Qatar Energy & Industry Sector

Sustainability Report 2012

Contributing to Qatar's Sustainable Development

About This Report

Welcome to the third sustainability report of the energy and industry sector in the State of Qatar. The report focuses on the consolidated 2012 performance of 35 companies, covering a range of sustainability topics, and highlighting their contribution to the sustainable development ambitions of Qatar.

The report has been produced by the Qatar Petroleum's HSE Regulations and Enforcement Directorate (DG), custodians of the Sustainable Development Industry Reporting (SDIR) programme, a sector-wide initiative lead by His Excellency the Minister of Energy and Industry.

In producing the report, the sector has used the reporting framework of the SDIR programme which has been developed in line with a range of international corporate sustainability reporting guidelines as summarised in the report. The reference guidelines include the Global Reporting Initiative (GRI) G3.1 reporting guidelines, the GRI Oil and Gas Sector Supplement and the oil and gas sector specific IPIECA reporting guidelines.

The performance data and information presented in this report has been supplied to DG by the 35 companies within the sector, and has gone through a review process. Companies are being encouraged to conduct assurance on their statements and data. This report has been subjected to review by a range of stakeholders, but no formal third-party assurance has been conducted on the information contained within it.

For more information on the SDIR programme and this document, please contact patel@qp.com.qa

