists [Bioss Europe](#), we undertook research to improve our understanding of the factors limiting progression for women in our company. The research used a sample of 80 employees, including Board members, Executive Vice Presidents and a selection from different employee grades. The sample was made up of 14 nationalities aged 30 to 65
- We continued to provide global support and funding to our Women's Network, expanded our Early Career Professionals Network (ECPN) to Australia and the USA, and supported the introduction of a Pride network (for lesbian, gay, bisexual and transgender or LGBT employees)⁸.

We also joined the [Royal Academy of Engineering Diversity Leadership Group](#), a strategic group that brings together employers, Sector Skills Councils and other employer-led organisations that share the vision of increasing the diversity of the engineering workforce in the UK.

During the year, we piloted programmes aimed at providing targeted support to our employees, including support for dual career couples, particularly for accompanying spouses arriving in new locations (underway in Egypt, the UK and the USA). A working parents' programme will be offered in 2014 via our e-learning portal.

EMPLOYEE ENGAGEMENT

In late 2013, we surveyed employees for their views on BG Group. We aim to develop action plans to respond to the survey findings.

In 2013, we established a programme which analyses employees' views on key topics using techniques such as online surveys, focus groups, and telephone and face-to-face interviews. We also piloted employment satisfaction surveys in some parts of the Group. From 2014, we expect to survey 25% of our employees and contractor personnel regularly.

[Read more about our employee engagement during 2013](#)

REMUNERATION

The Remuneration Report, in our [Annual Report and Accounts](#), sets out how we ensure our remuneration policy is aligned with shareholders' interests. Our remuneration policy is designed to attract, retain and motivate our employees. We benchmark our employees' salaries against the market, irrespective of the employee's gender.

During 2013, we continued to offer share plans for our employees globally, wherever reasonably permitted by local regulations. Globally, 67% of eligible employees participate in some form of share plan and have received share awards. From this population, in the UK alone, 97% of eligible individuals participate in at least a share plan, and have received share awards.

[Read our Remuneration Report 2013 for more information](#)

Many of our people choose to give up their time to help local communities, on a voluntary basis. We support and encourage activities that allow our people to get involved with charities and other organisation and to make a personal contribution to their community.

An example of this kind of activity was our Human Resources Community day.

⁸ The Women's Network offers an opportunity for female employees to meet, discuss and hear talks from internal and other speakers. It aims to encourage and enable women to succeed in the company. ECPN brings together employees who have been in the energy industry for less than seven years, to help them build networks and share knowledge. BG Pride aims to maximise the business contribution from LGBT employees, by providing empowerment and support. It is open to all employees interested in helping us build a global culture where diversity and difference are encouraged. We also have a diversity network, which provides a platform for us to discuss diversity challenges our industry faces, share internal and external research, and discuss ways to advance our diversity and inclusion agenda. All these networks are designed to support our aim of creating a culture where different perspectives are encouraged and considered.

PEOPLE AND SKILLS continued

HUMAN RESOURCES COMMUNITY DAY

In May 2013, members of the human resources team took time out to support charities in the communities where we operate. This was the second annual Human Resources Community Day, allowing human resources staff to work together, as one team, and support communities where we work.

- In **Australia**, we partnered with Connect, a local organisation which helps people affected by natural disasters, homelessness, and domestic hardship. The team helped to sort donations, pack gift parcels and clean a retail store
- In **Bolivia**, our staff painted and cleaned up an orphanage. We donated food, toys and clothing, brought in mobile hairdressers to offer haircuts, and raised money for a new bread oven
- In **Brazil**, we organised a trip for children to visit the local planetarium, and helped them to put on a science fair to showcase what they had learned during the day. The aim was to develop the children's curiosity about the sciences
- In **China**, we organised clean-up activities to help improve the neighbourhood and environment around our Shenzhen office
- In **Egypt**, we worked with a food bank to help pack food parcels for villages in need. The team packed almost 1 000 boxes and delivered around 300 parcels to communities on the outskirts of Cairo
- In **India**, we worked with Mumbai Mobile Creches, which runs day-care centres for underprivileged children. The team spent the day with 70 children at one crèche and got involved with dancing, drawing and craft making. We also collected donations from employees and sponsored a special lunch
- In **Kazakhstan**, we worked with the Astana Society of Disabled Children to help clean up and plant trees at a local children's sports ground
- In **Tunisia**, our team spent the day at SOS Children's Village in Gammarth, which supports orphaned, abandoned and disadvantaged children. We carried out gardening work, planted flowers and helped to clean up the village
- In **Trinidad and Tobago**, we partnered with a number of organisations this year, including a young boys' orphanage and a dyslexia association in need of help with a succession planning process
- In the **UK**, a team spent a day at [Action for Children's](#) Aberdeen-based family service centre, and helped transform the overgrown garden into a safe area for children to play. We also spent a day at the Royal National Lifeboat Institution's Aberdeen harbour facility washing lifeboats, painting, and helping with maintenance. We worked with [Dress for Success](#), a charity which helps support disadvantaged women by providing professional attire, a support network and career development
- In the **USA**, as in the UK, we partnered with Dress for Success. The team helped to sort and organise donations and worked with clients to prepare for interviews



Member of our Egypt HR team packs food parcels at a food bank

At our Group headquarters at Reading in the UK, we worked with three local community-based projects:

- **Food4Families** – the team worked with an organisation which tries to get parents and children to grow their own food together. We helped a local school to establish a food-growing area
- **Dinton Pastures** – the team helped to develop and clear footpaths in the local nature reserve, which is visited by over 5 000 school children annually
- **Reading College** – the team assisted students at the local college with coaching, interview skills, and advice on preparing for a job search.

OUR LOCAL CONTRIBUTION



OVERVIEW

Key ways in which we contribute to countries where we work are: paying local taxes, employment, the use, development and training of local services and suppliers, and investment in local infrastructure and social programmes, including social investment. The table below shows the direct economic value we generated and distributed in 2013, across all our operations.

Direct economic value generated (US\$ million)^a					
	2013	2012^b	2011^b	2010^b	2009^b
Revenue and other operating income	19 311	19 200	17 849	13 710	13 167
Total operating profit	3 667	6 194	6 976	4 892	5 198
Operating costs	(11 827)	(11 355)	(10 459)	(8 485)	(7 755)
Finance costs	(114)	(138)	(34)	(51)	(100)
Dividends paid	926	847	760	684	633
Taxation	(1 684)	(3 052)	(3 134)	(2 007)	(2 296)
Employee costs	(1 048)	(1 359)	(1 271)	(1 134)	(963)
Social investment	17.9	27.2	11.5	6.0	3.6

^a See our [Financial Statements](#) for more information.

^b Certain income statement items have been restated in respect of the adoption of the amended IAS 19 relating to defined benefit pension obligations. For further information see the [2013 Annual Report and Accounts](#).

We support transparent reporting of the local impact of energy revenues. We reviewed the new Accounting Directive approved by the European Parliament in June and prepared to comply with this. We supported the Extractive Industries Transparency Initiative (EITI) and made a financial contribution to its International Secretariat. We took action to support implementation of EITI in Honduras, Trinidad and Tobago, and the UK.

OUR LOCAL CONTRIBUTION continued

We created 284 new jobs¹ and, at the end of 2013, we had 5 422 employees. We made some substantial investments in infrastructure, notably the upgrade of Mtwara Port in Tanzania, and the upgrade and maintenance of roads in Queensland. We made voluntary social investments totalling around US\$16 million. We worked closely with many suppliers, and provided training and development opportunities to companies, including indigenous companies in Australia and local businesses in Tanzania. We strengthened our [Contracts and Procurement Standard](#), and rolled out internal guidelines, to help protect our supply chain from risk.

REPORTING TAX PAYMENTS TO GOVERNMENTS

In June 2013, the European Parliament and Council approved a new [Accounting Directive](#) (2013/34/EU). Chapter 10 of the Directive introduces a requirement for listed and large non-listed extractive and logging companies to report all material payments to governments (notably, taxation payments), broken down by country and by project, when these payments have been attributed to a specific project.

We support the UK Government's commitment to a fast-track transposition of Chapter 10 into UK law. We understand they intend to introduce the necessary legislation in 2014, and this will require that the first reporting period is 2015, for publication in 2016. We expect to be ready to comply by this date.

In 2012, we set up an internal working group to look at the emerging directive, understand the compliance requirements, and develop our approach. In 2013, we took this forward with a review of legislation in our countries of operations, to understand any legal impediments to compliance, mapping our operations against the Chapter 10 definition of a project, and engaging with finance teams in our operations to understand local compliance issues.

During the year, we also engaged with the [UK Department for Business, Innovation and Skills](#) (BIS), and NGOs, on the overall topic of transparency of tax payments. We participated in meetings convened by BIS, both for industry representatives and for industry and NGO representatives. We also participated in the [G8 Open for Growth](#) trade event on 15 June 2013, which focused on tax, trade, and transparency. At the event, the G8 and 15 developing countries agreed to work together, to make sure that the poorest people benefited from their countries' natural resources, by improving the transparency of their extractive industries and land rights. Private sector and civil society are also backing these partnerships, and we committed to supporting the partnership with Tanzania.

EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE

The [Extractive Industries Transparency Initiative](#) (EITI) is an international standard for the disclosure of tax payments by extractive companies, and receipts by governments. We continued our support for EITI during 2013, including making a financial contribution to the International Secretariat.

In particular, we supported implementation of EITI in Honduras, Trinidad and Tobago, and the UK. In all three countries, we are an industry representative on the EITI multi-stakeholder group which runs the EITI process in individual countries. Honduras was accepted as a candidate in May, and Trinidad and Tobago published its first report in September. The UK has formally yet to apply for candidacy, but has announced its intention to do so. In the UK, we wrote to the Prime Minister advocating UK candidacy. We also contributed to the [EITI Business Guide](#) published in May 2013.

[Read more about BG Group and EITI](#)

¹ The figure for jobs created is based on a core headcount of 5 138 at 31 December 2012 and a headcount of 5 422 at 31 December 2013. The 2012 year end figure excludes employees at Gujarat Gas, which was subsequently sold, to give a like-for-like comparison.

OUR LOCAL CONTRIBUTION continued

EITI reporting in 2013 (US\$ '000)^a					
Country	EITI report published in 2013	BG data available in report	BG disclosure of total taxes paid	Government disclosure of total taxes received	Notes
Honduras	No	n/a	n/a	n/a	Gained EITI candidacy in May 2013
Kazakhstan	No	n/a	n/a	n/a	
Madagascar	Yes	No	n/a	n/a	
Norway ^b	Yes	Yes	(99)	(100)	Reported in local currency. Difference of 1 resolved
Tanzania ^c	Yes	Yes	601	601	Reported in local currency, converted at US\$1:TZS1507.70 as per EITI report
Trinidad and Tobago ^d	Yes	Yes	279 893	279 643	Report covers 1 Oct 2010 to 30 Sep 2011 Discrepancy due to different exchange rates used by BG Group and government

^a For current status of EITI reports, see: <http://eiti.org/countries>

^b See p35, <http://eiti.org/files/Norway-2012-EITI-report.pdf>

^c See p13, 21, 55, 63 of Tanzania EITI Third Reconciliation Report for year ended 30 June 2011, published June 2013, <http://eiti.org/files/Tanzania-2011-EITI-Report.pdf>

^d See p45 of Trinidad and Tobago Extractive Industries Transparency Initiative ("TTEITI") Report October 1st 2010 - September 30th 2011 <http://eiti.org/files/FINAL-TTEITI-reconciliation-report-2011.pdf>.

EMPLOYMENT

The jobs that we provide are a fundamental part of our economic contribution in the communities and countries where we work. We aim to create employment and development opportunities for people from communities where we operate. During 2013, we created 284 new jobs². We grew the percentage of employees hired on local terms, particularly in Australia (318 employees – an increase of 33 %), Brazil (22 employees – an increase of 11%) and Tanzania (9 employees – an increase of 38%).

[View a map of our people worldwide](#)

INFRASTRUCTURE INVESTMENTS

As well as investing in infrastructure for our core oil and gas capital assets, such as exploration and production, and liquefied natural gas (LNG) plants and associated infrastructure, we also invest in public infrastructure, which has both business and societal value. For instance, in 2013, our business in Tanzania invested in the upgrade of Mtwara's port, which will benefit existing port users, as well as the oil and gas companies who use the port as a basis for their exploration.

In Queensland, in our Australian operation, we invested A\$68.34 million on roads for local communities, and funded over A\$100 000 in repairs and maintenance works on the regional Chinchilla airport. We contributed around A\$600 000 to a weed washdown facility in the North Burnett Region, and invested in maintenance and improvement of roads used by our project. We also invested in housing in the major regions where we work, to help alleviate the housing shortage caused by the growth of industry, including the coal seam gas industry.

² See footnote 1

OUR LOCAL CONTRIBUTION continued

TANZANIA: DEVELOPING LOCAL INFRASTRUCTURE

In 2010, we became one of the first major energy companies to enter Tanzania, when we acquired interests in off-shore exploration acreage covering more than 25 000 square kilometres.

As part of our operations, we are upgrading an offshore supply port at Mtwara, and have completed a site selection process to identify the best location for our potential new LNG plant.

PROMOTING LOCAL BUSINESSES

While the development of an LNG Plant in Tanzania will not provide significant direct employment opportunities, there are opportunities to create indirect employment through business enterprises – which work to demanding international safety standards. This will not happen automatically. Local companies may need to build capability if they are to benefit from these opportunities. To address this, the Tanzanian government has approved a natural gas policy (introduced in October 2013), which includes a commitment to build local capacity and skills. We are reviewing this policy and how we can support it. Meanwhile, where possible, we are procuring local goods and services.

UPGRADING MTWARA PORT

Mtwara Port, which is owned by the Tanzanian Ports Authority (TPA), supports our activities, and those of other international oil and gas companies, with supply vessels and other services. In 2013, we continued work on a major project to upgrade the port facilities, which we are managing on behalf of TPA and other stakeholders. It includes building new facilities for the TPA and existing port users (in particular, cashew exporters), as well as infrastructure for the oil and gas companies operating locally.

We are working closely with our existing contractors to ensure that priority for employment is given to Tanzanians with the right skill sets, and that these people benefit from training and development opportunities. During 2013, the upgraded port facility employed 500 local employees on site, compared with 50 in 2009.

In redeveloping Mtwara Port we have used local suppliers where possible. For example, instead of sourcing industry standard high-specification security fencing from a South African company which had a product meeting the specification, we awarded the US\$550 000 contract to a Tanzanian company, and worked with them to develop an industry-compliant design, which is now available for future projects in the country.

In total, the port development has resulted in over US\$30 million in contracts being awarded to Tanzanian-registered companies, including construction contractors and managers, providers of security CCTV systems, and engineering design companies.

LOCAL EMPLOYMENT

During 2013, we had 33 local employees based in the country, compared with 24 at the previous year end. In addition, we have over 200 contracted supervisors, security personnel and other staff.

[Read more about our work with communities in Tanzania](#)



Supply base at Mtwara Port

OUR LOCAL CONTRIBUTION continued

SOCIAL INVESTMENT

Social investment and social programmes are an important way in which we contribute to a local economy. In 2013, we spent approximately US\$17.9 million on social investment, compared with US\$27.2 million in 2012. The higher spending in 2012 reflected one-off payments made in that year in our Queensland operations (a donation of approximately US\$5.2 million to the Gladstone Foundation to fund social infrastructure in the region, and approximately US\$6.5 million to support affordable housing in Western Downs and Gladstone). These payments inflated 2012 spending.

[Read more about social investment in 2013](#)
[Read about social investment in our approach to social performance](#)

OUR SUPPLY CHAIN

Employing and developing suppliers is an important way in which we can contribute to a local economy. As a global group operating in a technical industry, we have a long supply chain, working with a large number of specialist contractors, as well as companies supplying our offices and facilities with basic services. In response to increased stakeholder interest this year in supply chain management, and to new requirements from the [Global Reporting Initiative](#) (GRI)³, this section provides a simple overview of how this works in our Group.

Like other international operators, we classify contractors by the scale, risk, and strategic importance of their role, and by the type of work they do for us. The table below gives a high-level, indicative overview of how we segment the supply chain, depending on the demand for services in a given time period.

[For an example of our supply chain in one of our markets, see the list of contractors working for us in Queensland](#)

We analyse our contractor base in three tiers and six categories of work: capital projects, production operations, well engineering, marine, information technology, and indirect services. Contractors may move between these tiers, depending on our planned activities.

- Tier 1: Major, global contractors working with us on strategic projects (approximately 30 at any one time)
- Tier 2: Contractors who provide essential services or materials (approximately 50 at any one time)
- Tier 3: Other contractors (several thousand).

Overview of key segments in our supply chain, with examples of the types of contractors we work with in each category

	Global contractors	Essential services and materials contractors	
	Tier 1	Tier 2	Other contractors Tier 3
Capital projects	Engineering, procuring and constructing major onshore and offshore production facilities	Constructing facilities that support production	Minor civil works
Production operations	Long term service agreement for rotating equipment	Supply of maintenance and spare parts for production facilities.	Supply of pipework and fittings for production facilities
Marine	Engineering, procuring and constructing a marine vessel	Drilling support marine vessels	Ad hoc marine transportation
Well engineering	Well site cementing services	Seismic survey data processing	Earthmoving services for drilling pad construction
IT	Information security	Systems consultancy	Network maintenance
Indirect services	Global contract personnel supply services	Aviation services	Catering and cleaning services

³ The latest GRI framework, G4, places increased emphasis on mapping the supply chain. We are not currently reporting against G4, but acknowledge the direction of travel.

OUR LOCAL CONTRIBUTION continued

MANAGING THE SUPPLY CHAIN

We use a number of different contracting approaches, depending on the nature of the work and the best method for contracting this, taking into account market capability, risk, and other internal and external factors.

This means, for example, that when we contract with a major international specialist in LNG plant construction, they will manage the many subcontractors involved in this project. As experts, they are best placed to do so. Our role is to consider and agree how this contractor meets our own standards and due diligence requirements, to ensure our Business Principles are not compromised. We will, however, work alongside our major contractors to monitor safety performance during construction.

In other areas, such as well engineering or drilling, we typically contract directly with a wider range of suppliers. For example, in contracting a drilling rig, core services such as crew, catering, and maintenance may be included with the drilling rig, but other services and equipment necessary for the drilling operation may be contracted separately. Bridging agreements may be put in place to ensure each contractor's operations interact effectively with others operating on the drilling rig, especially in relation to emergency and evacuation.

We may also contract directly where this makes most sense locally. This depends on market availability and other local factors. For example, in our upstream gas developments in Queensland, we manage a range of individual contractors who support our business, because this is the most effective approach for us in this market.

RISK MANAGEMENT

The reputational risks of failing to manage the supply chain were in the public eye during 2013, as companies in a range of sectors including retail, food, and drink were revealed to have suppliers who were failing to meet their human rights, health or environmental standards.

We recognise the importance of supply chain management and look at every contract to assess potential social performance, human rights, HSSE, and ethical conduct risks. We expect our suppliers to cascade our approach, including our Business Principles and the specific related requirements of the individual contract, through their supply chains, as part of their obligation to fulfil their contract with us.

If we think a supplier's own supply chain may present human rights, HSSE or ethical conduct risk, we will investigate further. When we wish to contract with a supplier for commercial reasons, but have identified gaps in their approach to risk management, we will work with the supplier to close that gap. We manage contracts that have significant residual risk, using contract management plans and key performance indicators where appropriate.