Qatar Energy and Industry Sector

2012 Sustainability Report

Contributing to Qatar's Sustainable Development

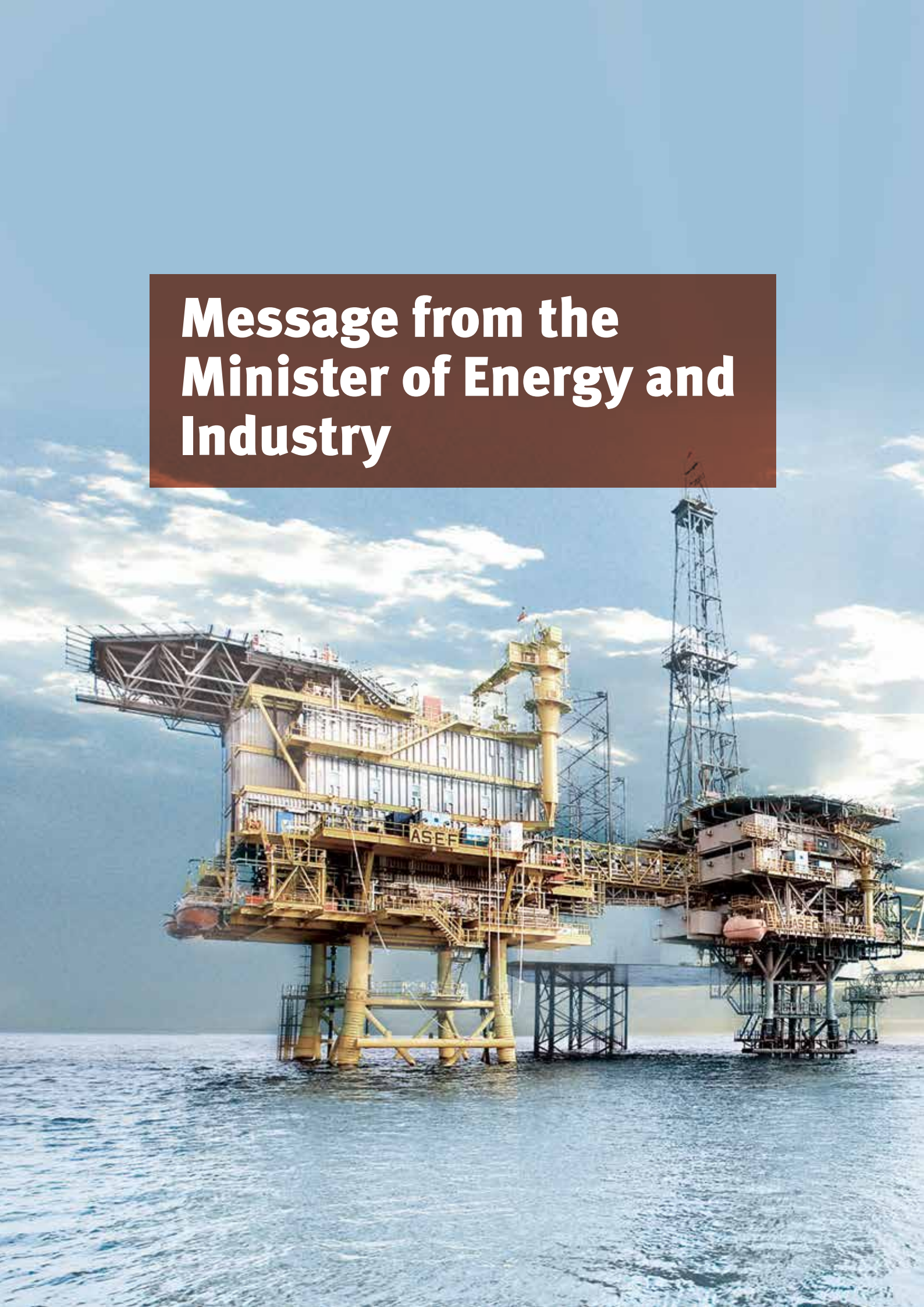
His Highness

Sheikh Tamim Bin Hamad Al-Thani

Emir of the State of Qatar

Table of Contents

Message from the Minister of Energy and Industry



H.E. Dr. Mohammed Bin Saleh Al-Sada

Minister of Energy and Industry
Chairman and Managing Director
Qatar Petroleum

I am very pleased that our sector Sustainable Development Industry Reporting (SDIR) programme has emerged as one of the most effective initiatives advancing the State of Qatar's ambitions for sustainable development.

The Energy and Industry Sector 2012 Sustainability Report consolidates the remarkable progress of this initiative in driving sector-wide performance and transparency. We witnessed an increase in programme participation to 35 companies and improvements in their systematic reporting against 33 sustainability indicators. Areas of notable progress include expanded coverage, improved data quality, better presentation of key performance insights and trends, and the timeliness of the report.

From the data presented in this report we can see a number of areas where the sector has performed strongly, namely a reduction in flaring, employee injury and illness rates, as well as increases in Qatarization, female employment, revenues and community contributions. Challenges remain as the sector experienced eleven fatalities in 2012. We need to continue to reduce environmental impacts while also driving expansion and growth.

The SDIR programme has now established a platform for stakeholder engagement, baseline company and sector wide reporting, and awards for best performance. These are all elements of our envisioned sector framework for sustainable development that will also include a forum for collective policy alignment and input, sector strategy development and performance assessment.

For the next reporting cycle, I would like the sector to consolidate and improve on the progress already achieved, and I expect to see participating companies:

- Reinforce performance reports and assessments by basing them on company specific five-year sustainable development strategies and plans.
- Report health, safety, environment, and overarching sustainable development performance by using the SDIR indicators and other international guidelines.
- Assure the quality of performance data and statements through verification processes, continuing to enhance our collective ability to determine trends and insights for the sector and subsectors.
- Move towards publicly releasing their sustainability reports before June every year, using various channels of communication for meaningful engagement with a wide range of stakeholders.

The SDIR initiative remains the cornerstone for advancing the Qatar energy and industry sector's performance and leadership on sustainable development and a key enabler of the Qatar National Vision 2030 and the National Development Strategy 2011-16. We shall take proactive steps for engagement in an effort to learn and share on the international and national stage. Our approach can be replicated by other sectors in Qatar and provide an example for other parties to follow.

I am appreciative of the commitment and active participation of the entire sector in making this vision a reality for our country.

H.E. Dr. Mohammed Bin Saleh Al-Sada

Minister of Energy and Industry
Chairman and Managing Director, Qatar Petroleum

Message from the HSE Regulations and Enforcement Directorate - DG

Saif S. Al-Naimi
Director
HSE Regulations & Enforcement
Directorate (DG)

Welcome to the Qatar Energy and Industry Sector 2012 Sustainability Report, a consolidated presentation and valuable source of information on the sector's sustainability performance.

This year, the sector has risen to the challenge of achieving higher levels of disclosure by a larger number of companies while also producing the report much earlier than in previous years. Areas of particular improvement include:

- Improvements in data quality: To better understand the quality of the data being provided, companies this year have been asked to state the basis on which their data has been prepared (such as whether it is directly measured, calculated or estimated) and what process they have used for checking it. This will support the establishment of future guidelines on verification and assurance.
- Greater performance insights: Better and more comprehensive data covering longer time frames is helping to illustrate performance trends and areas of opportunity.
- Improved timeliness: An emphasis on the principle of timeliness has resulted in this report being released earlier than last year.
- Expanded coverage: Despite the accelerated timeline for reporting, coverage has increased, with the report encompassing more companies, who in turn are reporting on more indicators.

Participation in the SDIR programme has increased from 33 to 35 companies. The number of companies reporting on more than 75% of the indicators has also increased, from 14 to 25. Overall coverage of all 33 SDIR indicators was 83% in 2012, enabling us to discern emerging trends and identify areas of strength and weakness for the sector as a whole. It also provides useful comparative information on performance for each reporting company.

As in previous years, the report has focused on issues relevant to the State of Qatar, with the focus in 2012 on the themes of health, and on energy and water management. Guidance on these topics was provided to standardise and improve reporting approaches.

We will focus on offering participating companies the tools and guidance through documentation and workshops on a range of important topics, including:

- Supporting the companies in developing high quality sustainability reports for public release, using international frameworks such as the GRI and IPIECA guidelines.
- Providing guidance on reporting of corporate five-year sustainable development plans.
- Encouraging assurance processes of sustainability reports.
- Providing clarity on future focus areas for reporting, enabling the sector to take action and report back on achievements and progress made.