This approach is set out in our [Contracts and Procurement Standard](#), which includes a requirement to identify and assess human rights risks and, if necessary, to appropriately mitigate and manage any residual risk. All contractors are subjected to the [Dow Jones Watch List](#) tool, a global database that helps to identify risk in a customer base. If a red flag is raised against a contractor, use of that contractor is blocked till the flag is cleared. For strategic and operational contracts, tender documents include questions related to human rights risks.

In 2013, we strengthened the Contracts and Procurement Standard with a requirement for our operations to plan and conduct supplier audits on a risk basis, agreeing this list with the Group. While we already conduct supplier audits, these changes, which were live from 1 January 2014, further formalised our approach. Early in 2013, we rolled out our 'Identifying and Managing High Risk (Key) Contracts Guideline'⁴ to our operations, holding a number of workshops in response to requests, including in East Africa, Egypt, and the UK at one of our outsourced procurement services providers. This guideline relates to HSSE, social performance, ethical conduct and human rights risks and includes a risk library, as well as detailing the steps required throughout the contracting process.

When selecting an outsource service provider, we typically conduct an HSSE, human rights, and ethical conduct assessment of that provider. An example of this was our visit to a potential call centre in India, where we toured the site and reviewed issues such as labour conditions and human rights, the social support given to employees, how HSSE is managed, working hours, and the evacuation procedure. In reviewing providers, we targeted only reputable organisations that had been pre-screened on our behalf. Employers we saw strove to provide a high level of infrastructure and support to employees, including medical and welfare support and employees typically held degrees or similar qualifications.

⁴ Guidelines were rolled out to Contracts & Procurement and HSSE personnel, and to some Group functions, who were expected to cascade to their personnel.

OUR LOCAL CONTRIBUTION continued

BUILDING LOCAL CAPABILITY

An important way in which we can provide enduring benefit to the countries where we operate is by helping to support and build capability among local suppliers to our industry.

Government and industry approaches to supporting local companies vary widely. In Aberdeen, for example, where the UK North Sea upstream industry is concentrated, there is a well-established and self-regulating market, and the industry takes a proactive role in developing contractors. In other markets, the government may be more directive and public sector companies may play an important role.

Increasingly, governments recognise the importance of developing their local supply chain and are likely to ask us to fulfil specified obligations to build 'local content'. In Brazil, for instance, the government has a local content policy and places specific requirements on the expanding oil and gas industry to subcontract to local companies.

Where using local companies is not mandatory, we generally still use local suppliers where they are suitable and competitive. Even in other circumstances, we may still use local suppliers because of the practical advantages that a local company offers.

We develop a procurement approach suitable for each location. This takes into account the political and social context, as well as commercial considerations.

2013 gross expenditure with suppliers, by country (US\$ million) (primarily BG Group-operated exploration and production operations)^a

	Australia	Brazil	Canada	Egypt	India	Norway	Tanzania	Trinidad and Tobago	Tunisia	UK	USA	Other ^c	TOTAL
Payments to suppliers	7 752	51	61	254	390	519	578	427	196	948	220	62	11 458
Of which local suppliers	7 341	49	45	170	227	487	354	168	111	613	193	31	9 790

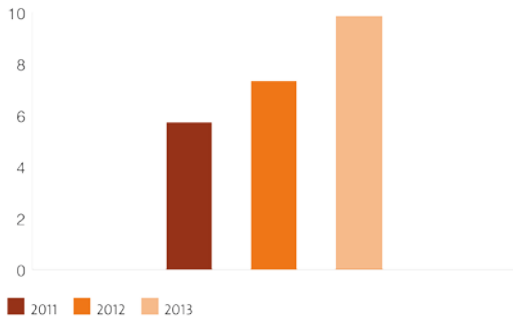
^a The figures shown are compiled from our accounts payable records, which classify vendors by type. Figures are for unaudited, gross, invoiced spend and do not include all spending on our behalf. Spend covers only those contractors with whom we contract directly, and for whom we have records in our system. We include here spending on behalf of our joint venture partners in operations where we have the majority interest. We do not include spend by non-operated or joint venture operations in which we have an interest, but where we do not fully control the procurement process. Figures are shown for countries with total spend over US\$50 000 000.

^b 'Local' suppliers are either national companies, or international suppliers which are tax registered and have core facilities/infrastructure relevant to the scope of work/services located within the country in question.

^c Other includes Algeria, Bolivia, China, Kazakhstan, Kenya, Nigeria, Singapore, and Thailand.

OUR LOCAL CONTRIBUTION continued

Spend with local suppliers 2011-2013
(US\$ billion)



TRINIDAD AND TOBAGO: PROMOTING LOCAL BUSINESS

The oil and gas industry in Trinidad and Tobago is mature, with many well established and competitive local and international suppliers. There is a wide range of local suppliers providing, for example, well engineering services, engineering, fabrication, logistics services, operations support and maintenance, inspection services, IT and other business services.

Given this maturity, our focus in Trinidad and Tobago has been to work with suppliers to improve their performance and their local and regional competitiveness. We also support and leverage industry bodies to help local suppliers to compete for business.

We have helped to encourage and support local businesses by:

- Working with the Energy Chamber of Trinidad and Tobago to help suppliers compete for business, for example, through a certification process which avoids repeat supplier prequalification
- Consulting with the local community on work opportunities
- Collaborating with key suppliers to improve their performance, for example by developing key performance indicators and various improvement techniques to develop and sustain local capabilities.



Working with local contractors in Trinidad and Tobago

OUR LOCAL CONTRIBUTION continued

AUSTRALIA: WORKING WITH LOCAL SUPPLIERS

OVERVIEW

Queensland, Australia, is the home of our largest operated capital project, the [Queensland Curtis LNG Project](#) (QCLNG).

This project involves exploring for, and producing gas in the Surat Basin in southern Queensland, constructing a major LNG plant on Curtis Island near Gladstone, and building a 540-kilometre pipeline network (completed during 2013). Recruitment and training for the project is targeted at regions where we have operations. We are now a significant employer of local people and offer many indigenous employment opportunities. In 2013, the total number of people working for us and our major contractors passed 14 500, with an average of 15 people hired every day.

LOCAL SUPPLIER OPPORTUNITIES

A wide variety of businesses provide goods and services to our business. We are committed to ensure that local suppliers have full, fair and reasonable opportunity to participate in our supply chain. During the construction phase, and also in particular areas of ongoing development and operations, the technical and geographic scale of our work requires large, experienced construction contractors to undertake much of the work. They, in turn, offer subcontracting opportunities to local suppliers where possible. Large contractors' agreements with us include conditions around local content.

Local businesses provide many of the goods and services we require, from vehicles, fences and air conditioners, to civil engineering, earthworks, and maintenance and camp operations services.

During 2013, we invested US\$7.3 billion with Australian suppliers, compared with US\$4.9 billion in the previous year.

PROGRESS REPORTING: 2010 - SEPTEMBER 2013

Our latest report to the Queensland Coordinator-General on Australian industry participation sets out our progress from the start of 2010 to the end of September 2013. It showed that:

- We had invested A\$16.3 billion (US\$15.6 billion) - or 84% of our Australian operations' total expenditure to date - in Australian businesses
- Queensland firms had received 68% or A\$13.2 billion (US\$12.7 billion) of our spending
- There have been more than 118 000 instances of Australian businesses registering to provide goods and services to our Australian operations or its principal contractors⁵.

[Read more about our strategy and commitment to working with local suppliers in Queensland on our website](#)
[See examples of our local Australian suppliers on our website](#)

INDIGENOUS PARTICIPATION

We increased the number of Aboriginal and Torres Strait Islander⁶ people employed on our QCLNG Project. By the end of September 2013, we had 251 indigenous people working with us and our major contractors – up from 63 two years ago. We had engaged 16 indigenous businesses to supply goods or services, amounting to a total value of approximately A\$25 million dollars. To achieve this, we depended on forming strong relationships with stakeholders, including industry skills training organisations and traditional owner groups.

Indigenous Workstars

During 2013, we worked with [John Pearson Consulting](#), a Queensland-based organisation providing training and services to support the regrowth of indigenous economies and communities. John Pearson's [Indigenous Workstars](#) programme aims to connect employers and indigenous workers. Candidates that register with Indigenous Workstars are rigorously assessed so employers can be assured that they are referred for jobs for which they are appropriately skilled. The programme also helps prepare candidates for job interviews. Through Indigenous Workstars, we interviewed and screened 865 applicants.

[Read more about how we work with indigenous communities](#)
[Read a case study on working with Muddy Waters, an indigenous company in Queensland](#)



Tradespeople, suppliers, and other businesses at our Australian operation's annual contractor and local business forum in Chinchilla

⁵ This includes instances where suppliers have chosen to register on multiple occasions or with more than one contractor.

⁶ Torres Strait Islanders are the indigenous people of the Torres Strait Islands, part of Queensland, Australia.

WORKING WITH COMMUNITIES



OVERVIEW

During 2013, we conducted social impact assessments in a number of countries. In Canada, where we are evaluating the option of building a liquefied natural gas (LNG) project in British Columbia, we conducted research to understand the potential impacts of the project, including socio-economic baseline studies and environmental field studies. In Tanzania, where we are similarly in the early stages of assessing an LNG opportunity, we evaluated possible sites against technical, social, and environmental criteria. We engaged with indigenous people in Australia, Bolivia, Canada and Honduras.

We invested in a range of social programmes in the countries where we work, on a voluntary basis. During 2013, we signed a global partnership agreement with Youth Business International (YBI) to foster youth entrepreneurship, employment, and economic growth in countries where we work. We also continued to run programmes to promote skills and build employment in Australia, Tanzania, and Tunisia, and to promote science, technology, engineering, and maths (STEM) education in Brazil, Kazakhstan, Trinidad and Tobago, and the UK.

- > [Read more about our approach to managing social performance and to social investment](#)
- > [View our social performance data for 2013](#)
- > [View our targets for 2013](#)

YOUTH BUSINESS INTERNATIONAL PARTNERSHIP

Large scale youth unemployment is an important issue in many of the countries where we work. In 2013, we announced a new global partnership with [YBI](#), an international network of NGOs that helps young people to start their own businesses. The partnership aims to foster youth entrepreneurship, create new jobs, and promote economic growth in countries where we work

For us, the partnership recognises the importance of creating jobs beyond our own business. Through it, we expect to invest at least US\$16 million over five years. We also aim to help 15 000 young people around the world to start up their own business. We estimate these new enterprises will generate an additional 45 000 jobs after the five years of investment. The partnership, which is the first that YBI has developed with an energy company, represents the largest multi-country investment in the YBI network by a private organisation to date.

Initially, we will support entrepreneurs in at least five of the countries where we operate. We will also support existing YBI member organisations, such as the [Canadian Youth Business Foundation](#), as well as countries where the YBI network does not yet have a presence, like Tanzania. During 2014, we will work closely with YBI network members to develop youth entrepreneurship projects that address local development priorities. The global nature of the partnership will mean we can transfer lessons across geographies.

WORKING WITH COMMUNITIES continued

CANADA

We are in the process of evaluating an option to build an LNG facility on Ridley Island near Prince Rupert, in British Columbia. If the project goes ahead, we expect it to generate around 3 000 jobs during the construction phase, and a significant number of permanent positions and sector-related jobs when fully operational.

During 2013, we conducted research to identify and understand the social impacts of the project, including socio-economic baseline studies and environmental field studies. We held early meetings with key stakeholders, including fishermen and other marine operators, as well as a range of town hall and one-to-one meetings with community representatives. This provided us with a foundation of understanding of these stakeholders' concerns, which will help us manage these, as and when the project moves forward.

FIRST NATIONS

The Prince Rupert LNG Project is in Tsimshian¹ traditional territory. If approved, the project aims to bring employment, training, and contracting opportunities to local First Nations (indigenous) communities. During 2013, we worked with the First Nations groups in the Tsimshian territory to develop studies on traditional knowledge which is relevant to the environmental assessment, planning, and design of the project. We also started early discussions to develop benefit-sharing agreements with First Nations groups within our operating area, in recognition of their rights and title.

[Read more about our approach to working with indigenous people](#)

CANADA: HELPING TO SPUR YOUTH ENTREPRENEURSHIP

Our partnership with the [Canadian Youth Business Foundation](#) involves promoting entrepreneurship and business development, in association with Youth Business International. The five-year programme focuses on the northern and rural regions of British Columbia and First Nations communities, based near our planned [Prince Rupert LNG Project](#). Through it, we expect to contribute US\$5 million to support, champion and mobilise young and emerging entrepreneurs from 18 to 39 years of age.

At the launch of the partnership, Julia Deans, Chief Executive the Canadian Youth Business Foundation, said:

“This will help young people in First Nations and other British Columbian communities gain greater access to the financing, mentoring, resources and skills they need to launch businesses, create jobs, and drive economic prosperity and growth.”

Deputy Premier and Minister of Natural Gas Development Rich Coleman said:

“BG Group is investing directly in the future of our northern communities. This is the first of many social benefits we expect to see as a result of liquefied natural gas development.”

[Read more about our partnership with the Canadian Youth Business Foundation](#)



Chief Executive Chris Finlayson at the signing of our partnership with YBI

¹ Tsimshian are indigenous peoples of the Pacific Northwest Coast, with communities in British Columbia and Alaska, around Terrace and Prince Rupert and on Annette Island.

WORKING WITH COMMUNITIES continued

TANZANIA SITE SELECTION

In 2013, in collaboration with Statoil, we conducted a comprehensive study to evaluate the technical feasibility, and the potential environmental and social impacts of six possible sites for an LNG facility along the Tanzanian coastline. The site selection process was conducted in line with national legislation, international environmental and social standards as defined by the [International Finance Corporation](#), and our own environmental and social standards. We focused on selecting the site which would minimise significant adverse risks and impacts, and would best enhance potential benefit to people, the environment and Tanzanian society.

It was conducted with the help of recognised Tanzanian and international experts, and followed an initial stakeholder engagement process in the villages which would be potentially affected. The site proposed requires limited physical and economic resettlement (compared to other sites).

BUILDING CAPACITY AND SKILLS

The Tanzanian government aims to leverage any LNG development to build national education, skills and employment. We also recognise that we have a role to play to enable Tanzanians to benefit from the opportunities from such a development. However, only limited numbers of Tanzanians currently have the right technical skills to work in the gas industry.

To address this, we are putting in place a programme, informed by our research and analysis,² to support the government and private sector to build the capacity and skills needed for the project – many of which will also be needed by other sectors. Our approach will be to support the national education system, at each of its three key stages, to build these skills.

Our three-step approach to building skills and capacity in Tanzania



This approach means we can build long-term capability, rather than just addressing the short-term labour needs of our project, and can make a sustainable contribution to the education system in Tanzania.

Secondary school education

Qualifications in science disciplines are typically important for careers in the gas industry. In 2013, we continued to support [READ International](#), which provides books and curriculum materials to secondary schools, particularly in the science subjects. It also provides teacher training, mentoring, library system development and support, to enable effective use of these materials.

We expanded support for [Young Scientist Tanzania](#), an organisation which helps young people relate school science to real world science questions through a national science competition. The first competition was held in 2012, with some 100 schools from several regions participating. The project was extended in 2013, to include the Mtwara and Lindi regions in south eastern Tanzania, where our operations are based.

Technical and vocational education

Vocational training is a government priority, and we have made it the central emphasis of our capacity-building programme.

During 2013, we worked with [Voluntary Services Overseas](#) (VSO) and an independent consultant from Stow College in the UK, to review the Tanzanian vocational education training system. This helped us to understand its capability to provide training in energy sector skills to international standards, and so address any gaps.

² A preliminary assessment of the macro-level economic and socio-economic impacts of a potential off-shore LNG project in Tanzania, Oxford Policy Management, February 2013.

WORKING WITH COMMUNITIES continued

In November, we jointly organised a strategic workshop with the [Ministry of Education and Vocational Training](#), the [Vocational Educational Training Authority](#) (VETA), and VSO to present the findings of this review. More than 60 representatives from government, the private sector and donor partners (such as the [African Development Bank](#), and the [UK Department for International Development](#)) attended, as well as NGOs. The workshop helped shape a collective view on how to bring the standards of oil and gas related technical and vocational education and training in Tanzania, to international standards. Output from the workshop is being fed into a plan which we are developing jointly with the Tanzanian Ministry of Education and Vocational Training and VETA. This plan is then due to be adopted by the Ministry, which can use it as the basis to attract funding from donors.

TANZANIA: STRENGTHENING EMPLOYMENT SKILLS

In 2013, as part of our approach to providing technical and vocational training, we supported a project to help young people in the regions of Mtwara and Lindi in south eastern Tanzania build skills for employment, with a particular focus on the gas industry and related services.

The project, [Enhancing Employability through Vocational Training](#), aims to raise standards in trade professions such as plumbing, welding, carpentry, motor vehicle, electrical installation and catering. It is a partnership between:

- The Tanzanian Vocational Education Training Authority (VETA), a national organisation which provides vocational education and training
- The international development organisation Voluntary Services Overseas (VSO)
- Our business in Tanzania.



VETA Lindi students in a workshop

Over the two years of this project, from 2012 to 2014, VSO has been providing experienced technical advisers or tutors, who train local teachers to teach students in line with international standards at VETA vocational training centres in Mtwara and Lindi.

The long-term aim is that the teachers trained through this programme will pass on their learning to others in the teaching profession, so that southern Tanzania can produce a steady stream of qualified craftsmen and teachers, and provide a sustainable benefit for the people of Mtwara and Lindi, as well as the gas industry.

As well as training both VETA teachers and students, the VSO technical advisers are improving VETA training institutes, so that they meet international standards.

WORKING WITH COMMUNITIES continued

TANZANIA: HELPING YOUNG PEOPLE START THEIR OWN BUSINESSES

During the year, we launched a three-year partnership with [Africare](#), an NGO which provides development services to communities, to implement a Youth Economic Empowerment and Livelihoods Programme in Mtwara. The partnership aims to help 1 500 unemployed or underemployed young people over a period of three years.

The programme provides support to young people seeking to develop their own businesses in various sectors, including the service industry, fishing, beekeeping, poultry, and horticulture. It helps young people initiate savings and loan clubs, such as village community banks, that can help them get access to capital.

It also works with local institutions to provide tailored training courses in business management, and helps young entrepreneurs develop products and services that link to local markets.

The programme will build and strengthen existing links with local government authorities, the private sector, NGOs, and other institutions in the Mtwara region, that can provide support to young entrepreneurs beyond the life of the project.



"Thank you to our sponsors"

WORKING WITH INDIGENOUS PEOPLE

During 2013, we worked in and near indigenous lands and territories in Australia and Bolivia, where we have an established presence, and in Canada and Honduras, where we are conducting exploration and project development activities.

AUSTRALIA

We are developing our largest-ever operated capital project, the Queensland Curtis LNG (QCLNG) project. This involves exploring for, and producing, coal seam gas in the Surat Basin, constructing a major LNG plant on Curtis Island near Gladstone, and building a 540-kilometre pipeline network to take gas from our field sites to Gladstone.

The project represents an expected investment of over US\$20 billion between 2011 and 2014. It is expected to create more than 5 000 full-time jobs on average, during each year of construction, until 2014, and up to 1 000 during operation. It is also expected to add about A\$32 billion to the Queensland economy in its first 10 years.

[Read more about our QCLNG project and our social investment in Queensland](#)

Our operations take place in territory that is owned or inhabited by a number of indigenous peoples. In total, we have eight indigenous [land use agreements](#) that detail native title and cultural heritage responsibilities with Traditional Owner Groups in Australia. These agreements are with people from the Aboriginal groups: Mandandanji, Bigambul, Iman, Wulli Wulli, Wakka Wakka, Barunggam, Cobble Cobble, Jarowair, Western Wakka Wakka, Yiman, Port Curtis Coral Coast, and Gangulu and Warrabal.