Most importantly, in line with the proposed framework, we shall promote the SDIR programme and sector on the national stage, using the data and information gathered to inform policymakers, generate dialogue and engagement on sustainable development.

I would like to thank all the companies in the sector for their continued participation and their commitment to the goals we are all working to achieve.

I would also like to take this opportunity to thank His Excellency Dr. Mohammed Bin Saleh Al-Sada, Minister of Energy and Industry, Chairman and Managing Director, Qatar Petroleum for his leadership to this programme and vision for the sector.

Saif S. Al-Naimi
Director
HSE Regulations & Enforcement Directorate (DG)

Executive Summary

The SDIR Programme

The SDIR programme was established in 2010 by His Excellency the Minister for Energy and Industry with the purpose of enhancing sustainability in the sector and optimizing its contribution to the State of Qatar.

This programme has evolved from a voluntary initiative to a mandatory requirement for all companies in the energy and industry sector to produce a sustainability strategy and report on performance annually. The annual sector sustainability report and awards have become valuable tools for companies within the sector to learn about sustainability management, with the aim of delivering improved performance at a company and sector level. The programme is now also delivering value as a reference point for other sectors and ministries.

The SDIR programme is the foundation of the sector's sustainable development framework and approach, which is focusing on sector level sustainability strategy creation, national and international alignment, policy enhancement and performance assessment and benchmarking.

SDIR Programme Performance

Company participation in the programme has increased from 17 in 2010 to 35 in 2012, with coverage of the 33 SDIR programme indicators (Appendix C) reaching 83% in 2012, a significant improvement from 62% in 2010. The number of companies issuing public reports using international reporting guidelines has also increased year-on-year and is anticipated to reach 13 for 2012.

Reliability and assurance of data continues to become a greater priority. This year, 17 companies (49%) provided information on the assurance level of the data they provided. This provides a good foundation for more focus on this topic in 2013.

SDIR Programme Performance Highlights

	2010	2011	2012
Companies participating	17	33	35
Total SDIR indicator coverage (%)	62%	80%	83%
Number of companies with public reports	4 (24%)	11 (33%)	13 (37%)
Companies providing information on data assurance level	-	-	17

Sector Sustainability Performance

As coverage of the 33 core indicators continues to improve, initial performance trend assessment and analysis is possible, as captured in the performance table below, and detailed within each chapter of the report. The performance for each indicator includes the companies that provided data from 2011 to 2012, but is not fully reflective of the sector's complete performance. The percentage of coverage varies as not all indicators are relevant for all reporting companies.

Sector Sustainability Performance Highlights				
	% Reporting Coverage	2011	2012	Change
Occupational illness rate (employees)	57%	0.32	0.25	-22%
Occupational illness rate (contractors)	23%	nil	nil	-
Fatalities (employees)	100%	1	2	+1
Fatalities (contractors)	91%	2	9	+7
Lost Time Injury Rate (employees)	100%	0.88	0.76	-14%
Lost Time Injury Rate (contractors)	89%	0.17	0.25	+47%
Water consumption (million m^3)	81%	38.76	43.16	+11%
Number of oil spills	88%	11	16	+45%
Waste disposal (tons)	76%	372,217	369,175	-0.8%
GHG emissions (tons CO_2e)	80%	76,389,392	80,591,709	+5.5%
Flaring (mmscm)	67%	4,802	4,325	-9.9%
Revenues (billion USD)	69%	125	138	+11%
New jobs created	60%	-	596	-
Social investment (million USD)	49%	19	31	+60%
Workforce size	89%	31,978	32,574	+2%
Qatarization (%)	86%	23.6%	25.0%	+8%
Female employment (%)	83%	9.7%	9.9%	+4%
Average hours of training per employee	69%	37.3	36.2	-3%

The Future of the SDIR and Sector SD Framework

The commitments for the SDIR programme and overall sector sustainable development framework in 2013-2014 include:

General SDIR Commitments

Transition to a combination of web and print based sustainability reporting by 2014

Formulate a sector wide sustainable development strategy, based on the company five-year strategies

Formalise a sector-wide performance review process

Formalise a multi-stakeholder engagement process for policy review, recommendations and formation

Assess the company sustainability reports and present awards

Take additional steps to learn and share the SDIR experience internationally

Support and Tools Related Commitments

Produce guidance for companies to support their reporting on five-year sustainable development strategies and plans

Update the SDIR Programme company sustainability performance reporting guidelines, including improved definitions of the SDIR programme indicators

Produce a guidance note for companies about sustainability performance assurance processes

Produce guidelines to support reporting on the 2013 focus area of governance, and the 2014 focus area of social responsibility and workforce