Working with contractors

By the end of September 2013, we employed 251 indigenous people on our QCLNG Project, mainly through our primary contractors, who have a relatively larger workforce. In total, our business in Australia, and its contractors, are working with 16 indigenous businesses, with a combined contract value of more than A\$25million.

We add contract clauses to larger contracts that require our contractors to develop indigenous participation plans, provide training, skills development and support, as well as supporting contractors to develop and implement partnerships to increase indigenous participation. In 2014, as our construction activities decrease, we will work with our contractors to try to find alternative employment for indigenous Australians.

WORKING WITH COMMUNITIES continued

RBY Projects

Our largest single contract with an indigenous business is our A\$13.3 million contract with [RBY Projects](#), a civil works company that is rehabilitating well pads and access roads across our upstream coal seam gas development in the Surat Basin. This is also the largest single contract with an indigenous business in Queensland. The two-year contract will see RBY expand its business, adding approximately 30 employees and new equipment. RBY expects to hire new staff from Traditional Owner groups within our operational footprint. Training for new employees will include complex civil construction disciplines, providing them with future opportunities and career progression. Our indigenous relations team will support RBY, for example, in the area of recruitment and training, and will communicate regularly with the company to help it achieve its goals.

AUSTRALIA: RECONCILIATION ACTION PLAN LAUNCHED

In November 2013, we launched a Reconciliation Action Plan³ as a public statement of our commitment to support Australia's reconciliation efforts with indigenous peoples.

The plan identifies measurable targets for improving sustainable economic and social opportunities, and strengthening relationships with Aboriginal and Torres Strait Islanders⁴. It builds on our Indigenous Land Use Agreements with Traditional Owner groups in our areas of operation.

As part of the Reconciliation Action Plan, we will provide training in cultural awareness, and engage regularly with Aboriginal and Torres Strait Islander employees and communities. We will also help existing and emerging indigenous businesses, and develop strategies to attract and retain indigenous employees.

Our indigenous employees were involved in developing the plan, with 19 Aboriginal and Torres Strait Islander staff forming the core of a working group. [Reconciliation Australia](#), the NGO responsible for promoting reconciliation programmes nationally, accepted the plan. It was also independently reviewed by the University of Queensland's [Centre for Social Responsibility in Mining](#).

The plan covers the period between 2014 and 2015. It will be followed, in 2016, by a second plan. We will report on our progress annually.

At its launch, Derek Fisher, Managing Director of our Australia business, said:

"I feel strongly about this plan for two reasons: it reflects our approach to dealing with indigenous peoples, and it identifies and commits us to opportunities for closer and more comprehensive engagement with Aboriginal and Torres Strait Islanders."

[Read more about our Reconciliation Action Plan in Australia](#)

Video

[Reconciliation Action Plan](#)



³ RAPs are business plans developed by organisations in association with Reconciliation Australia under its Reconciliation Action Plan program see <http://raphub.reconciliation.org.au/about/>.

⁴ Torres Strait Islanders are the indigenous people of the Torres Strait Islands, part of Queensland, Australia.

WORKING WITH COMMUNITIES continued

HONDURAS

We signed an operating contract in Honduras in April 2013. This came into force in July. Our initial activity in the country will be to review exploration data and conduct surveys.

Indigenous consultation

The area covered by our licence for exploration, known as La Mosquitia in eastern Honduras, is home to a number of indigenous communities. In August 2013, we signed an agreement to implement a consultation process with the government and [Moskitia Asla Takanka](#) (MASTA), the political representative organisation for the Miskitu, the largest indigenous group in the area.

We conducted this consultation in accordance with [ILO Convention 169 on Indigenous and Tribal Peoples](#). It was also designed to adhere to the principles of being ‘free, prior and informed’. The consultation began with a meeting with approximately 70 MASTA leaders, during which we provided information on our planned activities, and potential impacts on environment and fishing communities.

MASTA then translated information materials into the Miskitu language, and conducted meetings at each of 12 local territorial councils, after which we met representatives from all the territorial councils to discuss remaining concerns. We subsequently received a formal letter from the Miskitu verifying that our consultation with them met the convention’s requirements.

Our approach was informed by an initial scoping study, designed to build our understanding of the socio-political environment in Honduras. This study laid the groundwork for a more detailed socio-economic baseline study to follow in 2014.

[Read more about our human rights engagement with the military in Honduras in 2013](#)

BOLIVIA

Our business in Bolivia operates in the territory of the Weenhayek indigenous community. The Weenhayek have traditionally been dependent on the environment for their livelihood, principally through fishing on the Pilcomayo River, which runs through Argentina, Paraguay and Bolivia. In 2011, the construction of a dam along the Argentina and Paraguay border severely depleted the fish catch, underlining the importance for the Weenhayek to develop alternative livelihoods.

In 2013, our voluntary social investment activities focused on building their capacity to manage their own affairs, and to develop alternative livelihoods. We invested in projects including crop production, communal market gardens, bee keeping, and sewing, which we jointly identified with the community in workshops.

We are also building the Weenhayek’s capacity to implement their development plans. We are funding an expert organisation to provide assistance and training, over a period of four years, to help them leverage, coordinate, and prioritise development projects in their territory. This builds on our earlier work with the Weenhayek, including developing a socio-economic baseline with community consultation and their full participation. It is believed to be the first written account of the Weenhayek.

KNOWLEDGE BASE

In September 2013, we participated in an initiative on Free, Prior, Informed Consent (FPIC)⁵, run by [RESOLVE](#), a public policy dispute resolution NGO based in Washington DC. The event involved representatives from mining, oil and gas companies, and civil society organisations, and focused on challenges and needs associated with the implementation of FPIC for indigenous communities near mining, oil and gas development sites. The initiative is set to evolve in 2014, and could involve the formation of a multi-sector leadership group to develop projects, conduct research and share learning.

We also continued to work with the University of Queensland’s [Centre for Social Responsibility in Mining](#) (CSRМ), on a practical guidance document on indigenous employment, training and business development. This is intended to support the implementation of benefit sharing agreements through providing good practice in this area. We proposed and funded the guidance document, and feature in it as an industry case study. This project follows an earlier collaboration with CSRМ to produce a publication on [Agreement making with Indigenous Groups](#), which provides resource material and analysis of the challenges and opportunities of negotiating and implementing agreements with indigenous groups in Australia.

SOCIAL INVESTMENT⁶

In 2013, we spent approximately US\$17.9 million on social investment, compared with US\$27.2 million in 2012. The higher spending in 2012 reflected one-off payments made in that year in our Queensland operations (a donation of approximately US\$5.2 million to

⁵ FPIC is the principle that affected indigenous peoples should have free choice, based on sufficient and timely information concerning the benefits and disadvantages of a project.

⁶ Our social investment spend encompasses investments we make in communities that are close to, or affected by, our operations, as well as investments on behalf of disadvantaged groups in wider society. This investment is over and above any economic contribution or benefit generated as part of our routine operations, or to address any impacts from our operations. Social investment typically aims to help communities meet their development goals.

WORKING WITH COMMUNITIES continued

the Gladstone Foundation to fund social infrastructure in the region, and approximately US\$6.5 million to support affordable housing in Western Downs and Gladstone). These payments inflated 2012 spending.

In addition, our equity share in the QCLNG project was reduced in 2013, reflecting the stake in the project taken by China National Offshore Oil Corporation. This diluted our social investment, which is reported on an equity share basis.

Most of our businesses increased their social investment spend in 2013. We increased the proportion of social investment spend in our three strategic areas for investment: STEM education, vocational training, and livelihoods and enterprise development. Our strategy is to focus on long-term, strategic investment in the countries where we operate, in contrast to more traditional or philanthropic approaches to corporate giving. In 2013, we spent US\$1.6 million in total on charitable giving/philanthropy. This was 9% of our overall social investment spending.

[Read more about our approach to social investment](#)

Social investment (US\$'000s)					
	2013	2012	2011	2010	2009
Total voluntary ^a	16 089	25 432	11 484	6 328	5 575
Total mandatory ^b	1 800	1 800	1 819	2 006	3 113
Total social investment	17 889	27 232	13 303	8 334	8 688

^a Voluntary - Social investment spend that BG Group makes on a voluntary basis.

^b Mandatory - Social investment spend that is a requirement or obligation under a licence, production sharing contract or other commercial agreement with a host government.

Total voluntary social investment by theme (US\$ '000s)					
STEM education	Vocational training	Livelihoods and enterprise development		Other ^a	Total
3 857	2 165		1 895	8 172	16 089

^a Social investments that do not correspond to our strategic social investment themes.

2013 Total social investment spend by country (US\$'000s)

	Social investment
Australia	6 320
Brazil	1 971
Canada	429
Egypt	855
Kazakhstan	829
Tanzania	1 466
Trinidad	1 413
Tunisia	353
UK	1 773
Other ^a	2 481
Total	17 889

^a 'Other' includes Bolivia, Equatorial Guinea, India, Thailand, Uruguay (GCDS) and USA.

BRAZIL

We invest in STEM education in Brazil with the aim of creating a pipeline of people qualified to meet the current and future resourcing needs of the oil and gas industry. As well, we want to help Brazil meet its goal to develop a more knowledge-based economy. Our goal is to strengthen STEM capabilities right through the public education system, from early schooling through to vocational training. Our investment is focused on students and teachers in public sector education, particularly those from more disadvantaged social backgrounds, and we work collaboratively with contractors, academic and educational institutions, and local governments. During 2013, we made a number of STEM investments in Rio de Janeiro, Rio Grande, Charqueadas and Angra dos Reis, regions where we construct our floating production storage and offloading facilities, and also have some technology projects.

WORKING WITH COMMUNITIES continued

[Read more about our STEM investments in Brazil in 2013](#)

KAZAKHSTAN

We have been in Kazakhstan for 20 years, and are helping to build local services, and create employment, near the Karachaganak field, which we jointly operate through [Karachaganak Petroleum Operating BV](#). Jobs and services are in short supply in the area, particularly for women and young people. The aim of our voluntary investment programme is to respond to local concerns, by providing more support and employment opportunities directly to the communities in the nearby town, Aksai. We are particularly focused on the development of small service businesses, and on helping women and young people set up their own businesses.

[Read more about these projects in Kazakhstan](#)

We also support the [Nazarbayev University Research and Innovation System](#) (formerly the Centre for Energy Research) in Kazakhstan, which offers post-graduate scholarships, research and resources for students.

TRINIDAD AND TOBAGO

We have been in Trinidad and Tobago since 1989, and run a range of social programmes, many in partnership with governmental, non-governmental and community-based organisations. In 2013, we invested in projects in three main areas:

- Projects to engage local stakeholders and address our own impacts on society or the environment
- Projects designed to respond to national priorities
- Projects that invest in STEM education, and in livelihoods (such as agriculture or fishing).

We also invested in other projects. For example, to build the capacity building of community-based organisations. A focus during 2013 was the work we did to address issues in the fishing community, an important stakeholder for us.

[Read more about our social programmes and investments in Trinidad and Tobago in 2013](#)

WORKING WITH COMMUNITIES continued

UNITED KINGDOM

During 2013, we continued our support for STEM education in the UK. Highlights included our partnerships with the [Science Museum London](#), the [Royal Academy of Engineering](#), [Exscitec](#) (a STEM outreach organisation), and Imperial College, London. Our partnership with Exscitec delivers a number of STEM education programmes, targeting children from primary school age up to sixth form. It aims to widen access to STEM education for students from backgrounds that are underrepresented in this area at university and in careers.

Our “[Building Bridges](#)” programme with the [Science Museum London](#) provides science outreach from the museum to 18 state-maintained schools in London. This will expand to include selected schools in Reading, near our Group headquarters, in 2014.

We are working with the [Royal Academy of Engineering](#) on a project to support teacher networks across the UK with training and resources related to STEM and engineering. One of our employees also acts as an ‘industry mentor’, whom the teachers can ask for advice.

HUMAN RIGHTS



OVERVIEW

We worked to contribute to growing business awareness of human rights issues. We assessed human rights challenges in Myanmar ahead of any possible entry into the country. We continued to strengthen our relationship with the Institute for Human Rights and Business (IHRB).

We did work to support the Voluntary Principles on Security and Human Rights (VPSHR), including testing a set of key performance indicators developed in collaboration with some of our peer companies. We carried out formal VPSHR assessments in Bolivia, Kazakhstan, and our global shipping operations. We worked with the army in Honduras to promote awareness of the Voluntary Principles there.

We also worked with IPIECA, the global oil and gas industry association for environmental and social issues, to strengthen our industry's approach to human rights, and continued to develop a best-practice grievance mechanism in Tanzania. We reinforced systems to identify and manage human rights risks in our supply chain, rolling out guidance and training to our operations.

[Read about our approach to managing human rights](#)

BUSINESS AND HUMAN RIGHTS

Since the establishment of the [United Nations Guiding Principles on Business and Human Rights](#) in 2011, there has been increasing pressure on businesses to demonstrate how they manage human rights issues.

In September, the UK government released its action plan on business and human rights, '[Good Business: Implementing the UN Guiding Principles on Business and Human Rights](#)' which sets out its commitment to human rights and its expectations of UK companies in this area. During 2013, we sought to contribute to the evolution of good practice in the business and human rights field. We strengthened our framework for identifying human rights risks in our business, and reviewed our guidelines for implementing the Voluntary Principles on Security and Human Rights. We plan to issue an updated version in 2014.

We commissioned our first 'desktop'¹ human rights impact assessment of a country (Myanmar). This preliminary assessment identified four key areas of human rights risk related to potential investments offshore Myanmar: conflict, land, labour, and public security forces. It also identified approaches that we could take to mitigate identified human rights risks, in accordance with the Guiding Principles on Business and Human Rights.

During the year, we strengthened our relationship with the [Institute for Human Rights and Business](#) (IHRB) a non-governmental organisation that acts as a centre of excellence on business and human rights issues. The Institute helps companies and policy setters to find solutions in national environments where the law may be unclear, or where accountability and responsibility mechanisms may not be well defined. It supports businesses as they seek to respect and manage human rights requirements.

¹ A desktop survey draws on secondary sources without resort to direct surveys and interviews.

HUMAN RIGHTS continued

With the [Danish Institute for Human Rights](#) (DIHR) and [Oxfam America](#), we participated in a panel session at the second annual [UN Forum on Business and Human Rights](#) in December 2013. This workshop looked at stakeholder perspectives on human rights impact assessments, and explored key challenges in designing and implementing such assessments. It also looked at the roles for different stakeholders, and ways in which impact assessments can prevent or mitigate potential negative impacts from business activities.

We worked closely with the [Myanmar Centre for Responsible Business](#) (a joint initiative of IHRB and DIHR), which is seeking to understand the evolving environmental and social impact assessment requirements for oil and gas companies to bid for licences in Myanmar.

We shared the human rights impact assessment methodology we used for Myanmar with the IHRB, providing an industry perspective on how to conduct such exercises in a way that complements approaches to environmental and social impact assessments, which are more widely established. We are working with the Institute on the development of a sector-specific human rights impact methodology.

VOLUNTARY PRINCIPLES ON SECURITY AND HUMAN RIGHTS

We are a longstanding member of the [Voluntary Principles on Security and Human Rights](#) (VPSHR) initiative which provides a framework for companies to ensure security for their operations, while respecting human rights. In 2013, we:

- Submitted our annual progress report on our adherence to the Voluntary Principles to the VPSHR plenary session, hosted by the government of The Netherlands in The Hague, which we also attended
- Carried out formal VPSHR assessments in Bolivia and Kazakhstan, as well as on our global shipping operations. These assessments are carried out for operations where we have identified security and human rights risk. We regularly review and monitor other countries where we operate for human rights risk, and we conduct a formal review of our VPSHR implementation twice a year across the Group
- We volunteered to be the corporate lead for the UK government to promote the principles in **Tanzania**: a goal of the VPSHR is for member governments, supported by member companies, to promote the principles with other governments. We worked with the UK [Foreign and Commonwealth Office](#) (FCO) and [British High Commission in Dar es Salaam](#) to develop a strategy to encourage the Tanzanian government to adopt the VPSHR, and ensure responsible practices by the military when providing support to our operations. This work is still underway
- Participated in meetings with the FCO on the strategic priorities of the VPSHR, as the UK government will take on chairmanship of the Voluntary Principles initiative in 2014
- Took part in an initiative to strengthen coordination between government, NGO and company members of the VPSHR.

TESTING VPSHR KEY PERFORMANCE INDICATORS

- We participated in a voluntary working group set up to develop and test a set of key performance indicators for the VPSHR
- As part of this, we commissioned [DNV GL](#) (a third-party assurance provider) to audit our implementation of the VPSHR using these indicators. We scored 79% in this audit, with high scores on indicators related to our commitment, policies, procedures, and guidelines. The audit identified room for improvement in our formal processes for tracking and monitoring VPSHR implementation. The VPSHR initiative encourages organisations to promote the Voluntary Principles and to educate and train security providers. This is another area where the audit identified we could do more
- We subsequently reviewed our guidelines for implementing the Voluntary Principles, and strengthened our processes for tracking implementation at our facilities. We will issue updated guidelines in 2014
- We introduced standardised VPSHR clauses into our contracts with armed private security providers
- We shared some of the findings from the audit, and our experience in applying the key performance indicators, with the working group.

HUMAN RIGHTS continued

ENGAGEMENT IN HONDURAS

We entered Honduras in 2013, following the signing of an operating contract in April 2013, which came into force in July 2013. Our operations will be in the La Mosquitia region, in eastern Honduras.

During the year, we collaborated with the Honduran army to provide security for a consultation meeting in October 2013 involving approximately 300 community representatives. In preparation, we promoted awareness of the Voluntary Principles with the responsible army colonel in Tegucigalpa and the local troops stationed in the region. We also promoted the Principles with the local police. Our aim was to influence the conduct of the Honduran army's security operations on our behalf, by creating awareness about our commitment to protect human rights. We plan to continue advancing our engagement work on the VPSHR in Honduras during 2014.

[Read more about our work with communities in Honduras in 2013](#)

WORKING WITH IPIECA

During 2013, we continued to work in collaboration with [IPIECA](#), the global oil and gas industry association for environmental and social issues, to strengthen our industry's approach to human rights and social responsibility. We are represented on IPIECA's [Social Responsibility Working Group](#), and co-chair an IPIECA working group that is developing industry guidance on grievance mechanisms. Operational grievance mechanisms allow affected communities to raise concerns regarding their rights with companies at site level, and are part of a broader system of 'Access to Remedy'. This is defined in the [UN Guiding Principles on Business and Human Rights](#) as a system for aggrieved persons to seek remedy for potential infringements of their rights. We continued to develop a best-practice grievance mechanism in Tanzania. This will feed into IPIECA's industry guidance on operational grievance mechanisms.

HUMAN RIGHTS TRAINING

All new joiners take a mandatory induction to our [Business Principles](#). This includes content on our approach to human rights. In 2013, 2 513 of our people completed this training. This included 1 014 employees, of whom 643 were new joiners and 1 499 were contractors. We also provide an optional refresher module, which was completed by 346 people in 2013. As part of all our contractual agreements with suppliers, their personnel must be made aware of, and agree to comply with, our Business Principles and all Mandatory Policies and Standards before they start work.

[Read about our approach to managing human rights risk with contractors](#)

HUMAN RIGHTS AND THE SUPPLY CHAIN

The importance of remaining vigilant to human rights issues in the supply chain was highlighted in 2013, as international organisations published high-profile guidance, and businesses in some sectors faced human rights failures in supplier companies. In May, the release of the [G4 Sustainability Reporting Guidelines](#), which provide guidance to companies reporting on their social, environmental and governance performance, gave greater prominence to supply chain issues.

In July, the European Commission published [Human Rights and the Oil and Gas Sector](#), a guide for the sector on implementing the UN Guiding Principles on Business and Human Rights. This notes that oil and gas companies may be vulnerable if, for example, they are working with smaller contractors with limited awareness of human rights risks or capacity to address those risks.

MANAGING HUMAN RIGHTS RISK IN THE SUPPLY CHAIN

During the year, we monitored the issue of human rights and the supply chain, and continued to strengthen our systems to ensure our contractors were working with us to manage human rights risk.

As part of our due diligence on suppliers with whom we contract, we identify and assess whether there are human rights, ethical conduct, and HSSE risks. We expect our suppliers to cascade our approach, including our Business Principles and the specific related requirements of the individual contract, through their supply chains, as part of their obligation to fulfill their contract with us. If we believe a supplier's own supply chain presents human rights risk, we will investigate further. We carry out regular [Dow Jones Watch List](#) checks on contractors who are registered with, and supplying services to, the Group. If a red flag is raised against a contractor, use of that contractor is blocked till the flag is cleared. For strategic and operational contracts, tender documents include questions related to human rights risks. This approach is set out in our [Contracts and Procurement Standard](#), which includes a requirement to identify and assess human rights risks and, if necessary, to mitigate appropriately and manage any residual risk.

In 2013, we strengthened this standard with a requirement for our operations to plan and conduct supplier audits on a risk basis, agreeing this list with the Group. While we already conduct supplier audits, these changes, which were live from 1st January 2014, further formalised our approach.

HUMAN RIGHTS continued

Early in 2013, we rolled out our guideline, 'Identifying and Managing High Risk (Key) Contracts', to our operations, holding a number of workshops in response to requests, including in the UK, East Africa and Egypt, and at one of our outsourced procurement services providers².

Our approach extends also to outsourced contracts. When selecting an outsource service provider, we typically conduct an HSSE, human rights, and ethical conduct assessment of that provider. An example of this was our visit to a potential call centre in India, where we toured the site and reviewed issues such as the social support given to employees, how HSSE is managed, working hours, and the evacuation procedure.

[Read more about our supply chain](#)

EXTERNAL COLLABORATION

In July, we participated in a two-day IPIECA workshop on human rights and environment in the supply chain. The workshop brought together representatives from 12 IPIECA member companies, with responsibility for the supply chain, procurement, environmental risk, social performance, sustainability, and corporate responsibility.

The workshop helped to establish common ground among member organisations on the subjects of supplier, human and labour rights, and environmental expectations. It also increased awareness of any differences in approach. We provided input on our approach. The workshop agreed an action plan for the IPIECA task force, and participants shared learning on human rights supply chain management with their colleagues.

KAZAKHSTAN

We are joint operator of the Karachaganak Petroleum Operating BV (KPO), a consortium that operates an onshore oil and gas condensate field in Kazakhstan.

During 2013, three NGOs – one based in the US and two based in Kazakhstan – filed a complaint under the OECD Guidelines for Multinational Enterprises, claiming that KPO had breached environmental standards and caused damage to the environment and public health.

The complaint follows a longstanding campaign by a local NGO for relocation and compensation of community members in Berezovka, a village located approximately five kilometres from the Karachaganak field. It is being handled by the UK National Contact Point for the OECD Guidelines, which has a published process for investigating complaints, and provides updates on the status of complaints on its website. The investigation of this complaint is ongoing.

KPO has provided detailed information about the measures that it takes to protect local communities and the environment, and supplied environmental monitoring data from monitoring stations located in Berezovka village and around the Karachaganak field.

It has invested in multiple levels of environmental monitoring – 12 stationary and two mobile environmental monitoring stations (operated by KPO), within the area of the field's potential impacts, and 10 air sampling posts located in villages close to the field (operated by a specialist, independent consulting firm, Gidromet Ltd). Gidromet carries out air sampling four times a day in each village, and air samples are then submitted for laboratory analysis. Monitoring data is submitted, on a quarterly basis, to the regional Departments of Environment and Health, and published in local media and on information boards in local communities.

Across the range of key potential air pollutants that could be linked to the Karachaganak field, KPO is able to show that concentrations measured in the villages have not exceeded the Maximum Permissible Concentration (MPC) allowed under national law, with the single exception of nitrogen dioxide, which was measured as a small MPC exceedance on four days in 2001-2007. KPO believes that this is attributable to transport or domestic fuel use in the villages.

² The guidelines were rolled out to our Contracts and Procurement and HSSE personnel, and to certain Group functions, who were expected to cascade them.

COUNTRY CASE STUDIES



AUSTRALIA



BUSINESS CONTEXT

Through our business QGC, we have explored for coal seam gas in Queensland, Australia since 1999 and produced gas since 2006. We supply about 20% of Queensland's natural gas demand.

We are now developing our largest-ever operated capital project, the Queensland Curtis LNG (QLNG) project. This involves exploring for, and producing gas in the Surat Basin, constructing a major liquefied natural gas (LNG) plant on Curtis Island near Gladstone, and building a 540-kilometre pipeline network to take gas from our field sites to Gladstone. We also have exploration acreage in the Bowen Basin.

The project represents an expected investment of over US\$20 billion between 2011 and 2014. It is expected to create more than 5 000 full-time jobs on average during each year of construction until 2014, and up to 1 000 during operation, and to add about A\$32 billion to the Queensland economy in its first 10 years.

MILESTONES IN 2013

By the end of 2013, our Australia operation and its major contractors, near the peak of project work, were employing 14 500 people. During the year, we also passed significant milestones on the route to our first LNG production in 2014. These included:

- Delivery of the final construction modules for the LNG plant
- Pipe pull across Gladstone Harbour to Curtis Island
- Lifting roofs onto the two LNG tanks
- Commissioning of one of two major water treatment plants
- Completion of the 540 kilometre main pipeline network.

[Read more about our operations in Queensland](#)

[Read more about project progress by reading our The Energy magazine](#)

AUSTRALIA continued

2013 SUSTAINABILITY ACTIVITY AND DEVELOPMENTS

During 2013, we made good progress in three key areas for the sustainability of our operations: safety, water management and community engagement.

- **Safety:** Our safety performance improved significantly, and we continued to work to improve performance focusing on leadership and behaviours, major hazard awareness, and working with contractors
- **Water:** The regulator approved our Stage 3 Water Monitoring and Management Plan, and we completed the installation of approximately 80% of a water monitoring network. We completed our bore baseline assessment programme, and commissioned the first of two large state-of-the-art water treatment plants
- **Communities:** We invested US\$6.3 million in social projects, and invested in housing to address the local shortage. We supported local and indigenous businesses: by the end of September 2013, 84% of our Australian operation's total expenditure had been spent with Australian companies¹. We had also engaged 16 indigenous businesses to supply goods or services. We secured over 1 900 agreements with landholders.

Video

[Sustainability at our Australian operations – a view from Derek Fisher Managing Director](#)



Video

[Sustainability at our Australian operations – a view from Walter Simpson QGC Operations Director](#)



¹ From our most recent six-monthly report to the Queensland Coordinator-General on Australian industry participation. The report, for the period from the start of 2010 to the end of September 2013, showed that we had invested A\$16.3 billion (US\$15.6 billion) or 84% of our Australian operation's total expenditure to date on Australian organisations.

AUSTRALIA continued

SAFETY AND CONTRACTOR MANAGEMENT

INTRODUCTION

In 2013, the construction of three major LNG projects and associated infrastructure continued to have an impact on the availability of qualified labour in Queensland. In this context, attracting and retaining appropriately skilled employees and embedding a strong safety culture, including long-term safety behaviours, were priorities for us.

Our safety performance improved significantly in 2013. Total recorded case frequency (TRCF)² halved from 6.39 in 2012 to 3.13 by the end of 2013. This compared favourably with our internal target of 4. More importantly, the severity of injuries resulting from these incidents fell compared to last year. This was reflected in the lost time injury frequency rate, an industry measure of major injuries, which fell from 0.9 for 2012 to 0.37 for 2013.

During the year, we worked to improve our safety performance focusing on three key areas: **leadership and behaviours**, **major hazard awareness**, and **working with contractors**.

LEADERSHIP AND BEHAVIOURS

Over the year, we and our contractor partners continued to build a stronger leadership and safety culture at our worksites. We also identified a need to improve our training monitoring and supervision of new personnel, to ensure our standards and expectations are understood and embedded, particularly in the early stages of a worker's time with us, when induction into our culture is essential.

In 2013, we took the following actions:

- Completed the identification, appointment and training of site safety managers
- Completed the review and upgrade of our induction programme to improve alignment with Group expectations. The new programme has an enhanced focus on leadership, high-risk activities, and controls, as well as awareness of compliance requirements
- Revised our safe driving standard and reinforced the application of zero tolerance for unsafe driving behaviours
- Gave line managers and front-line supervisors additional tools and training to help them drive safety at worksites, and improve understanding of behavioural expectations among our workforce. Among other examples, we provided coaching, improved the permit to work system, and developed a booklet to help site safety managers discharge their statutory obligations more effectively.

In 2014, we will build on this foundation to:

- Strengthen our workplace communications about safety by expanding and reinforcing our network of HSSE representatives and committees looking at health and safety issues
- Further develop and embed a robust safety culture with clearer accountabilities
- Continue our engagement with front-line supervisors to improve worksite safety and behaviour.

Video

[Safety leadership](#)



² Total Recordable Case Frequency (TRCF) is an industry-wide indicator for measuring and benchmarking safety performance. It looks at the total number of recordable injuries per million hours worked by the labour force.

AUSTRALIA continued

MAJOR HAZARD AWARENESS

While incidents resulting from major hazards are rare, the consequences are much more far-reaching than for occupational safety hazards. We want our workforce to understand the risks involved with these hazards and the controls we have in place to protect them.

During 2013, we took further steps to strengthen our approach to major accident hazard training, building on actions taken in 2012. Our actions included:

- Delivering 12 safety training sessions on Whyte Island, our internal major hazard awareness course. These involved 217 attendees from across our company and from our contractors
- Developing 'safety cases'³, which identify the risks associated with our activities, and the controls we have in place to mitigate these in different workplaces, based on quantitative risk assessments
- Promoting our operations safety cases, at all levels of our organisation
- Increasing awareness of the change occurring across our operations as facilities are brought on line, including the risks associated with pressure testing and the introduction of hydrocarbons.

In 2014, we will:

- Continue to deliver our Whyte Island major hazard awareness course to line managers and front-line personnel
- Continue to develop safety cases for each plant that is commissioned for operations, following construction
- Develop and implement e-learning modules to communicate safety cases
- Raise awareness of the risks and controls associated with simultaneous operations, where construction activities take place in the same vicinity as an operating plant. The third and related challenge that we recognised was the complexity of consistently selecting and managing a wide range of contractor companies across our diverse operations to achieve high standards of safety. This requires investing time in building relationships, aligning values and collaborating to achieve the strong safety culture and behaviours we expect. In 2012, we took the following actions:

CONTRACTOR MANAGEMENT

We work with a wide range of contractor companies across our operations. Effective selection and management of these contractors is vital to achieve high standards of safety. This requires investing time in building relationships, aligning values and collaborating to achieve the strong safety culture and behaviours we expect.

During 2013, we followed up on initiatives launched in the previous year, taking the following actions:

- Held a one-day safety workshop for us and our key contractors involving our Chief Executive Officer and Chief Operating Officer. The purpose was to confirm contractors were aligned with our safety expectations and to enhance leadership, accountability and collaboration
- Held safety forums, targeted at key contractor organisations as well as front-line supervisors.

In 2014, we will be improving our contractor management by:

- Leading an industry forum to improve contractor safety through coordinated programmes and focus areas
- Improving the robustness of our contractor management processes and the effectiveness of those managers who have direct responsibility for overseeing contractors
- Improving our governance of contractor HSSE compliance.

³ A safety case is a document, produced for a particular facility that sets out what the safety risks are and how they are being managed to an acceptable level.

AUSTRALIA continued

Video

[Working with contractors](#)



WATER

Water is a vitally important resource in Queensland, where agriculture is a major contributor to the economy. Periodic drought and flooding in recent years have made water supplies unpredictable. Ensuring we manage our impact on water is critical to ensuring co-existence with rural communities.

In the Surat Basin in southern Queensland, where our wells are located, gas is held in place in underground coal seams by the pressure of groundwater⁴. To extract the gas, the water is pumped to the surface, which relieves the pressure and allows the gas to flow and be collected.

We are committed to monitoring groundwater quality and water levels where we operate, and to addressing and, where necessary, compensating for (or 'making good'⁵) impacts on existing water users.

OUR WATER IMPACTS

Video

[Why water is important in Queensland](#)



⁴ Water located beneath the earth's surface.

⁵ Under Queensland legislation, if water extraction by a gas operation is affecting an existing water bore, then the responsible gas company must 'make good' this impact. 'Make good' measures may include: monitoring of the bore, deepening of a bore, providing alternative sources of water supply, drilling a new bore and/or compensation. For detailed information see <http://www.ehp.qld.gov.au/management/non-mining/documents/bore-assessments-make-good.pdf>.

AUSTRALIA continued

In July 2013, we lodged our [Stage 3 Water Monitoring and Management Plan](#) with the regulator. This details latest developments in our approach and was approved on 19 December 2013. This plan supersedes our federally approved Stage 2 Water Monitoring and Management Plan and provides an overview of our planned water infrastructure, surface and groundwater monitoring programmes, and data and assessments on the potential impacts of our operations on key sources of water such as aquifers or federally protected springs.

We are committed to monitoring and mitigating any impact we have on local water quality and supplies. By 2014, we will have invested more than A\$1 billion on water-related treatment facilities, research, modelling, monitoring, and management systems.

WATER MONITORING

Water monitoring network

During 2013, we completed the installation of approximately 80% of a network of water monitoring bores or narrow wells, used to check water quality, pressure and levels in rock formations where we extract gas. This forms part of a A\$79 million (US\$75.8 million) monitoring bore installation programme, which in 2013 was extended from 45 to 69 monitoring bores. We expect to complete the programme in the first half of 2014, subject to land access.

The monitoring network helps us to understand and manage any impacts associated with our activities, providing an early warning system for protected springs, which will tell us if water levels were to fall below a given threshold due to coal seam gas operations.

Baseline assessments

By the end of 2013, we had completed a bore baseline assessment programme involving tests of more than 380 water wells on 250 private properties. The aim of these baseline assessments is to record water levels and quality before gas operations in the local area have begun. This assessment programme was completed seven months ahead of schedule.

Baseline assessments are important because they show how well and groundwater characteristics may have changed on private properties since gas production started. We undertake baseline assessments in accordance with government guidelines and include an examination of bore depth and diameter, construction and pump type.

[Read more about our approach to water monitoring and measurement in Australia](#)
[Read our fact sheet on baseline assessment of water bores](#)

Video

[Ground water monitoring network](#)



AUSTRALIA continued

WATER TREATMENT

In 2013, we made progress against our strategy for managing the water produced from our operations, inaugurating the first of two large state-of-the-art water treatment plants which will use reverse osmosis technology to treat the water produced from coal seams.

The two plants (the Central and Northern) are based at sites called Kenya and Woleebee Creek, about 35km from Chinchilla and Wandoan respectively. Both are to the north west of Brisbane, in southern Queensland.

The plants purify water that generally would otherwise not be available for crops or drinking because it is too salty. The water treated at the Kenya plant, which is treated almost to drinking water standards, is being supplied to the town of Chinchilla and about 20 nearby landholders and farmers. The water treated at the Woleebee Creek plant will be supplied to local users such as landholders, farmers and industry.

Together, the Northern and Central water treatment plants will have a combined capacity to treat about 200 ML of water a day – or about 80 Olympic-sized swimming pools – during peak production. They are designed to make 97% of the water we produce available for use, for example, by local landholders. The remaining 3% is brine produced from the reverse osmosis process, which will be managed separately.

In October 2013, the Central water treatment plant at our Kenya site was inaugurated by Queensland Deputy Premier Jeff Seeney. The plant is being operated and maintained by [Veolia Water Australia Pty Ltd](#) as part of a 20-year, A\$800 million contract.

Mr Seeney said:

“The resources sector is critical to continued prosperity and this plant shows that there are significant additional benefits for Queenslanders from resource development.”

The Northern water treatment plant, at Woleebee Creek, is on track to be commissioned in 2014. Two smaller water treatment plants were already operational before 2013. These include the Windibri plant, which provides treated water for industrial use, and another small ‘relocatable’ plant which provides treated water to [Sun Water](#), a leading bulk water supplier in Australia.

[Read more about our approach to water treatment in Australia.](#)

[Read more about the launch of our Kenya \(Central\) water treatment plant.](#)

Video

[Water used by farmers
and the local community](#)



AUSTRALIA continued

Video

[Inauguration of Kenya Water Treatment Plant](#)



Video

[Tour of Windibri water treatment plant](#)



Video

[Water treatment](#)



[See QGC fact sheet on water treatment](#)
[See QGC fact sheet on salt production](#)

AUSTRALIA continued

Aquifer injection

In 2013, we continued to investigate the reinjection of water produced from coal seam gas operations into underground aquifers after treatment, as one way to manage water and maintain groundwater pressure in key areas. Investigating this option is a federal government requirement.

During the year, we completed our modelling work and began a feasibility study at Woleebee Creek, north west of Wandoan. This location was chosen due to its close proximity to environmentally-protected springs and our Northern Water Treatment Plant, which is due to start operating in 2014.

We expect the aquifer injection trial facility to be completed during the first half of 2014, and an injection well to be drilled. Injection is scheduled to start in the second quarter of 2014, with a first stage feasibility report due by April 2014. The second stage of the injection trial is scheduled for the fourth quarter of 2014, when the Northern Water Treatment Plant can provide treated water from coal seams.

[Read more our options for aquifer injection in our Stage 2 Water Monitoring and Management Plan](#)
[Read about other potential uses for the water that we are producing and treating](#)

Brine treatment

The reverse osmosis water treatment process produces brine. During 2013, we reviewed options for the management of the brine produced by our reverse osmosis water treatment process. We expect to make a decision on this in 2014.

[Read more about our brine production](#)

WATER: STAKEHOLDER ENGAGEMENT

In 2013, we continued to foster relationships with landowners and the wider community on water management. By increasing our efforts to explain our approach to water management, and delivering on our commitments, we have been able to build acceptance that we are operating responsibly.

During the year, we continued to provide updates on the progress of our water management activities at community committee meetings and at one-on-one meetings with landholders. Our community information centre in Chinchilla, at the centre of our Queensland upstream gas operations, is staffed with people who live and work in the community. It provides information and allows local people to ask questions and provide feedback to the company.

We have also contacted those landholders in the area immediately affected by our operations, as identified in the Queensland Water Commission's [Underground Water Impact Report](#). We are committed to working with landowners and, in line with regulation, have a commitment to 'make good'⁶ any impact our operations have on existing water users.

During 2013, we entered into the first 'make good' agreements with landholders whose water bores are predicted to be impaired. 'Make good' measures may include improving pump capacity, drilling a new bore, providing alternative sources of water or financial compensation.