Host technical training sessions on sustainability strategy and reporting using international guidelines

Create an online data and case study submission system, including a benchmarking feature

Participating Company Specific Commitments

Publish 2013 sustainability report by June 2014

Produce and report on a five-year sustainable development strategy

Take additional steps to learn and share the SDIR experience internationally

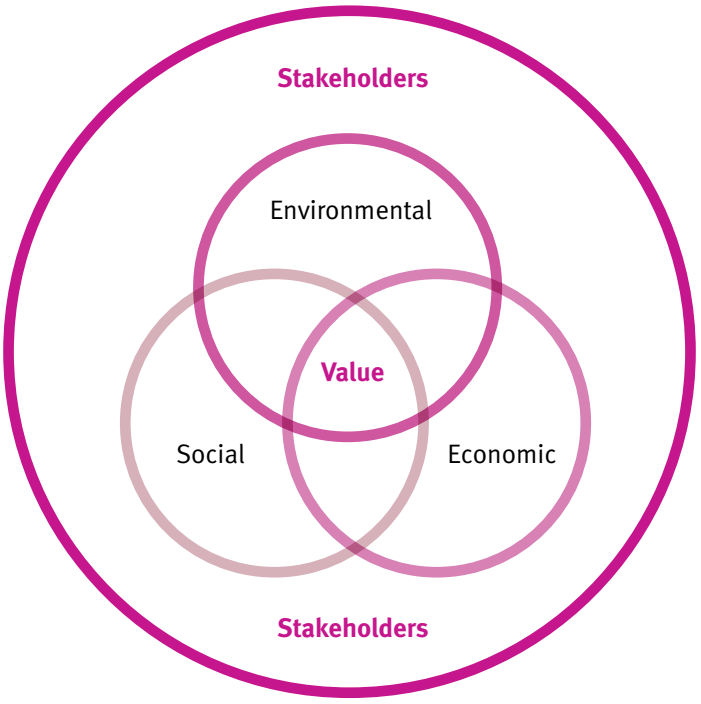
Overview, Context and Stakeholders

Sustainability

Sustainable development was defined by the Brundtland Commission as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Moving to a sustainable model of development is a pressing global challenge that requires collaboration, coordination and innovation by individuals, organisations, states, regions and the international community as a whole. Transparency, vision and bold actions are urgently required in order to create the transition needed for future wellbeing.

At a company and sector level, sustainability management - the integrated management of economic, environmental and social performance to create value for all stakeholders - and reporting are increasingly seen as essential tools in presenting and enhancing a company or sector’s contribution to the international sustainable development agenda.



International and National Context

2011 SDIR Launch during COP18

"The ultimate objective must be sustainable development"

H.H. Emir of the State of Qatar (Conference of Enhancing the Economic Future of the Middle East 20th May 2012)

The United Nations Conference on Sustainable Development (Rio+20) held in June 2012 in Rio de Janeiro, Brazil, resulted in an outcome document with clear and practical measures for implementing sustainable development. Titled "The future we want", it reaffirms the commitment from heads of states to existing frameworks such as the Millennium Development Goals (MDGs), the Charter of the United Nations, existing United Nations conventions, and the Universal Declaration of Human Rights. It also sets out commitments to create Sustainable Development Goals, increase financing to enable the transition to a green/low carbon economy, and makes commitments to eradicate poverty.

RIO+20 United Nations Conference on Sustainable Development

2012 also saw the 18th session of the Conference of the Parties to the UNFCCC and the 8th session of the Meeting of the Parties (COP18/CMP8) held in Doha, Qatar. The Doha climate conference successfully set the groundwork for a 2015 global climate deal. It also saw a commitment of over nine billion USD in climate funds.

DOHA 2012 UN CLIMATE CHANGE CONFERENCE COP18·CMP8

In addition, many national programmes have been developed to drive the private sector towards a model of sustainability, with governments, regulators and stock exchanges beginning to mandate sustainability reporting in an effort to promote sustainable business performance. For example, state-owned enterprises in China must now report on their sustainability performance, and all companies registered on the stock exchange in South Africa must produce integrated financial and non-financial reports. Similar mandatory and voluntary schemes exist in other countries in Europe and Asia.

The Global Reporting Initiative (GRI) is the most widely used and internationally recognised guideline for sustainability reporting, and is driving a 'Report or Explain' approach, calling on all companies globally to report on sustainability, or explain why they do not do so. In May 2013, the GRI released the latest version of the reporting guidelines (the G4) which are due to be translated and launched in Arabic in early 2014.

Global Reporting Initiative™

G4 THE FUTURE OF SUSTAINABILITY REPORTING

Regionally, programmes similar to the SDIR exist in Abu Dhabi and Oman, with the oil and gas sector as one of the main drivers. The SDIR Programme continues to learn and share from these initiatives.

National Context

Qatar's proposed route to sustainability is contained within the Qatar National Vision 2030 and National Development Strategy 2011-2016. These national level frameworks are based on four pillars of human, social, economic and environmental development, and aim to harness Qatar's current rapid economic growth in a way that ensures future generations can prosper and enjoy a higher quality of life based on social and environmental harmony.

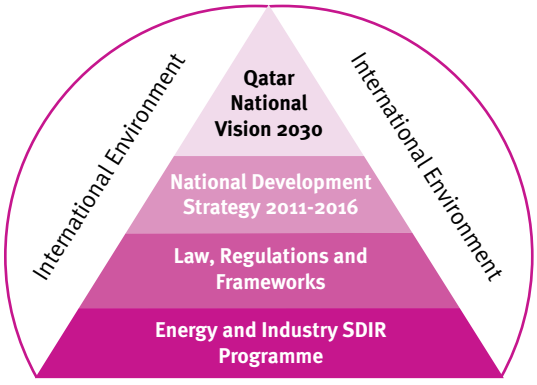
This national framework for sustainable development is guiding the actions of all sectors at a governmental, non-governmental and private sector level. It is catalysing the development of new laws, regulations, policies and initiatives that embed the principles of sustainable development with a focus on performance and results.

The SDIR programme is the energy and industry sector's vehicle for demonstrating progress and is increasingly being seen as an effective and important approach in working towards the State of Qatar's sustainability ambitions.

The Qatar Energy and Industry SDIR Programme

The SDIR programme is focusing on sector level sustainability strategy creation, national and international alignment, policy enhancement and performance assessment and benchmarking.

The programme acts as a conduit between the individual companies that make up the sector, and the national laws, regulations, frameworks, strategies and vision, and international environment that shape their operating environment. This is captured in the SDIR alignment triangle which is presented in more detail for each of the six elements of the SDIR programme, at the start of each chapter.



SDIR Alignment Triangle

SDIR Programme Stakeholders

SDIR Workshop in May 2013

The SDIR programme is a multi-stakeholder platform, which means engagement is a critical factor in its success. Some of the most important stakeholders in the programme are listed below, together with information on methods of engagement. The SDIR programme will continue to formalise approaches and channels for engagement in 2013.

SDIR Stakeholders

Stakeholder Groups	Stakeholders Engaged	Channels of Engagement
The energy and industry sector	• The Minister for Energy and Industry • Qatar Petroleum • All 35 participating companies	• QP DG website • Sector sustainability report • Quarterly workshops and trainings • Annual one to one meetings • Award ceremony
Other sectors	• The banking sector • The tourism sector	• Formal and informal meetings • Sector sustainability report
Other ministries and governmental departments	• GSDP • Ministry of Environment • Ministry of Labour • Statistics Authority • Supreme Council of Health	• Dedicated meetings to advance collaboration • Inviting them to speak at quarterly workshops and trainings • Sector sustainability report
International community	• International bodies (UN, EU, OECD, WEF…) • Millennium Development Goals	• Hosting UN Climate Change Conference COP18 – Doha 2012 • Presentation at UN Conference on Sustainable Development Rio+20 – Brazil 2012 • Sector sustainability report
National and regional community	• Regional sustainability forums • General public	• Large stand and presentations in the Qatar Sustainability Expo at COP18 • Annual QP Environmental Fair • Sector sustainability report
Sector workforce	• Company sustainability focal points • All 34,000+ sector employees	• Quarterly workshops and training • Sector sustainability report
Investors	• Current partners with existing investments in the sector • Future potential investors	• Sector sustainability report

The Energy and Industry Sector

The 35 energy and industry sector companies participating in the SDIR programme represent some of the most significant companies in the country, as well as being important players in international markets. The companies have been grouped into eight subsectors to allow for relevant comparison and analysis. Companies with operations in more than one subsector are categorized by their major area of activity.

Liquid Natural Gas/Natural Gas

Dolphin Energy | Qatargas | RasGas

Oil and Gas (Exploration and Production)

Gulf Drilling International (GDI) | Maersk Oil Qatar A/S (Maersk) | Occidental Petroleum of Qatar (OPQL)
Qatar Petroleum (QP) | Qatar Petroleum Development Co. Ltd (QPD) | TOTAL E&P Qatar (Total)
Wintershall Holding GmbH Qatar

Refining

ORYX GTL Ltd | Qatar Shell GTL Limited

Petrochemicals

Qatar Chemicals Company Ltd (Q-Chem) | Qatar Fertilizer Company (QAFCO) | Qatar Fuel Additives Company Ltd (QAFAC)
Qatar Jet Fuel Company (QJet) | SEEF Limited | Qatar Petrochemical Company (QAPCO)
Qatar Vinyl Company Ltd (QVC) | Qatofin Company Limited (QATOFIN) | Ras Laffan Olefins Company (RLOC)