WORKING WITH COMMUNITIES

Coal seam gas is a major industry for Queensland. Its success depends on working with local communities and integration into the local economy, understanding and responding to local concerns.

COMMUNICATING WITH COMMUNITIES

During 2013, we continued to communicate with Queensland communities. We developed new channels to make it easier for communities to talk to us, and vice versa. Our [community information centres](#) in Gladstone and in the Surat Basin, at Chinchilla and Wandoan, provide convenient places for community members to learn more about our activities, and raise questions they may have face-to-face. During the year, most queries were about employment, social investment and local business opportunities.

We also engaged with the community through [community consultative committees](#), information sessions, direct communication with landholders, and other neighbours. In addition, employees participated in community networks and special interest committees. We maintained a website and distributed a [bi-monthly newsletter](#) to keep community members informed on project progress, and update them on the issues that concern them.

⁶ See footnote 5 above.

We also put in place a more efficient IT system to improve the way we record and respond to stakeholder feedback. This new system goes beyond the state government requirement to capture complaints, and helps us to record other types of feedback, such as requests for service, questions and comments.

LANDHOLDER ENGAGEMENT

We continued to work with landholders, in and near our gas fields, and along the main pipeline to Curtis Island. We have an ongoing program to improve our performance on land, and build strong working relationships with property owners. In negotiating agreements that allow us to access land to build and operate our infrastructure, we endeavour to agree compensation based on fair market value, engage independent valuers, and pay reasonable legal costs. Where we agree compensation, the original landholders retain title and remain on the land, farming alongside our infrastructure. We have 1 900 access agreements in place for our gas infrastructure. However, several hundred agreements are still required for access to remaining wells, gathering and compression infrastructure over the next few years.

We are also a landowner and have returned more than half our properties to agricultural use, sometimes in commercial arrangements with other local producers.

During the year, construction of the pipeline for exporting gas from our fields took longer than expected. This increased the level of disturbance for landholders along the route during 2013. Best efforts were made to keep them informed and to address their concerns. The pipeline was completed in October 2013, and we are investing significant resources to remediate any surface impacts and rehabilitate land where required.

[Read how we added 350sqkm to agricultural production in Queensland through partnerships with farmers and graziers in 2013](#)
[Read more about our engagement with landholders](#)

Video

[Community engagement in Queensland](#)



Video

[Success in community engagement in Queensland](#)



AUSTRALIA continued

INVESTING IN COMMUNITIES

The framework for our investment in the communities where we work is the [Social Impact Management Plan \(SIMP\)](#). This plan, which was approved by the Queensland Department of Infrastructure and Planning in April 2012, addresses potential impacts from our work in Queensland, and commits us to invest up to A\$150 million in communities, from the Surat Basin to Gladstone, by 2014.

The SIMP sets out more than 90 commitments to invest in six areas: indigenous participation; housing; community health, safety and social infrastructure; land use management; employment and economic development; and road and marine traffic management. Spending under the SIMP includes both social investment and impact management, to mitigate the effects of our operations. Social investment goes beyond impact management, to provide benefits to the communities in which we operate.

Sustainable Communities Programme

We make all our investments under the SIMP through our Sustainable Communities Programme.

Social investment

Some of the investments we make under the SIMP are classified as social investment under BG Group's definition⁷. During 2013, working with local partners, we made social investments totalling US\$6.3 million, bringing our total social investment since the QCLNG project was sanctioned to around US\$28.66million.

Key activities during 2013 included:

- Supporting the development of health services which can be accessed remotely, for example, by phone or online, in towns near our gas exploration and production operations
- Supporting the provision of additional healthcare services to regional communities through mobile health clinics, with a focus on indigenous communities
- Funding a local partner, [Busy at Work](#), to create 200 new positions for apprentices and trainees in businesses outside the resources industry, to mitigate the flow of local labour to our industry
- Continuing to deliver driver safety messages to schools and communities near our operations
- Engaging an expert to work with local organisations in our supply chain, to help them build their capacity to tender for work with us, and others
- Investing in initiatives to maintain [Gladstone Harbour](#), close to where we are building our LNG plant, as a local amenity. Initiatives include marine debris clean up, reviewing fish stocks as an indicator of water quality, and cleaning up and rehabilitating waterways that feed the harbour
- Developing a strategy to create long-term opportunities for indigenous people, and building the capacity of indigenous businesses, so that they can participate in our supply chain
- Funding vital social infrastructure identified as priorities by local councils, such as roads and airport upgrades and repairs.

We reported to the regulator on progress and produced [a video](#) to support the report, [QGC Sustainable Communities Programme](#), which we published in 2012.

Video

[Health-e-Regions](#)



⁷ See [Data Methodology](#) for how we define 'social investment'.

AUSTRALIA continued

Local housing

Housing was a key theme for our community investment in 2013. The growth of industry around Gladstone and the Surat Basin has constrained housing availability and raised rental and purchase prices. In 2012, we developed a strategy to address this by investing in affordable housing in the region. This included a commitment to contribute more than A\$6 million to local housing schemes and trusts.

In 2013, in line with this strategy, we invested in housing and funded the construction of 45 houses in Gladstone. In the Surat Basin, we funded a further 27 houses. We also continued to support the provision of affordable housing in partnership with the [Western Downs Housing Trust](#), following our award of A\$5.7 million in funding to the trust in 2012. We also started to lease four houses to the Trust, for two years, at a minimal rent. By taking these steps, as well as providing accommodation for more than 3 000 of our own workers, we have been able to relieve some pressure on the local housing market.

Sustainable Communities Fund

The QGC Sustainable Communities Fund supports short-term, one-off community projects in the Western Downs and Gladstone local government areas. It is investing up to A\$6 million between 2011 and 2014.

In 2013, through this fund, we invested approximately A\$1.1 (US\$1) million in 34 local community projects aimed at enhancing cohesion and quality of life in the communities in which we operate. Since its launch in February 2011, the fund has supported 139 community projects, investing over A\$4.5 (US\$4.3) million. Investment through the fund forms part of our total US\$6.3 million social investment for the year.

Video

Developing local content in Queensland



REPORTING AND MONITORING

Community committees

During the year, we reported regularly to our regional community consultative committees, which were set up to enable us to exchange views with, and gain feedback from, the community on a regular basis. Each committee represents a cross-section of the population in its area.

Partnership with Centre for Social Responsibility in Mining

We also renewed our partnership with the University of Queensland's [Centre for Social Responsibility in Mining](#), which aims to help us achieve best practice in meeting our social responsibilities. The centre has developed indicators to measure our direct impact on, and contribution to, the communities where we operate. It also launched a project in 2013 to research how coal seam gas developments are interacting with the local agriculture industry.

Capacity building

During the year, we helped local organisations and people to find business and employment opportunities. We used specialists to help local companies, many of which are family owned, to build their skills and capacity. This helps enable those companies to meet the requirements to bid for work with us, other energy companies and major contractors.

We continued to employ Aboriginal and Torres Strait Islander business development specialists. These specialists work with businesses owned and run by traditional owner, to help them bid for work with us and other companies. They have enabled traditional owners, in the areas where we operate, to set up businesses and bid for works.

AUSTRALIA continued

Local content

Investing in local businesses is central to our approach in Queensland. In 2013, we invested US\$7.3 billion with Australian tax registered businesses in the calendar year 2013. This compares with US\$4.9 billion in the previous year⁸.

We report on a six-monthly basis to the Queensland Coordinator-General on Australian industry participation. Our most recent report, covering the period from the start of 2010 to the end of September 2013, showed that we had invested A\$15.6 billion – or 84% of our Australian operation's total expenditure to date – in Australian organisations.

Queensland companies received 68%, or A\$13.2 billion (US\$12.7 billion), of this total. There have been more than 118 000 instances of Australian businesses registering to provide goods and services to our Queensland operations since 2010.

[Read more about how we worked with local businesses in 2013](#)

Indigenous participation

During 2013, we worked to increase the number of Aboriginal and Torres Strait Islander⁹ people employed on our QCLNG Project. By the end of September, we reported that 251 indigenous people were working with us and our major contractors – up from 63 two years ago.

We focused on integrating indigenous business into our supply chain. By the end of September, we had engaged 16 Aboriginal and Torres Strait Islander businesses to supply goods or services, amounting to a total value of approximately A\$25 million (US\$23.9 million).

Read about our approach to [building local content](#) and to [working with indigenous people](#)

WORKING WITH MUDDY WATERS, AN INDIGENOUS BUSINESS

The indigenous-owned and operated company, Muddy Waters, part of Mandandanji Enterprises, offers a mobile vehicle cleaning service based in Chinchilla, for the public, gas companies and their contractors.

Our Australian business in Queensland is a foundation customer of Muddy Waters and provides it with support. Muddy Waters services QGC vehicles and routinely provides a washdown for QGC's fleet.

Muddy Waters now has more than 30 staff certified in weed hygiene and washdown, and is committed to environmentally safe and thorough weed removal and vehicle cleaning.

Mandandanji Enterprises managing director Bob Carlo said the business was moving indigenous people into jobs, while taking care of the land.

“As an indigenous company looking after country¹⁰, we thought this was an area we could move into. In the beginning QGC said they'd give us 15 cars a week – we've now got about 80 vehicles a week from QGC. It's showing that QGC is committed to its indigenous side.”

All water used in a Muddy Waters vehicle washdown is filtered, recycled and reused, and contaminated waste is disposed of according to regulatory requirements in Toowoomba.

[Read about how we worked with Indigenous Workstars to identify and recruit Aboriginal and Torres Strait Islander job seekers](#)



Muddy Waters employees in action

⁸ 'Local' suppliers are either national companies, or international suppliers which are tax registered and have core facilities/infrastructure relevant to the scope of work/services located within the country in question. See [Our local contribution](#) for a table of indicative BG Group spend with local suppliers, by country.

⁹ Torres Strait Islanders are the indigenous people of the Torres Strait Islands, part of Queensland, Australia.

¹⁰ 'Country' is Aboriginal and Torres Strait Islanders usage, and refers to their area of land, typically acquired through the native title court system.

BRAZIL



BUSINESS CONTEXT

We are a committed, long-term partner and investor in Brazil. Our first project in the country was a partnership that began in 1994 to build a gas pipeline between Bolivia and Brazil. Today, our interests lie in fields in the Santos Basin, and exploration acreage in the Barreirinhas Basin, where we work in partnership with the Brazilian energy company, Petrobras, and other companies. We expect to invest an average of around US\$3 billion per year from 2013, to the end of the first phase of Santos Basin development in 2018 (when we will have 15 floating production, storage and offloading facilities (FPSOs) onstream).

> [Read more about our operations in Brazil](#)

OVERVIEW

In 2013, we pursued opportunities to develop new Brazilian businesses and to build skills, support training and promote career opportunities in regions where we work.

We invested approximately US\$50 million in research and development (R&D) projects with partners in Brazil, of which we estimate nearly US\$35 million will qualify under the government's R&D levy¹. We are due to invest between US\$1.5 billion and US\$2 billion in R&D from now up until 2025.

We began constructing our Global Technology Centre in Rio de Janeiro, and continued support for Science without Borders, a Brazilian government initiative to promote science, technology and innovation. We partnered with a number of organisations to develop technology solutions, signing some important agreements for new joint projects.

We continued our voluntary investment in science, technology, engineering, and mathematics (STEM) education, making a number of investments, at all stages of education, from early schooling through to vocational training. We participated in Project Blue, a research project on ocean monitoring.

¹ Our concession contracts determine that 1% of gross production revenue from large Brazilian oil and gas fields shall be invested in R&D in Brazil (the R&D levy). The levy is overseen by Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (ANP), the oil and gas regulator. The majority of the investments we make are in partnership with academic institutions and commercial partners operating in Brazil.

BRAZIL

PARTNERSHIP

Partnership is central to our approach to sustainability. Our projects are set up and run in partnership with academia, research institutes, and suppliers based in the country. This approach means we can encourage and support the development of knowledge, skills, and resources in Brazil and share the benefits from R&D investments. We aim to attract both small companies and R&D centres of expertise in large international service companies, to establish themselves in the country. We are also developing projects with start-up and spin-off companies, and running calls for proposals to engage with a wide range of academic partners from across Brazil.

Video

[Research at the heart of our sustainability strategy in Brazil](#)



LOCAL CONTENT

Brazil has a long-standing local content policy, specifying the requirement for local supplier participation in the oil and gas sector. Developing local content – increasing the supply of internationally competitive, locally produced products and services to Brazil's oil and gas industry – is one of the four pillars of our sustainability strategy. We believe there are many opportunities to develop new Brazilian businesses using new technologies developed in Brazil, and have taken steps to support the local content process.

For example, in 2013, we initiated a project with ALIS, a spin-out company focused on providing technology solutions in engineering and computer systems that originated from PUC-Rio de Janeiro University.

We are also a sponsor of Cadastro de Fornecedores (CaDFor), a registry for industry vendors or suppliers set up by Organização Nacional da Indústria do Petróleo (ONIP) – a not-for-profit organisation promoting suppliers to the Brazilian oil and gas industry. CaDFor enables companies to access information on supplier capabilities and resources, and acts as an efficient prequalification tool during tender and contracting processes. Members hold regular meetings to approve the registration of new suppliers, continue development of the system, and promote industry events.

In 2013, local content requirements in our non-operated concessions were managed by Petrobras as operator, in accordance with contractual obligations. Exploratory blocks which we operated in previous years, and which have already been relinquished, will be subject to future local content compliance audits by the oil and gas sector regulator, ANP. Meeting local content requirements for upstream activities is challenging, as there is currently a lack of capability in some areas of the supply chain. We are working to address this issue through our technology investments and sustainability efforts in Brazil.

We continued to invest in skill building and vocational training, and to promote industry career opportunities in the regions where local shipyards build our FPSO facilities. Since 2011, we have trained around 900 people in these areas, primarily in Rio Grande, Angra dos Reis and Charqueadas.

BRAZIL

TECHNOLOGY

We invest 1% of our gross production revenue from large Brazilian oil and gas fields in R&D in Brazil. This is in line with the R&D levy² put in place by the Brazilian government. However, our investments in R&D go beyond this obligation. In 2013, we invested approximately US\$50 million in projects in Brazil, of which it is estimated nearly US\$35 million will qualify under the levy. We will invest between US\$1.5 billion and US\$2 billion in R&D up until 2025.

Our goal when investing in technology is to develop solutions to problems facing the oil and gas industry in Brazil, which also have global application. By doing this, we can not only support Brazil in developing its natural resources, but also help develop a competitive, sustainable oil and gas services industry. To reflect the importance of these activities to BG Group, our Group technology function is based in Rio and leads our R&D activities in Brazil and worldwide.

GLOBAL TECHNOLOGY CENTRE

In 2013, we began constructing a [Global Technology Centre](#) at the [Federal University of Rio de Janeiro](#)'s Technology Park, in Rio de Janeiro. We expect it to be inaugurated during 2014. By 2020, we estimate it will accommodate about 100 people, including our personnel, academics, and other technology experts. The site will have capacity to host small teams from our R&D partner companies, enabling the exchange of knowledge and ideas and, we hope, promoting innovation.

Video

[Finding solutions through research](#)



SCIENCE WITHOUT BORDERS

In June 2012, we took an important step in supporting [Science without Borders](#), a Brazilian government initiative to promote the expansion and internationalisation of science, technology, and innovation by improving academic capacity in Brazil. We also committed to sponsor selected students in the initiative through our own [BG Fellowship Programme](#), providing up to US\$100 million for scholarships for doctoral and postdoctoral students working on projects relevant to our business. In 2013, we recruited the first PhD students into the programme and initiated a new study programme. This is in Reservoir Engineering to study enhanced oil recovery in collaboration with the [Federal University of Rio de Janeiro](#) (COPPE/UFRJ) and the [Heriot-Watt University](#) in the UK, with 16 fellowship positions being offered.

Students on these programmes are expected to return to Brazil after their studies, so that the knowledge gained benefits the local economy.

² See Footnote 1.

BRAZIL

TECHNOLOGY PARTNERSHIPS

During 2013, we continued our open innovation approach by partnering with a number of organisations, including Brazilian universities, research institutes, industry experts, start-ups and service suppliers. Projects undertaken in partnership with suppliers and academia will potentially result in the development of prototypes that could then be trialled, tested and manufactured in Brazil.

- In September 2013, we signed a cooperation agreement with the [São Paulo Research Foundation](#) (FAPESP), to fund clean energy research and development, and establish the Centre for Research and Innovation in Natural Gas, in São Paulo state, together
- At the end of 2013, we signed an agreement with [SENAI CIMATEC-BA](#) to develop a prototype for an underwater inspection technology, in collaboration with the German Centre for Artificial Intelligence (DFKI), at the newly-inaugurated Brazilian Institute of Robotics.

With FAPESP, we will review research proposals and invest in selected research into gas technologies, such as:

- Technologies to make gas cleaner at the point of use
- Technologies to develop gas as a fuel for shipping
- Engineering technologies to improve gas production
- Technologies for the conversion of gas into chemical feed stocks, including hydrogen.

Both BG Group and FAPESP will invest up to US\$10 million over a five-year period.

[Read more about our carbon management initiatives](#)

In November 2013, we initiated a new project, the Full Waveform Inversion project, which will be developed in partnership with SENAI CIMATEC-BA, and the [Federal University of Rio Grande do Norte](#) (UFRN), in cooperation with [Imperial College of London](#) and the [University of British Columbia](#), in Canada.

The project will enable our geoscientists to apply subsurface inversion algorithms to build detailed images from 3D seismic data. This means we will be able to build better images of the subsurface, increasing our knowledge of geological formations including the pre-salt Santos Basin. The project will be powered by South America's first academic supercomputer capable of carrying out full waveform inversion, one of the fastest supercomputers in the region.

We expect to invest up to US\$21.7 million in the project, and for this spend to qualify under the Brazilian R&D levy. It is expected that Brazil's Ministry of Science and Technology, the Bahia state government, and the SENAI industry federation will make additional funding of around US\$10 million available to SENAI CIMATEC-BA.

Video

[Open innovation in Brazil](#)



BRAZIL

SOCIAL INVESTMENT

In 2013, our total social investment spend in Brazil was US\$1.97 million, compared with US\$1.82 million in the previous year. All this investment was made on a voluntary basis, and in line with our three Group social investment themes of STEM education, vocational training, and livelihoods and enterprise development. Most of this investment during 2013, as in 2012, was in projects to support STEM education and vocational training.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION

Improving STEM education can help create a pipeline of people qualified to meet the current and future resourcing needs of the oil and gas industry. It can also help Brazil meet its goal to develop a more knowledge-based economy. Our goal is to strengthen STEM capabilities right through the public education system, from early schooling through to vocational training. Our investment is focused on students and teachers in public sector education, particularly those from more disadvantaged social backgrounds, and we work collaboratively with contractors, academic and educational institutions, and local governments.

During 2013, we made a number of STEM investments in Rio de Janeiro, Rio Grande, Charqueadas and Angra dos Reis, regions where we are constructing our FPSO facilities and also have some technology projects.

We also organised a discussion forum focused on STEM, in partnership with the Brazilian Academy of Sciences, in November 2013. This followed a major public debate on science education which we hosted in June 2012, at Rio+20.