Power and Utilities

Mesaieed Power Company Ltd (MPower) | Qatar Electricity and Water Company (QEWC)
Qatar Power Company (Q-Power) | Ras Girtas Power Company (RGPC) | Ras Laffan Power Company (RLPC)

Mining, Minerals and Other

Qatar Aluminium (QATALUM) | Qatar National Cement Company (QNCC) | Qatar Steel

Transport, Storage and Distribution

Qatar Fuel Company (WOQOD) | Qatar Gas Transport Company Ltd (NAKILAT) | Qatar Shipping Company (Q-Ship)

Support Services

ConocoPhillips Qatar | ExxonMobil Qatar | Saipem Qatar

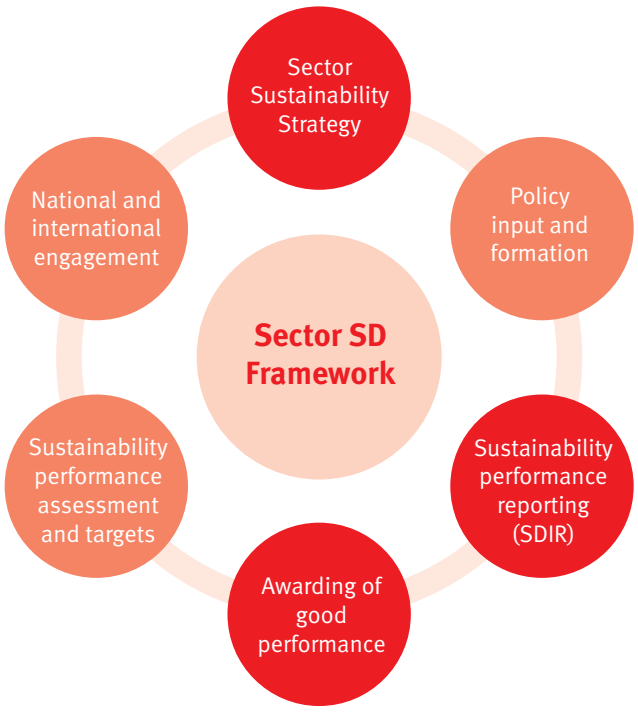
SDIR Programme and Sector Performance

Sector Sustainable Development Framework

The SDIR programme has so far proved successful as a multi-stakeholder platform for catalysing sustainability strategy development and performance reporting, consolidation and assessment, incentivised through awards for good performance. These elements are all essential components of a wider sector sustainable development framework which is currently under development. This overarching framework aims to build on the progress made by the SDIR programme to further enhance sector-wide sustainable development through strategy creation and alignment, target setting, policy input and national and international engagement.

The sector sustainable development framework, as represented below, consists of six main components; the items shaded a darker red are already active through the existing SDIR programme. The objectives of the sector sustainable development framework are to:

- Build and maintain a sector wide sustainability strategy aligned with company and national level five-year sustainable development plans.
- Act as a forum for collective policy dialogue, input and formation.
- Provide a mechanism for individual companies and the sector as a whole to report back annually on sustainability performance.
- Award companies for good sustainability performance and reporting.
- Conduct continuous performance assessment, benchmarking and short and long term target setting.
- Be a model for other sectors to contribute to national sustainable development ambitions, and act as a point of reference internationally.



Proposed Sector SD Framework

SDIR Programme

Presentation of the SD Industry Report 2011 to COP18 President

Reporting Framework

At the core of the programme is the SDIR framework which has been developed in line with internationally recognised frameworks and guidelines for sustainability management (as shown in Appendix D), including:

- The Global Reporting Initiative (GRI) G3.1 and G4 Guidelines
- The GRI Oil and Gas Sector Supplement
- The IPIECA Oil and Gas sector voluntary reporting guidelines
- The chemical industry Responsible Care initiative

The framework is comprised of six elements which capture the wide range of material sustainability issues applicable in such a diverse sector. The elements are underpinned by governance, an essential component of successful corporate sustainability management.

Further details on the material issues captured under each topic, as well as the indicators used to measure performance, can be found in Appendix A.

Health and Safety	The Environment	Energy and Climate Change	The Economy	Society	Workforce
Governance					

The focus for 2012 was health, energy and water management.

SDIR Focus Area	Year (Implementation)	Year (Reporting)
Climate change and safety	2011	2012
Health, energy and water management	2012	2013
Governance	2013	2014
Workforce and social responsibility	2014	2015

Focus Areas

Every year the SDIR programme emphasises specific topics in order to enhance attention and improve the reporting on those areas. Topics are identified through engagement with the participating companies, national level areas of focus and materiality assessment using international guidelines. The focus for 2012 was health, energy and water management. As a result, these focus areas have been given emphasis in the company 2012 sustainability reports, and have also been given additional attention in this report.

SDIR Programme Cycle

As the programme continues to mature, the annual cycle has evolved to make reporting more timely. The proposed cycle for the future aims to ensure delivery of this sector and individual company reports by June each year.

SDIR Programme Components and Cycle

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Main Engagements			1			2			3			4
Sector Report	2	3		4	5	6				1		
Company Reports	2		3	4	5	6					1	

The numbers in the table represent the sequence of activities listed below

The proposed future cycle aims to ensure SDIR report publishing by June each year

SDIR Engagement Cycle/ Events (not exhaustive)

1. Workshop on data and information submitted, reviewing strategy and overall progress
2. Public launching of sector and company sustainability reports
3. Award ceremony and launch of next focus area with commitments
4. Technical workshops and individual meetings with each company

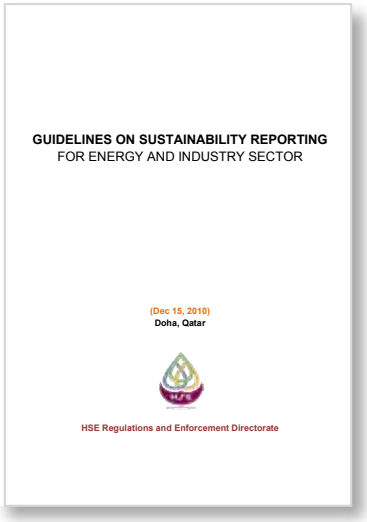
Sector Sustainability Report

1. Release data and information gathering templates (online) to the companies with specific guidance for reporting on the focus areas
2. Determine theme and outline of report (including the previous year's focus area)
3. Compile and verify all company sustainability performance data and case studies
4. Prepare the sector sustainability report
5. Conduct assurance on the sector sustainability report
6. Design, print and launch the sector sustainability report, and engage in meaningful dialogue with stakeholders

Company Sustainability Reports

1. Release data templates and engage departments internally for data and key stories
2. Collect data and key stories, determine report theme and outline (with extra guidance for reporting on the focus areas), begin company report preparation
3. Submit data and case studies by the 15th of March to DG, finalize company report content
4. Complete company report, GRI and IPIECA index, assurance and senior management sign off
5. Design and print company report
6. Launch company report and engage in meaningful dialogue with stakeholders

Support and tools are provided to the companies participating in the SDIR programme. The relevant guidelines are available to the public at www.hse-reg-dg.com/hse/hse.nsf/web/GBSustDev



Support, Tools and Guidance

Support and tools are provided to the companies participating in the SDIR programme in the form of guidelines, hosting workshops and events and day-to-day guidance and communication. Information and guidelines are available to the public at - www.hse-reg-dg.com/hse/hse.nsf/web/GB-SustDev - and includes:

- Guidelines on Sustainability Reporting
- Good practices in reporting (case studies)
- An overview of sustainability reporting assurance
- Proposed sustainable development policy
- Guidance on SD Awards

Over the past 18 months, events and workshops conducted under SDIR include:

- Feb-March 2012 – One-to-one meetings with all participating companies
- 25th April 2012 – Workshop on reporting and award scheme
- 17th September 2012 – Workshop on sector report and assurance
- 26th November 2012 – Launch of 2012 sector sustainability report - Link
- Jan-Feb 2012 – One-to-one meetings with all participating companies
- 28th February 2013 – Excellence in Sustainability Reporting Award Ceremony
- 9th May 2013 – Good practice sharing and SDIR programme development workshop

SD Workshop in May 2013

Appreciation for Reporting Sustainability

Each company is responsible for the governance and management of sustainability related issues within their own organisation, some having set up a cross functional team, and others having their board mandate the appointment of a sustainability office or manager

Governance

The SDIR programme is a multi-stakeholder collaborative initiative driven by the 35 participating companies within the sector, the Ministry of Energy and Industry and the DG. Overall control of the programme falls under the Minister for Energy and Industry who has entrusted the day-to-day management of the programme to DG, given its role as a focal point for sustainability in the sector. DG is engaging the CEOs and focal points of the participating companies for SD reporting.

Each company is responsible for the governance and management of sustainability related issues within their own organisation, some having set up a cross-functional team, and others having their board mandate the appointment of a sustainability office or manager within the organisation. The 2013 sector report will cover governance within the sector in greater detail as one of the focus areas for the year together with management systems.

Approaches to company governance vary depending on legal requirements, ownership and location. On an international level, guidelines such as the OECD Principles of Corporate Governance 2004 are regarded as one of the international benchmarks for companies worldwide.[1] OECD Guidelines on Corporate Governance of State-Owned Enterprises is also relevant for Qatar and the sector.[2] The new GRI G4 sustainability reporting guidelines also provide guidance on how companies can report on their corporate governance.

On a national level, the Qatar Financial Markets Authority has created a Corporate Governance Code for public listed companies. Furthermore, the "Draft Corporate Social Responsibility Act" is pointing companies in the direction of good governance and the representation of shareholder and stakeholder interests on a management and board level.