Video

[STEM education programmes at BG Brazil](#)



BRAZIL

SUPPORTING STEM EDUCATION FROM CHILDHOOD TO VOCATION

- **Early childhood education:** We researched and evaluated approaches that use science experiments to improve education for children aged four to six years old, such as the American pre-school programme called “Little Scientists”
- **Science and Technology with Creativity:** We expanded a partnership with the NGO [Abramundo Institute](#), to support their ‘Science and Technology with Creativity’ programme in public and elementary schools. The scheme ran at six schools in Rio Grande, involving around 3 200 schoolchildren aged 6 to 14, and at eight schools in Angra dos Reis, involving about 1 500 schoolchildren aged 6 to 10. We also supported a mathematics programme in the same 14 schools

Video

[“Science and Technology with Creativity Programme” Angra dos Reis](#)



Video

[“Science and Technology with Creativity Programme” Rio Grande](#)



- **Super Youth Action:** We supported the [Ayrton Senna Institute’s](#) ‘Super Youth Action’ programme, which aims to encourage entrepreneurial skills and cut truancy among secondary public school students from Rio de Janeiro state. The programme trained 132 teachers and involves approximately 10 000 students from 28 schools
- **‘STEM Brasil’:** STEM Brasil is a secondary school programme which we are supporting with the education organisation, the [Worldfund Association](#). In 2013, we engaged with the Rio Grande do Sul state government to plan a STEM programme for public secondary schools in the region. Once implemented, the programme will involve around 200 teachers and their students, giving them better materials and more opportunity to engage in practical projects and problem solving
- **Training programme:** We continued to support a vocational training programme developed in partnership with [SENAI](#), the National Service for Industrial Apprenticeship. In 2013, we trained 84 people in the Charqueadas, 192 in the Rio Grande, and 232 in the Angra dos Reis area. Since 2011, we have trained a total of around 900 people in Rio Grande, Angra dos Reis and Charqueadas, through this programme, which aims to meet the oil and gas industry’s demand for qualified, local labour
- **Future Generations of Pre-salt³:** This project, developed in partnership with the [Museum of Geodiversity](#) at the [Federal University of Rio de Janeiro](#), and the Rio de Janeiro State Government, aimed to provide students and teachers from the public sector with access to universities and science museums. It involved teacher training, provision of educational materials including videos, a museum trip and a science fair, at which we gave prizes for the best science projects.

³ The pre-salt layer is a geological formation on the continental shelves. This formation, which is common off the coasts of Africa and Brazil, houses good quality oil and is found in deep-sea areas, under thick layers of salt and rock. Brazil’s pre-salt reserves rank as one of the biggest discoveries in recent history.

Video

[Future Generations of Pre-salt](#)



ENVIRONMENT AND SAFETY

Through partnerships with universities and other institutions, we participate in environmental programmes related to the marine environment. During 2013, we worked on the environmental strategy for our Brazil operations. We sought advice from specialist biodiversity consultants and consulted internally on the strategy. The first phase of the strategy will be implemented during 2014.

BRAZIL

PROJECT BLUE – MAPPING THE OCEAN

Project Blue is a partnership between our business in Brazil, UFRJ/[Coppe](#) (a post-graduate programme in engineering linked to the Federal University of Rio de Janeiro), and [Prooceano](#), an oceanographic consulting company. It represents a significant investment in the country, totalling around US\$9.5 million over three years.⁴

Launched at Rio+20 in 2012, Project Blue is the first scientific study to examine the largely unexplored deep water Santos Basin, where we are exploring for, and producing oil and gas, in a systematic way. It will provide valuable public information about ocean currents, water temperature, salinity, acidity, and organic matter.

During 2013, the project began monitoring ocean conditions, in order to build up a valuable baseline of the current state of the ocean. Gliders and other monitoring devices were deployed monthly from March, and work began to assess the data collected.

Data will be collected over three years to populate a database open to universities and research centres in Brazil, which should also help to improve the skills of national oceanography researchers and database systems in Europe and the USA. The data is being made freely available for universities and research organisations, and is expected to play a role in granting local environmental licences.

Project Blue also aims to give decision makers reliable information for contingency planning for search and rescue operations and oil spill response. In this way, it can contribute to a safer working environment, minimising potential environmental impacts from oil and gas operations in the Santos Basin. The project also expects to benefit the oil and gas industry, as it will provide more accurate data for drilling and production operations, offloading, and the installation of platforms and pipelines.

The first Project Blue workshop took place in November 2013, with academics and representatives from the oil and gas industry attending. The initial results from Project Blue have received wide media coverage and have been presented at conferences around the world, such as the European Geophysical Union Conference in Austria and Tecnópolis in Argentina.

For more information on Project Blue see <http://www.projetoazul.eco.br/>.

Professor Luiz Landau from Coppe, said:

“We will determine the baseline conditions in the Santos Basin, so in the future we will be able to determine the actual environmental impacts from operations in the region. This project will make a tremendous contribution to science. A wide range of studies can be developed from the resulting data.”

Video

[Project Blue: a major new ocean monitoring system](#)



The sea glider which successfully left the Marina da Glória in Rio de Janeiro on 4 March, 2013.

⁴ Project Blue will contribute to fulfilling our obligation under the R&D levy – see footnote 1.

TRINIDAD AND TOBAGO



BUSINESS CONTEXT

BG Group is a key gas producer in Trinidad and Tobago, producing close to 26 million barrels of oil equivalent in 2013. We have been in the country since 1989 and supply around one third of our gas production to the domestic market, while the balance is exported.

We explore for, and produce gas off the north and east coasts and onshore in the central area of the island. We also have a share in the Atlantic LNG Company of Trinidad and Tobago, which operates a liquefied natural gas (LNG) plant at Point Fortin, south west Trinidad, and supply gas to Atlantic LNG for sale to international markets¹.

OUR ROLE IN TRINIDAD AND TOBAGO

The oil and gas industry makes a significant contribution to the economy of Trinidad and Tobago, representing around 40% of GDP and 80% of exports. However, it represents only 5% of employment because it is a capital-intensive, rather than labour-intensive industry. The sector demands high skills and experience levels which cannot always be met locally. Our workforce is made up of 10% expatriate workers and 90% local workers. We therefore see it as a priority to make a broader contribution to the country. We expect to continue operating there for many years, and aim to ensure that our presence is seen as beneficial, and that we leave a positive legacy.

[Read more about our operations in Trinidad and Tobago](#)

Video

[Working sustainably in Trinidad and Tobago](#)



¹ BG Group has the following shares in Atlantic LNG: Train 1 – 26%, Trains 2 and 3 32.5%, Train 4 – 38%.

TRINIDAD AND TOBAGO continued

OUR SUSTAINABLE APPROACH

Our sustainability approach in Trinidad and Tobago is founded on our [BG Group Business Principles](#) which cover the four key areas of ethical conduct, people, society, and the environment.

Key elements of this approach are:

- Improved supply chain management
- Strengthening our corporate governance structure
- Building a healthy, positive and inspiring workplace
- Continuously improving our safety performance
- Implementing social programmes, many in partnership with governmental, non-governmental and community-based organisations
- Going beyond minimising our environmental impact to make a positive contribution to environmental protection.

[Read more about our approach and activities in our 2013 Trinidad and Tobago Sustainability Review](#)

Our activity during the year focused on building education, training and skills, developing the capability of local companies in our supply chain and beyond, starting to develop a five-year biodiversity action plan, and supporting programmes to address social issues, including safety and education, with a goal of building a more stable society.

SOCIAL PROJECTS AND PROGRAMMES

Working with the government, key NGOs, business partners and other stakeholders, we invested \$US1.4 million in social projects and programmes. Projects were in three main areas:

- Projects to engage local stakeholders, and address our own impacts on society or the environment
- Projects designed to respond to national priorities
- Projects that invest in science, technology, engineering, and mathematics (STEM) education², and livelihoods (such as agriculture or fishing).

We also invested in other projects. For example, to build the capacity building of community-based organisations. A focus during 2013 was the work we did to address issues in the fishing community, an important stakeholder for us.

[Read more about our Group social investment strategy and approach](#)

WORKING WITH FISHING COMMUNITIES

Finding a way for fishing – a traditional industry in Trinidad and Tobago – to coexist with the oil and gas industry, which now dominates the economy, is very important for both sectors and for the country as a whole.

Seismic surveys are a key element of energy exploration and production – but raise concerns for the fishing industry. In line with international standards, we employ mitigation measures when conducting seismic activities – such as planning seismic surveys to minimise the impact on species and the environment, and developing plans to address the concerns of stakeholders, such as fishermen.

However, concerns about seismic surveys remain. During periods of seismic activity, some fishermen are unable to fish in the area, resulting in a loss of income. They also have concerns about the potential impact of seismic activity on fish stocks – an impact that is being widely debated in the country. The industry as a whole is working with key stakeholder groups to look at these issues.

² The focus on STEM is in line with our Group social investment strategy.

TRINIDAD AND TOBAGO continued

Video

[Working with the fishing community](#)



During 2013, we worked with fishing groups to understand and address their concerns. Key elements of our approach are:

- **Relationship building:** We worked closely with fishing associations, for example, the Guayaguare Ortoire Mayaro Fishing Association based near our operations off the east coast of Trinidad, to build relationships and listen to concerns. This has been challenging, given a history of mistrust of the industry, but we have been able to establish good relationships and win recognition for our approach
- **Compensation framework:** we worked with the fishing community to understand their compensation claims, and ensure that payment was made fairly and transparently to those who had suffered lost income. We contracted a team from the University of the West Indies to conduct an impact assessment of our seismic acquisition on fishing livelihoods. The consultants proposed a compensatory formula based on their findings, and we obtained approval from both the Fisheries Division and the Fishing Association on the recommended methodology. Our approach has been welcomed by the community, which sees BG Group's approach to compensation as a good model for the industry

Video

[Responding to fisherfolk's concerns and providing support](#)



- **Support:** we are helping the fishing community to strengthen its own organisational capacity so that it is in a better position to lobby and represent its own interests, including engaging a management consultant, who is working with them on strengthening their organisation
 - We worked with Dr Kim Mallalieu and her team at the University of the West Indies to develop MFisheries, a mobile phone application for use at sea. This provides training, emergency support and functions that allow fishermen to market fish more effectively, directly to their buyers. The application has been tested in an initial rollout and is now being developed further

TRINIDAD AND TOBAGO continued

Video

[Working with the University of the West Indies to support fishermen](#)



- We also helped representatives of the fishing community by providing equipment to support a local business supplying ice for preserving fish and for marketing to third parties.

Video

[Working with fishermen - Supporting a women's fishing project](#)



We plan to continue our work with key stakeholders, including fishing organisations, so that we can improve our understanding of factors affecting fishing activities in specified areas, and the potential impacts of our business on these activities.

EDUCATION, TRAINING AND MEETING SOCIAL CHALLENGES

While the energy sector generates substantial revenues, Trinidad and Tobago still faces a number of social challenges. Overall employment levels are high (approximately 5% unemployment), but there is a higher level of underemployment and a shortage of skills, resources and capability in community organisations and, to some extent, in government agencies set up to address these issues.

Trinidad and Tobago faces social problems, such as inadequate security and a high crime rate in some areas. There are also challenges around absorption of youth into the labour force, and a breakdown in family life in some communities. Our social programmes aim to help support the government as it addresses some of these challenges, with a particular focus on STEM education, training, and on building skills and capability.

TRINIDAD AND TOBAGO continued

Programmes we supported in 2013 included a Public Safety Initiative, launched in 2011, designed to respond to concerns about rising criminal activity. This initiative involves working in partnership with the Ministry of National Security on implementation of its [Making Life Important](#) programme, which seeks to promote sustainable community development, and to present young people with alternatives that will discourage them from criminal activities. We invested in strengthening educational performance from preschool to secondary school in these communities. We also provided some training to the Police Academy, and invested in initiatives to build the capacity of local institutions and NGOs involved in crime reduction activity in identified high crime communities.

We continued to support a range of programmes designed to build education, training, skills and livelihoods. These included funding and supporting homework centres and after school programmes, and providing resources and training for schools through our [Science Bus](#) project. We worked, in the low income communities of Beetham and Laventille, to support educational output from preschool to secondary schools. Our focus here is on building the capacity of school administrators, teachers and students, and enhancing literacy and the delivery of maths and STEM education.

WORKING WITH THE TOCO FOUNDATION

During the year, we partnered with the [Toco Foundation](#), an NGO focused on addressing social issues, in our Central Block area – a 111-kilometre square block onshore in Trinidad and Tobago.

The Toco Foundation seeks to support communities by providing education, communications, and health. It also provides a range of personal development services, sector-focused economic development, and environmental preservation programming.

Video

[Working with the Toco Foundation](#)



We supported the Toco Foundation by providing funding for two of its social programmes, the Parenting and ‘Gatekeeper’ programmes in areas close to our operations. These programmes, in the villages of St Mary’s and Barrackpore, take individuals and train and support them to play key roles in developing their local community. These programmes emerged from needs identified in a socio-economic study conducted in 2009, and target particular social and family issues, such as encouraging men to take responsibility or promoting good parenting.

TRINIDAD AND TOBAGO continued

Video

Supporting the Toco Foundation Parenting Programme



Gatekeepers are given training and support, and act as ambassadors in the family and the community. In 2013, after the project had been running for three years, participants established an NGO to continue the support for families and young persons that the project provided.

Video

Supporting the Toco Foundation Gatekeepers' Programme



Video

Supporting the Toco Foundation Rainwater Project



TRINIDAD AND TOBAGO continued

ADDRESSING PUBLIC SAFETY

Franklyn Dolly is Chief Executive Officer of [Dolly & Associates](#), a behaviour change management consultancy which works to address the causes and consequences of violent crime in Trinidad and Tobago. Levels of violence are high in many communities, and the impacts on families are deep and far-reaching, particularly for young men who are vulnerable to being recruited into gangs and perpetuating violence. Supported by BG Group, Atlantic and BP in Trinidad and Tobago, Dolly & Associates has set up and runs a programme called 'Boys Nature Nurture Camp' to tackle this issue, working with boys to address their traumas and prevent further damage. Started as a two-week vacation camp programme for boys aged between eight and 12, the programme has now expanded and is based in the communities where the children live. We and the other partners in the project also provide mentors for them.

Video

[Working with the Toco Foundation](#)



Supported by BG Group, Atlantic and BP in Trinidad and Tobago, Dolly & Associates has set up and runs a programme called 'Boys Nature Nurture Camp' to tackle this issue, working with boys to address their traumas and prevent further damage. Started as a two-week vacation camp programme for boys aged between eight and 12, it has now expanded and is based in the communities where the children live. We and the other partners in the project also provide mentors for them.

SUPPORTING COMMUNITY EDUCATION

Wayne Jordan is a high-profile community activist, the founder and principal of the Each One Teach One preschool, and the founder of the longest-running preschool, the All in One Child Development Centre. Both projects are in the Beetham Estate community in Port of Spain, a community that faces particularly high levels of deprivation. BG Group has helped with strategic planning and STEM training for the principal and staff of the All in One Child Development Centre.

Video

[Supporting education on the East Coast](#)



TRINIDAD AND TOBAGO continued

WORKING WITH THE YOUTH TRAINING AND EMPLOYMENT PARTNERSHIP PROGRAMME

We support the [Youth Training and Employment Partnership Programme](#) (YTEPP) Limited, a programme aimed at addressing the issue of escalating unemployment, particularly among young people between the ages of 15 and 35. YTEPP offers a range of vocational courses and training, including in entrepreneurship.

Video

[Supporting YTEPP, a local organisation that trains young people](#)



In 2013, the first batch of students graduated from the vocational training centre, which we established in collaboration with YTEPP and the 5th Company Baptist Church. We also financed the upgrade and renovation of the former training centre owned by a community church, and purchased computers for computer training, while YTEPP delivered the training programmes.

We have been supporting YTEPP for approximately two years as part of our overall strategy to build skills and education. Our support for the programme also includes maintenance of the centre, and monitoring YTEPP's outreach activities.

PROTECTING BIODIVERSITY

Biodiversity is particularly important for Trinidad and Tobago, where many traditional livelihoods, such as hunting, fishing, and farming depend on the environment. In addition, the island's biodiversity, if managed effectively, can provide opportunities for new sustainable industries, such as agroforestry.

Trinidad and Tobago is particularly important from a biodiversity perspective. Due to its location close to the South American mainland and the outflow of the Orinoco River, it has a very diverse range of habitats in a small area. It is home to a number of tropical ecosystems, and over 3 000 species, including 470 bird species, in just 2 000 square miles. The island's tropical forests are particularly important, and NGOs are working to raise awareness of the value of biodiversity, and of the damage that can be caused by hunting, forest fires, waste contamination or other behaviours and practices.

Protecting and supporting biodiversity, and promoting its wider benefits, is a priority for the government of Trinidad and Tobago, and a growing environmental awareness on the island has focused attention on this issue.

TRINIDAD AND TOBAGO continued

BG GROUP'S ROLE

We recognise the importance of biodiversity in Trinidad and Tobago, including the negative impact we can have on it, for example, if we have to clear land to construct facilities. We therefore have a responsibility to ensure that all potential risks to biodiversity are understood, and appropriate measures are put in place to prevent and mitigate these.

REFORESTATION IN THE VICTORIA-MAYARO RESERVE

In 2012, in keeping with BG Group's principle of 'no net loss of biodiversity' we completed a five-year reforestation programme to compensate for the removal of approximately 22 hectares of state forest within the Victoria-Mayaro (VM) Forest Reserve. The investment in the project was approximately US\$650 000.

This project aimed to rehabilitate a degraded forested area to the original forest type, while improving the productivity of the land for wildlife. The area selected was a large tract of degraded forest in the northern part of the VM Reserve that had been affected by oil and gas activity, timber sales, clearing by agricultural squatters, and occasional wildfires. Other project aims included conservation of the forest soil, setting up a viable community-based enterprise around the establishment, care of the enriched forest, and reducing the incidence of wildfires through preventive community action.

We implemented the project with the support of Environmental Management Planning and Associates Limited, a key contractor experienced in community forestry, and a community organisation, the Evergreen Community Re-Leaf Bloc (ECRB), which executed the field work for the programme.

The project faced a range of challenges, from natural factors such as insect damage, weather conditions, and competing vegetation, to human factors such as contractor management, the risk of forest fires being started, and productivity issues.

Despite these, the project successfully achieved its goals. Over 6 000 trees of mixed hardwood and fruit bearing forest species were planted, providing an appropriate habitat for a range of wildlife. The project helped to build the capability of the ECRB, and also successfully managed the threat of man-made fires – a major achievement compared with other projects where fires had been deliberately started as a result of disputes or other grievances.

It received a highly commended Corporate Social Responsibility award from the [Trinidad and Tobago Energy Chamber](#) in recognition of its good work, and the successful engagement of the community.



Victoria-Mayaro Forest Reserve, Trinidad

Video

[Reforestation Project](#)



TRINIDAD AND TOBAGO continued

Moving on from the reforestation in the Victoria-Mayaro project, we have committed to developing a five-year biodiversity action plan. This plan, which we are developing with the help of an external biodiversity consultant, Dr Floyd Homer, will identify a range of initiatives that we can undertake to prevent or reduce any impacts that our operations may have on biodiversity where we operate. In addition, the plan will look at ways in which we can support government biodiversity priorities, and we are looking into partnering with government agencies, and local and international NGOs.

Video

[Our five-year biodiversity action plan](#)



DATA

This **section** presents the key environmental, social and governance data which we report, by function, and shows our progress against previous years.

DATA TABLES

SAFETY, HEALTH AND CONDUCT

SAFETY

SAFETY – 2013

	Africa	Americas	Asia	Australia	Europe
Total Recordable Case Frequency (TRCF), per million work hours					
Employees	0.47	0.74	0.48	0.00	0.92
Contractors	1.54	1.01	0.42	3.55	1.23
Total workforce	1.29	0.94	0.43	3.13	1.12
Lost Time Injury Frequency (LTIF), per million work hours					
Employees	0.00	0.37	0.48	0.00	0.92
Contractors	0.84	0.58	0.17	0.42	0.61
Total workforce	0.65	0.52	0.25	0.37	0.71
Fatalities, number of incidents					
Employees	0	0	0	0	0
Contractors	1	0	0	0	0

SAFETY – HISTORICAL TREND

	2013	2012	2011	2010	2009
TRCF, per million work hours					
Employees	0.48	0.53	0.67	0.63	0.84
Contractors	1.95	2.73	2.35	1.04	1.83
Total workforce	1.64	2.26	1.92	0.94	1.59
LTIF, per million work hours					
Employees	0.35	0.31	0.18	0.31	0.35
Contractors	0.45	0.70	0.59	0.43	0.44
Total workforce	0.42	0.61	0.49	0.40	0.41
Fatalities, number of incidents					
Employees	0	0	0	0	0
Contractors	1	2	3	2	2

DATA TABLES continued

HEALTH

HEALTH – 2013

	Africa	Americas	Asia	Australia	Europe
Occupational Illness Frequency (OIF), per million work hours					
Total workforce	0.27	0.31	0.06	0.11	0.41
Occupational illnesses by type, number denotes number of cases, number in brackets denotes number of people affected^(a)					
Food-borne illness	3 (3)				1 (1)
Vector-borne diseases	2 (2)	1 (1)			
Deep vein thrombosis		1 (1)			
Musculoskeletal disorder		1 (1)		2 (2)	1 (1)
Noise-induced hearing loss			2 (2)		
Heat stress				2 (2)	
Work-related stress					2 (2)
Total	5 (5)	3 (3)	2 (2)	4 (4)	4 (4)

(a) Reported cases only.

HEALTH – HISTORICAL TREND

	2013	2012	2011	2010	2009
OIF, per million work hours					
Total workforce	0.17	0.21	0.49	0.56	0.22

ETHICAL CONDUCT

ETHICAL CONDUCT – 2013

	2013	2012	2011	2010	2009
Per cent of Speak Up/ whistleblowing cases relating to^(a):					
General workplace concerns ^(b)	48%	–	–	–	–
Malpractice ^(c)	29%	–	–	–	–
HSSE ^(d)	12%	–	–	–	–
Fraud ^(e)	11%	–	–	–	–
Number of employees and individual contractors who have completed our Fraud & Bribery e-learning^(a)					
	2 560	–	–	–	–

(a) This data was not reported in data tables in previous years but was reported in the narrative of the report.

(b) General workplace concerns, including allegations of harassment and discrimination.

(c) Malpractice, including allegations of breaches of the Group's Ethical Conduct Policy and Standards, including corruption.

(d) Health, safety, security and environment.

(e) Fraud, including allegations of theft or misuse of funds.

ETHICAL CONDUCT – HISTORICAL

	2013	2012	2011	2010	2009
Speak Up/whistleblowing – given as number of cases					
	106	120	134	151	125
Number of cases where actions were taken against individuals, following Speak Up investigations^(a)					
	18	18	28	24	15

(a) In 2010, the reporting methodology for actions as a result of Speak Up investigations was changed. 2009 reported cases only included cases where disciplinary action was taken. 2010, 2011, 2012 and 2013 data includes reported cases where actions ranged from training requirements or disciplinary action, to contract termination or other appropriate action.

DATA TABLES continued

ENVIRONMENT AND CLIMATE CHANGE

ENVIRONMENT

NON-GREENHOUSE GAS EMISSIONS

by type ('000 tonnes) – 2013

	Venting	Fugitive	Flaring	Fuel use	Electricity generation	Distribution losses
Carbon monoxide			2	15	0	
Nitrogen oxides			1	31	1	
Sulphur dioxide			13	15	0	
Volatile organic compounds	4	3	1	1	0	0

by type ('000 tonnes) – historical

	2013	2012	2011	2010	2009
Carbon monoxide	17	16	14	12	10
Nitrogen oxides	33	32	29	21	19
Sulphur dioxide	28	24	21	23	29
Volatile organic compounds	9	11	12	12	11

by type (tonnes/mmboe) – historical^(a)

	2013	2012	2011	2010	2009
Carbon monoxide	43	35	31	25	19
Nitrogen oxides	84	68	63	42	36
Sulphur dioxide	70	52	46	46	56
Volatile organic compounds	22	23	24	24	21

(a) Non GHG emissions (tonnes/mmboe) recalculated for 2009 – 2012 using gross production volumes rather than BG Group net production volumes.

ENERGY USE (GWHRs)

	2013	2012	2011	2010	2009
Gas	21 575	25 443	25 627	28 577	32 784
Electricity	28	34	32	46	59
Oil	4762	3948	2897	2391	3662
Total	26 365	29 425	28 556	31 014	36 505

WATER DISPOSED

by type and method ('000 tonnes) – 2013

	Authorised landfill	Incineration	In situ disposal	Treatment / discharge	Reuse / recycling	On-site storage
Cuttings	1	0	1	0	8	1
Metals	0	0	0	0	1	0
General	14	1	0	0	5	98
Hazardous	6	1	7	64	34	30
Total	21	2	8	64	48	129

by type ('000 tonnes) – historical

	2013	2012	2011	2010	2009
Cuttings	10	7	10	7	16
Metals	1	1	1	2	1
General	20	40	13	7	11
Hazardous	112	65	15	24	19
Total	143	113	39	40	47

DATA TABLES continued

WATER DISPOSED

by type and method ('000 tonnes) – 2013

	Coastal water	Open marine	Groundwater / reinjection		Inland sewerage system	Inland surface water	Soil water / irrigation	Evaporation	Reused / recycled by third party	
			to freshwater aquifer	to non-freshwater aquifer					Freshwater	Non-freshwater
Produced water		4 897		281		13		1 509		
Oil in produced water		0		0		0				
Process water	6	14		43	2		4			
Oil in process water	0									
Other waste oily water	0	15		7		1				
Oil in other waste oily water	0	0		0		0				
Associated water							14 401	2 760		1 057
Total oil	0	0		0		0				
Total water	6	4 926		331	2	14	14 405	4 269		1 057

by type ('000 tonnes) – historical

	2013	2012	2011	2010	2009
Produced water	6 700	6 921	6 090		
Oil in produced water	0	0	0		
Process water	69	230	287	9 386	7 335
Oil in process water	0	0	0	0	0
Other waste oily water	23	14	8		
Oil in other waste oily water	0	0	0		
Associated water	18 218	4 558	3 272		
Total oil	0	0	0	0	0
Total water	25 010	11 723	9 657	9 386	7 335

WATER WITHDRAWAL

by type and source ('000 tonnes) – 2013

	Desalinated associated water	Desalinated ground water	Ground water	Desalinated seawater	Seawater	Municipal water supplies	Rain water	Reused / recycled	Surface water	Waste (third party)
Freshwater use		2	197	30		500		36	196	
Non-freshwater use	161			27	81			676	5	
Total	161	2	197	57	81	500		712	201	

by type ('000 tonnes) – historical

	2013	2012	2011	2010	2009
Freshwater use	961	1 824	1 904	1 857	2 190
Non-freshwater use	950	74	107		
Total	1 911	1 898	2 011	1 857	2 190

CONTROLLED DISCHARGES TO SEA

from drilling activities ('000 tonnes)

	2013	2012	2011	2010	2009
Drill cuttings	22	13	10	15	29
Oil in cuttings	1	0	0	0	1
Muds	57	14	13	15	25
Total	80	27	23	30	55

DATA TABLES continued

SPILLS TO THE ENVIRONMENT

	2013	2012	2011	2010	2009
Hydrocarbon spills (number)					
Spills to land	143	192	140	37	14
Spills to sea	30	17	24	17	43
Total	173	209	164	54	57
Hydrocarbon spills of more than 1 barrel (number)					
Spills to land	13	11	12	5	1
Spills to sea	2	0	6	6	9
Total	15	11	18	11	10
Volume of hydrocarbon spills (bbls)					
Spills to land	55	60	203	42	9
Spills to sea	7	1	82	617	170
Total	62	61	285	659	179
Associated water spills (number)					
Spills to land	41	25	36	40	38
of which >1 barrel	29	16	25	25	6
Associated water spills (volume – m³)					
Spills to land	6 229	170	1 030	774	–

CLIMATE CHANGE

GREENHOUSE GAS (GHG) (CARBON DIOXIDE EQUIVALENT) EMISSIONS OVERVIEW

GHG emissions from operations under BG Group control ('000 tonnes CO₂e)					
	2013	2012 ^(a)	2011 ^(a)	2010	2009
Scope 1	6 959	7 740	7 507	8 716	9 897
Scope 2	15	19	16	24	30
Total	6 974	7 759	7 523	8 740	9 927
Scope 1 and 2 GHG emissions intensity^(b)					
GHG emissions intensity from operations under BG Group control ('000t CO₂e/mmboe)					
	2013	2012	2011	2010	2009
Upstream	13.7	13.2	11.9	10.9	9.4
Global Shipping & Marketing	27.1	21.4	21.2	21.6	26.8
Other	91.5	34.3	41.2	40.8	53.2
BG Group total	17.5	16.6	16.3	17.5	18.8
Scope 3 GHG emissions ('000 tonnes CO₂e)					
	2013	2012	2011	2010	2009
BG Group total	87 695	90 418	87 678	88 692	88 653

(a) Scope 2 GHG emissions updated for 2011 and 2012 using latest IEA CO₂ emission factors for purchased electricity.

(b) GHG emissions intensity ('000 tonnes/mmboe) recalculated for years 2009 to 2012 using gross production volumes rather than BG Group net production volumes.

DATA TABLES continued

SCOPE 1 GHG EMISSIONS

by source ('000 tonnes)					
	2013	2012	2011	2010	2009
Venting	486	595	676	643	634
Fugitive	49	45	19	6	5
Flaring	584	620	559	795	706
Fuel use	5 549	5 276	4 623	3 902	4 101
Electricity generation	288	1 114	1 526	2 614	3 683
Distribution losses	3	90	104	756	768
Total	6 959	7 740	7 507	8 716	9 897
by GHG ('000 tonnes of CO ₂ e)					
	2013	2012	2011	2010	2009
Carbon dioxide	6 609	7 306	7 064	7 665	8 836
Methane	283	368	381	985	981
Nitrous oxide	67	66	62	66	80
Total	6 959	7 740	7 507	8 716	9 897
by business segment ('000 tonnes)					
	2013	2012	2011	2010	2009
Upstream	4 101	4 250	3 852	3 723	3 417
LNG Shipping & Marketing	2 562	2 271	2 007	1 605	2 015
Other	2 96	1 219	1 648	3 388	4 465
Total	6 959	7 740	7 507	8 716	9 897
Intensity by business segment ('000 tonnes per mmboe) ^(c)					
	2013	2012	2011	2010	2009
Upstream	13.7	13.2	11.9	10.9	9.4
LNG Shipping & Marketing	27.1	21.4	21.2	21.6	26.8
Other	89.8	34.1	41.0	40.6	52.9
BG Group overall	17.5	16.6	16.3	17.5	18.8

(c) GHG emissions intensity ('000 tonnes/mmboe) recalculated for years 2009 to 2012 using gross production volumes rather than BG Group net production volumes.

METHANE EMISSIONS FROM OPERATIONS UNDER BG GROUP CONTROL

(tonnes)					
	2013	2012	2011	2010	2009
Venting	5 780	5 620	7 069	6 227	5 417
Fugitive	2 296	2 148	981	306	243
Flaring	2 269	2 376	2 016	2 447	2 251
Fuel use	3 007	3 055	2 991	1 700	1 914
Electricity generation	23	100	137	263	364
Distribution losses	123	4 225	4 949	35 962	36 525
Total	13 498	17 523	18 143	46 904	46 714
Total methane emissions per unit of production by business segment given as a percentage of production					
	2013	2012	2011	2010	2009
Upstream	0.02%	0.01%	0.01%	0.01%	0.01%
Global Shipping and Marketing	0.01%	0.01%	0.01%	0.00%	0.00%
Other	0.02%	0.05%	0.05%	0.17%	0.18%
Direct ^(d) methane emissions (losses) per unit of production by business segment given as a percentage of production					
	2013	2012	2011	2010	2009
Upstream	0.01%	0.01%	0.01%	0.01%	0.01%
Global Shipping and Marketing	0.00%	0.00%	0.00%	0.00%	0.00%
Other	0.02%	0.05%	0.05%	0.17%	0.17%

(d) Direct methane emissions exclude combustion sources.

DATA TABLES continued

SCOPE 2 GHG EMISSIONS (FROM PURCHASED ELECTRICITY)

by business segment ('000 tonnes)					
	2013	2012 ^(e)	2011 ^(e)	2010	2009
Upstream	9.8	10.4	9.0	9.6	7.8
Global Shipping & Marketing	–	–	–	–	–
Other	5.3	8.2	7.4	14.7	22.2
BG Group total	15.1	18.6	16.4	24.3	30.0
intensity by business segment ('000 tonnes per mmboe) ^(f)					
	2013	2012 ^(e)	2011 ^(e)	2010	2009
Upstream	0.03	0.03	0.03	0.03	0.02
Global Shipping & Marketing	–	–	–	–	–
Other	1.62	0.23	0.18	0.18	0.26
BG Group overall	0.04	0.04	0.04	0.05	0.06

(e) Scope 2 GHG emissions updated for 2011 and 2012 using latest IEA CO₂ emission factors for purchased electricity

(f) GHG emissions intensity ('000 tonnes/mmboe) recalculated for years 2009 to 2012 using gross production volumes rather than BG Group net production volumes.

EQUITY SHARE BASIS GHG EMISSIONS

	2013	2012	2011	2010	2009
GHG emissions ('000 tonnes)	8 321	9 608	10 611	12 232	13 862
GHG emissions intensity ('000 tonnes per mmboe) ^(g)	22.6	22.9	25.3	28.4	33.1

(g) GHG emissions intensity ('000 tonnes/mmboe) recalculated for years 2009 to 2012 using gross production volumes rather than BG Group net production volumes.

DATA TABLES continued

PEOPLE AND COMMUNITIES^(a)

(a) All figures are reported as at 31 December, 2013, except where specified

OUR PEOPLE BY COUNTRY – 2013

	Australia	Bolivia	Brazil	Canada	China
Total employees in country	1 421	83	223	8	19
Total employees on local contracts	1 278	83	216	0	19
Local employees by gender					
Male	948	57	133		4
Female	330	26	83		15
Local employees working away at other BG Group locations	46	6	34		3
Employees working in country from other BG Group locations	189	6	41	8	3
Contractors	821				1
	Egypt	Equatorial Guinea	India	Italy	Japan
Total employees in country	220	1	312	2	2
Total employees on local contracts	173		351	2	2
Local employees by gender					
Male	125		311	2	2
Female	48		40		
Local employees working away at other BG Group locations	21	0	56	2	
Employees working in country from other BG Group locations	68	1	17	2	
Contractors	32		76		
	Kazakhstan	Kenya	Korea	Norway	Russia
Total employees in country	160	2	8	71	1
Total employees on local contracts	65			53	
Local employees by gender					
Male	24			31	
Female	41			23	
Local employees working away at other BG Group locations	9			11	
Employees working in country from other BG Group locations	104	2	8	29	1
Contractors	7			71	

DATA TABLES continued

OUR PEOPLE BY COUNTRY – 2013 continued

	Singapore	Tanzania	Thailand	Trinidad and Tobago	Tunisia	
Total employees in country	60	73	26	459	398	
Total employees on local contracts	37	33	17	430	390	
Local employees by gender						
Male	13	20	4	298	328	
Female	24	13	13	132	62	
Local employees working away at other BG Group locations	4		1	30	19	
Employees working in country from other BG Group locations	27	40	10	59	27	
Contractors	2	25		66	17	
	U.K.	Uruguay	U.S.	Global ^(b)	Others ^(c)	
Total employees in country	1 488	1	380	0	4	
Total employees on local contracts	1 791		402	76	4	
Local employees by gender						
Male	1 293		261	67	4	
Female	498		141	9		
Local employees working away at other BG Group locations	429		79	76		
Employees working in country from other BG Group locations	126	1	57			
Contractors	377		73		14	
Group total						
Total employees in country						5 422
Total employees on local contracts						5 422
Local employees by gender						
Male						3 925
Female						1 497
Local employees working away at other BG Group locations						826
Employees working in country from other BG Group locations						826
Contractors						1 582

(b) Employees on global contracts with no fixed location.

(c) Others includes employees on contracts in locations not hosted on the central data system in 2013: Gaza (4 employees), Bolivia (14 contractors).

DATA TABLES continued

OUR EMPLOYEES – HISTORICAL

	2013	2012	2011	2010	2009
Total, average for year^(d)	5 536 ^(e)	6 569	6 472	6 171	6 079
of which employed outside of UK, average for year^(d)	3 758	4 703	4 496	4 211	4 163
of which working away from home country	802	775	679	646	623
Nationalities	73	73	73	75	75

(d) This data has been assured through the Annual Reports and Accounts.

(e) Significant decrease of employees due to the exit of Comgas (November 2012) and Gujarat Gas (June 2013).

OUR EMPLOYEES AGE AND GENDER SPLIT – 2013

	Count
by age	
<30	856
30-50	3 589
>50	977
by gender	
Male	3 925
Female	1 497

EMPLOYEES WORLDWIDE AGE AND GENDER SPLIT – HISTORICAL

	2013	2012	2011	2010	2009
Age, by percentage					
<30	15.8%	15.9%	15.5%	16%	16%
30-50	66.2%	64%	66.8%	66%	66%
>50	18.0%	20.1%	17.7%	18%	18%
Gender, by percentage					
Male	72%	72%	71%	72%	72%
Female	28%	28%	29%	28%	28%

TURNOVER – 2013

	Count	Leavers	Turnover percentage			
By gender						
Male	3 925	392	9.99%			
Female	1 497	139	9.29%			
Total	5 422	531	9.79%			
By age						
<30	856	76	8.88%			
30-50	3 589	333	9.33%			
>50	977	122	12.28%			
Total	5 422	531	9.79%			
By location						
	Africa	Americas	Asia	Australia	Europe	Globalists
Count	596	1 131	495	1 278	1 846	76
Leavers	55	144	56	103	167	6
Turnover % in region	9.23%	12.73%	11.31%	8.06%	9.05%	7.89%
% in total group	1.01%	2.66%	1.03%	1.90%	3.08%	0.11%

DATA TABLES continued

TURNOVER – HISTORICAL					
	2013	2012	2011	2010	2009
Gender, by percentage					
Male	9.99%	13.4%	10.6%	10.7%	6.7%
Female	9.29%	14.7%	12%	13.2%	8.6%
Age, by percentage					
<30	8.88%	9.2%	7.7%	9.5%	6%
30-50	9.33%	12.9%	10.2%	11%	7.3%
>50	12.28%	20.3%	16.7%	14.8%	8.1%
Percentage total					
Total	9.79%	13.80%	11%	11%	7%

TURNOVER OF NEW JOINERS – 2013

	Total joiners	Leavers	Turnover percentage			
By gender						
Male	639	16	2.50%			
Female	179	9	5.03%			
Total	818	25	3.06%			
By age						
<30	239	10	4.18%			
30-50	505	12	2.38%			
>50	74	3	4.05%			
Total	818	25	3.06%			
By location						
	Africa	Americas	Asia	Australia	Europe	Globalists
Count	37	139	57	421	150	14
Leavers	0	5	3	15	1	1
Turnover % in region	0.00%	3.60%	5.26%	3.56%	0.67%	7.14%
% in total group	0.00%	0.61%	0.37%	1.83%	0.12%	0.12%

DIVERSITY – HISTORICAL

	2013	2012	2011	2010	2009
By percentage					
Women in workforce	28%	28%	29%	28%	28%
Women in senior leadership positions ^(f)	13%	12%	10%	10%	10%
Country management teams employed on local terms and conditions	52%	58%	51%	50%	–
Country management teams employed on local terms and conditions from non-OECD countries	43%	32%	32%	24%	–
Number of employees covered by a Trade Union Agreement	14%	11%	34%	31%	–

(f) Prior to 2013, 'senior leadership' was defined as two levels below the Group Executive Committee (GEC) (BG Group B grades) and above. However, from 2013 'senior leadership' is now defined internally as one level below the GEC (BG Group grades A and above). This is the same definition used in our diversity statement.

DATA TABLES continued

PARENTAL LEAVE		
	2013	2012
Employees who took parental leave		
Male ^(g)	79	61
Female	72	103
Employees who returned from parental leave		
Male ^(g)	78	56
Female	70	78
Employees who returned to work after parental leave ended in 2012 were still employed 12 months after their return to work		
Male ^(g)	54	44
Female	71	72
Retention rate of employees on parental leave		
Male ^(g)	100%	100%
Female	93%	92% ^(h)

(g) In some operations, men are not requested to inform HR of their parental leave so no data is available to report.

(h) This data include two individuals who left due to closure of one of the Group's offices and operations.

SOCIAL PERFORMANCE

SOCIAL INVESTMENT, IN US\$'000S

	2013	2012	2011	2010	2009
Total voluntary (a)	16 089	25 432	11 484	6 328	5 575
Total mandatory (b)	1 800	1 800	1 819	2 006	3 113
Total	17 889	27 232	13 303	8 334	8 688

(a) Voluntary – Social investment spend that BG Group makes on a voluntary basis.

(b) Mandatory – Social investment spend that is a requirement or obligation under a licence, production sharing contract or other commercial agreement with a host government.

SOCIAL INVESTMENT SPEND BY COUNTRY (US\$)

Country	Social investment (US\$)
Australia	6 319 954
Brazil	1 971 321
Canada	428 689
Egypt	854 515
Kazakhstan	828 728
Tanzania	1 465 649
Trinidad and Tobago	1 412 843
Tunisia	353 334
UK	1 773 314
Other ^(c)	2 480 794
Total	17 889 142

(c) 'Other' includes Bolivia, Equatorial Guinea, India, Thailand, Uruguay (GSDS) and USA.

TARGETS

As well as reporting historic performance, we set targets for the coming year, some of which we publish here.

TARGETS

SAFETY, HEALTH AND CONDUCT

Ethical conduct

Our targets for 2013	2013 outcomes	Our targets for 2014
Continue to visit operations to monitor compliance	Target met	Undertake at least four visits to operations deploying either in-house teams or independent assessors
Ensure all key operations have refreshed their risk assessments and, as necessary, developed action plans identifying initiatives to improve their management of ethical conduct	Target met	100% of operations to conduct quarterly reviews of their ethical conduct risks and action plans
		Roll out new fraud management training to all individuals in key roles for the detection and prevention of fraud

Safety

Our targets for 2013	2013 Outcomes	Our targets for 2014
Total Recordable Case Frequency (TRCF) of 1.75 per million man hours	Target met TRCF of 1.64	TRCF of 1.40 per million man hours
95% of key (high HSSE risk) contracts to be actively managed ¹	Target not met 91% achieved (we classify this as 'amber' – within agreed tolerance – in our traffic light system)	95% of key (high HSSE risk) contracts to be actively managed

Health

Our targets for 2013	2013 Outcomes	Our targets for 2014
In 2012, occupational illness frequency (OIF) was reported in the Sustainability Report but no target was set in this section	Target met 0.17 incidents per million man hours	OIF per million man hours of 0.50
We did, however, have an internal target of 0.5 incidents per million man hours		

¹ For 2013, the target was changed from 'tracked' to 'actively managed', a more demanding target that requires active planning and management of health and safety contract risks.

TARGETS continued

ENVIRONMENT AND CLIMATE CHANGE

Our targets for 2013	2013 Outcomes	Our targets for 2014
All businesses with water risks to develop water management plans	Target met All businesses with water risks have developed water management plans in line with the Group Water Management Strategy	Develop a water management plan for Tanzania All businesses with water management plans to implement agreed actions for 2014
Keep emissions intensity constant with 2012 levels	Target met Our emissions intensity from our operated assets, including equity share from non-operated joint-ventures, was 99% of 2012 levels, below the target we set ourselves. The target was partly achieved by implementing projects which reduced emissions by 200,000 tonnes ²	Continue to work towards the 2013-17 GHG emissions intensity target: <ul style="list-style-type: none"> • LNG Liquefaction segment: 15% improvement in GHG emissions intensity • Upstream production segment: 8% improvement in GHG emissions intensity. This equates to a 10% intensity reduction overall
Reduce Group-wide operated sulphur dioxide (SO ₂) emissions by 35% from 2012 levels by 2015 through process improvements in Tunisia	Ongoing On track to achieve this target by 2015	Reduce Group-wide operated sulphur dioxide (SO ₂) emissions by 35% from 2012 levels by end 2015 through process improvements in Tunisia Conduct methane assessment Report progress on minimising methane emissions

PEOPLE AND COMMUNITIES

People

Our targets for 2013	2013 Outcomes	Our targets for 2014
Establish and improve the succession planning process and philosophy	Target met An integrated annual talent review and succession planning process developed and implemented	Actively manage university relationships to attract the best candidates from around the world
Work on our key differentiation factors (relative to competitors for talent) Develop a way of bringing our values and beliefs to life to deepen employee pride and sense of belonging	On-going Global research undertaken internally to understand the values and beliefs in the organisation	Develop action plans to respond to the results of the 2013 employee survey
Introduce new resourcing systems	Target met A new model for resourcing was implemented	
Increase the level of leadership capability	Target met Emerging Leaders Programme delivered, and development of a new corporate leadership module completed	

² However, our emissions intensity from operated assets only in 2013 was 105% of 2012 (see [Climate change](#)).

TARGETS continued

Review, refine and implement key performance indicators for Resourcing, Talent Management, Development and Leadership	Target met Key performance indicators were established, integrated with the HR strategy, and reviewed on a quarterly basis	
Introduce capability framework across business	Target met A new workforce planning model was developed	
Develop a detailed diversity strategy with accompanying targets and implementation plan	Target met Diversity and Inclusion strategy was developed and approved	Implement our diversity and inclusion strategy Develop and deliver an Inclusive Leadership workshop

Social performance

Our targets for 2013	2013 Outcomes	Our targets for 2014
Continue an active work programme on partnerships with the International Business Leaders Forum (IBLF) and other organisations to support a broader strategy on external engagement	Target met We continued active partnerships with the Centre for Social Responsibility in Mining, the London Science Museum, Excitec/Imperial College, and the Institute for Human Rights and Business ³	Establish a group wide community information management system Ensure we have functioning and effective grievance mechanisms in all our new operations and major exploration projects
Expand our social investment partnerships in the areas of STEM education, vocational education and training, and livelihood and enterprise development	Target met Launched new global partnership with Youth Business International, to help young people start their own businesses and improve livelihoods Expanded or started new STEM education partnerships in Brazil, UK, Tanzania, and Trinidad and Tobago Expanded our vocational education, and training partnerships in Tanzania and Brazil Our Senai vocational training programme expanded into Chaquedias in Brazil, and our partnership with the Tanzanian Vocational Education Training Authority (VETA) expanded to the Lindi region of Tanzania	Expand our social investment partnerships in the areas of STEM education, vocational education and training and livelihood and enterprise development, and consolidate existing activities Implement youth entrepreneurship programmes under our global partnership with Youth Business International in five countries Establish new programmes/partnerships in vocational training and skills building in at least three countries
Conduct a human rights impact assessment	Target met We conducted our first stand-alone human rights impact assessment in 2013	Publish our approach to human rights implementation Strengthen implementation of the Voluntary Principles on Security and Human Rights (VPSHR), including by updating our VPSHR guidelines Contribute to the development of human rights impact assessment methodology. Participate in at least one relevant global forum

³ IBLF was dismantled during the year and its core programmes have been spun off into independent entities. We continue to work with 'The Partnership Initiative' (a spin off from the IBLF). We delivered partnership training to a core group of the social performance team in June 2013.

ASSURANCE

INDEPENDENT ASSURANCE REPORT

OUR SCOPE

BG Group commissioned DNV Two Tomorrows Limited (“DNV GL”) to undertake independent assurance of its Sustainability Report 2013 as published at www.bg-group.com for the following areas:

- Sustainability performance data for the year ended 31 December 2013, as published in the [Data](#) section; and
- BG Group's self-declared Global Reporting Initiative (GRI) application level of A+ of the GRI “G3.1” Guidelines as published in the [GRI index](#) section.

OUR APPROACH

We performed our work using DNV GL's assurance methodology which is based on our professional experience and international assurance best practice, including reference to the International Standard on Assurance Engagements 3000 (Revised) – ‘Assurance Engagements Other Than Audits and Reviews of Historical Financial Information’.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance conclusions. We are providing a ‘limited level’ of assurance. A ‘reasonable level’ of assurance would have required additional work at Group and site level to gain further evidence to support the basis of our assurance conclusions.

We used the BG Group's [Data Methodology](#) which sets out how the sustainability performance data are measured, recorded and reported, as the basis of the Reporting Criteria for undertaking our assurance work. We also used the GRI Quality of Information Principles to evaluate the performance data.

BASIS OF OUR OPINION

A multi-disciplinary team of sustainability and assurance specialists performed work at Group and asset level. Our assurance work included the following:

- Interviewing senior management responsible for the management of sustainability, the Sustainability Report 2013 and data reporting systems;
- Visiting a sample of three BG Group assets (Aberdeen, Houston and Brazil) to review the systems and processes used at the asset head office level to collect and report the sustainability performance data to Group level;
- Reviewing and sample checking the sustainability performance data measurement, collection and reporting processes at Group level;
- Reviewing how the sustainability performance data was represented in the [Data](#) section and within the relevant Performance sections of the Sustainability Report 2013; and
- Assessing the [GRI index](#) for compliance with the GRI application level requirements for A+.

RESPONSIBILITIES OF THE DIRECTORS OF BG GROUP AND OF THE ASSURANCE PROVIDERS

The Directors of BG Group have sole responsibility for the preparation of the Sustainability Report 2013. In performing our assurance work, our responsibility is to the management of BG Group; however our statement represents our independent opinion and is intended to inform all of BG Group's stakeholders including its management. We were not involved in the preparation of any part of the Sustainability Report 2013. However, having reviewed and provided feedback on drafts of the Sustainability Report 2013 (including the Data Methodology Appendix), in a number of instances changes were made to the final version.

Our assurance team provided an additional service to BG Group in 2013: an independent benchmarking report of key performance indicators publicly reported across the oil and gas sector. We have not been involved in the implementation of any of the recommendations made during the course of these reviews. DNV GL provides a range of other services to BG Group, none of which constitute a conflict of interest with this assurance work.

INDEPENDENT ASSURANCE REPORT continued

OUR CONCLUSIONS

On the basis of the work undertaken, nothing came to our attention to suggest that:

- the sustainability performance data for the year ended 31 December 2013, as published in the [Data](#) section, are not prepared in all material respects with the Reporting Criteria; and
- BG Group's self-declared GRI application level of A+ of the GRI "G3.1" Guidelines as published in the [GRI index](#) section is not fairly stated in all material respects.

OUR KEY OBSERVATIONS AND RECOMMENDATIONS

Without affecting our assurance opinion, our key observations and recommendations are summarised below. We have provided a confidential Management Letter containing additional detail on these observations and recommendations to BG Group management.

We note BG Group's progress during 2013, in particular:

- BG Group has responded to issues raised through the 2013 stakeholder engagement and materiality review, extending coverage in the Sustainability Report 2013 of biodiversity, diversity, supplier and contract management, water, methane emissions, and providing further information on social due diligence processes when entering new markets.
- We found evidence that BG Group's sustainability reporting process is having an influence on its business strategy. We recommend that BG Group should consider how to further use the Sustainability Report and the reporting process itself to challenge and drive strategic decision making across the business. By engaging both internal and external stakeholders during the reporting process BG Group can better respond to upcoming risks and opportunities and shape future strategy.
- We note BG Group's improvements in the accuracy of hours worked data through a greater focus on business functions, leading to more accurate reflections of working patterns in each function.

We have agreed with BG Group that the company will consider the following issues during the year ahead:

- BG Group introduced new business goals in the [Targets](#) section of the Sustainability Report 2013. These include the new GHG emissions targets and a target of Occupational Illness Frequency of 0.50 per million man hours. Other goals describe more general business plans, for example: to roll out fraud training, to conduct a methane assessment and report progress on minimising methane emissions, actively managing university relationships to attract candidates for employment and to develop action plans to respond to the results of the 2013 employee survey. **We recommend that BG Group should focus this section in future on reporting against measurable, quantitative targets for both the medium and long term. In particular, we suggest introducing quantifiable targets for People and Social Performance.**
- We restate our recommendation that BG Group should review the data included in the [Data](#) section of the Sustainability Report 2013, to ensure that these represent the most material data for the Group and the industry. There is evidence that the data in the Environment, Climate Change, Ethical Conduct, Safety tables are material and in line with industry reporting. Some other data seem peripheral to the Group's strategy, and with no obvious link to business targets or BG Group's published strategy, for example, the number of employees covered by a Trades Union Agreement. **We recommend that future reports include metrics in the [Data](#) section on graduates, talent management, succession plans and employee engagement, which are keys parts of BG Group's People strategy.**
- We note BG Group's appointment in 2013 of a new Head of Diversity and Inclusion and the launch of BG Group's Pride network, which is part of BG Group's increased focus on diversity. **We recommend that BG Group should consider ways to measure and report progress to further demonstrate implementation.**
- Our benchmarking research conducted in August 2013 found that BG Group was ahead or in line with its peer group in the scope of its reporting on a range of key indicators but lagged the peer group in terms of supply chain reporting. During 2013 BG Group expanded commentary in this area significantly. **We recommend that BG Group should continue to review peer group reporting in this area and consider reporting against relevant industry supply chain indicators in future.**

INDEPENDENT ASSURANCE REPORT continued

Our key recommendations relating to specific issues and functions are:

- **Climate change:** We observed that BG Group has been involved in leading research and collaboration on methane emissions and has increased its reporting on this area. The Group has also made significant progress in implementing asset-specific energy management plans. We look forward to BG being able to report clearer progress towards meeting its five year GHG target by the end of next year, as a result of these actions and when the new Queensland Curtis LNG facility comes on stream.
- **Data collection and reporting systems:** We observed well developed systems and processes for the collection and reporting of the sustainability performance data at Group and asset level. For the areas of data described in 'Our Scope', the errors and omissions we found at Group level were corrected prior to inclusion in the Sustainability Report 2013. Our work this year highlighted the following opportunities for improvement:
 - **Safety incident classification:** BG Group reports that it has a strong culture of lessons-learnt from safety incidents. We have made recommendations to BG Group on improvements needed to the systems for recording incident reports.
 - **Social investment:** We noted that BG Group have introduced improved data collection processes and templates for social performance expenditure. We recommend that BG Group ensure that the exchange rate template and the exchange rates used for the Sustainability Report 2013 are reviewed and signed off prior to use.
 - **People:** The data collection processes and guidance given to HR managers at assets on how to report parental leave and employees covered by trades union agreements could be improved, and we also recommend that BG Group could improve processes for entering 'People' data from countries not using the standard People software. We recommend that BG Group introduce a more formalised sign-off process to confirm people data are complete.

for DNV Two Tomorrows Limited
London, United Kingdom
4 April 2014



Jon Woodhead
Head of Department, UK Sustainability, DNV GL – Business Assurance

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LEARNING FROM OUR ASSURANCE 2013

Areas for improvement identified in 2012 assurance process	Status	Our progress in 2013
Review key sustainability performance data to ensure they continue to reflect BG Group's most material issues and performance indicators used internally; and further develop appropriate medium and long term targets across a broad range of sustainability subject areas	Ongoing	<p>In May 2013, we reviewed our KPIs against the industry in a benchmarking exercise. We responded to this by increasing coverage of our supply chain in the 2013 report. We also had internal discussions about future reporting in this area. A number of targets have been added, including notably:</p> <ul style="list-style-type: none"> • A new target to roll out fraud management training • A new occupational illness frequency target • A new target to assess methane emissions and report progress on minimising these • Targets to publish our approach to Human Rights implementation, strengthen our implementation of the Voluntary Principles on Security and Human Rights (VPSHR), and to contribute to the development of human rights impact assessment methodology
<p>Improve data collection and management systems to enable better reporting of contractor numbers and hours worked</p> <p>Continue to enhance the guidance provided to assets on data collection, reporting and review processes for hours worked of employees and contractors</p>	Completed	<p>In 2013, we updated our HSSE Performance Monitoring, Reporting and Analysis Standard and issued more detailed guidance to our assets on the methodology and practices that should be used to record and capture the hours worked by employees and contractors</p>
Continue to increase/refine coverage of biodiversity, contractor management, revenue and tax transparency, socio-economic impacts and fraud management	Ongoing	<p>In 2013, we continued to refine coverage of these areas, adding substantially to the sections on biodiversity and on socio-economic impacts (Our Local Contribution)</p> <p>We updated coverage on transparency and fraud management as appropriate, in line with the developments that took place in 2013</p>
Report progress against the new five-year greenhouse gas emissions intensity and sulphur dioxide targets	Ongoing	<p>We report progress against these targets in the Climate Change section, in Targets and in our Data tables</p> <p>We will continue to report through the target period</p> <p>In 2013, we met our 2013 target of maintaining GHG intensity at the same level as the previous year. We put in place measures to deliver our new five-year greenhouse gas (GHG) targets, set in 2012 and to improve our monitoring and management of methane emissions. We reported methane emissions by source for the first time</p>

LEARNING FROM OUR ASSURANCE 2013 continued

Areas for improvement identified in 2012 assurance process	Status	Our progress in 2013
Continue the focus on improving safety performance (employees and contractors)	Ongoing	<p>Our approach to safety is one of continuous improvement. Steps taken this year are reported in the Safety section and, for Australia, in the country case study</p> <p>In 2013, our occupational safety performance, as measured by the headline indicator of total recordable case frequency (TRCF), improved significantly to 1.64 (compared with a 1.75 target for the year, and a 2012 performance of 2.26.) This reflected effort right across the Group in 2013, in particular in our operations in Australia</p>
Take additional measures to encourage a positive culture of reporting and increased focus on health risks that have a significant impact on the health of employees	Completed for 2013 but will continue in 2014 and beyond	<p>We report on progress in the Health section of the report</p> <p>In 2013, we targeted improved reporting of cases of occupational illness arising from our key health risks. We also focused on increasing reporting of common ailments which could potentially affect large numbers of people and of vector-borne diseases</p>
Report progress against the Group's diversity objective and strategy	Ongoing	<p>We report on diversity progress in our People section</p> <p>We developed a diversity strategy and implementation plan in 2013, as well as specific initiatives to support the strategy</p>
Improve the Group data collection system for social investment with greater automation and standardisation; give increased guidance to the assets	Completed	We improved our processes for collection of social investment data. We provided further guidance to assets on reporting social investment and introduced new reporting templates