SDIR Programme Performance Highlights

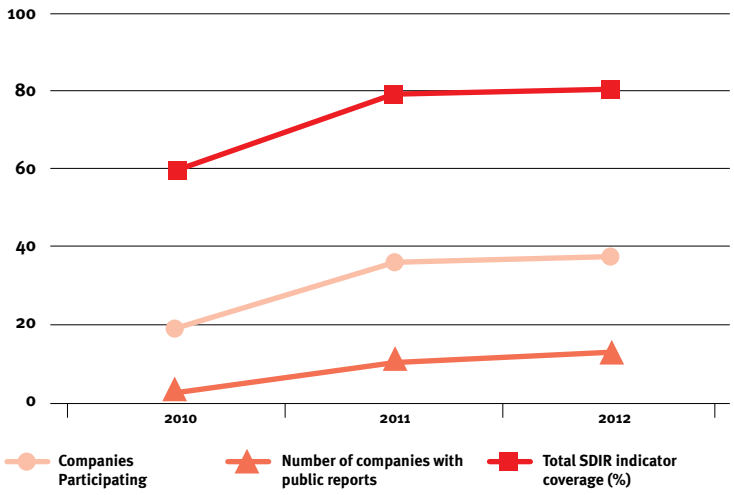
SD Good Sharing Practice Workshop

This year, the number of reporting companies, the average number of reported indicators, and the number of total indicators covered have all increased.

Participation

From 2011 to 2012, the number of companies participating has increased from 33 to 35, incorporating one additional company in the power and utilities, and one in the petrochemicals subsectors.

SDIR Programme Performance Highlights



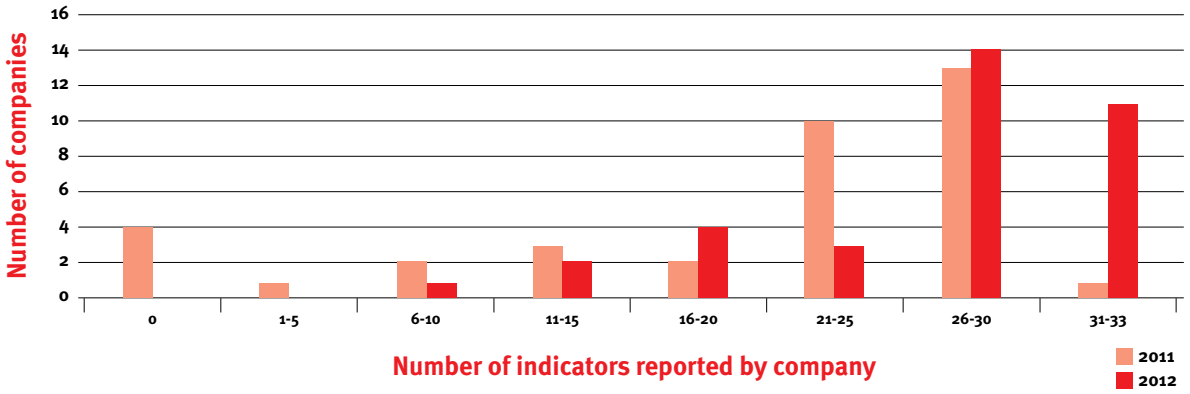
The number of companies participating has increased from 33 to 35

SDIR Programme Participation	2010	2011	2012
Companies participating	17	33	35
By Subsector			
LNG/NG	3	3	3
Mining, minerals and others	0	3	3
Power and utilities	1	4	5
Petrochemicals	6	8	9
Oil and gas (E&P)	4	7	7
Refining	2	2	2
Transport, storage and distribution	1	3	3
Support services	0	3	3

Completeness

Company reporting on the 33 SDIR programme indicators (listed in Appendix C) has significantly increased in the years 2011 to 2012. As demonstrated by the graph below, in the 2012 reporting cycle, more companies have reported a higher number of indicators.

Completeness of Company Reporting, 2011 vs 2012



Coverage

Coverage of the 33 SDIR indicators has increased for 2010, 2011 and 2012 with many companies also providing data in 2012 on 2011 performance. This has resulted in 80% coverage for 2011 performance and 83% for 2012. Reporting on health and safety, environmental and energy and climate change indicators is the most complete, with social indicators being reported least in the past three years.

Data Coverage	2010	2011	2012
Total SDIR indicator coverage (%)	**62%**	**80%**	**83%**
Economic indicator coverage (%)	62%	74%	78%
Energy and climate change indicator coverage (%)	63%	78%	80%
Environment indicator coverage (%)	63%	83%	85%
Health and safety indicator coverage (%)	65%	89%	89%
Workforce indicator coverage (%)	58%	74%	79%
Social indicator coverage (%)	54%	64%	73%

Reporting on health and safety, environmental and energy and climate change indicators is the most complete, with social indicators the least comprehensive over the past three years.

This year, 17 companies (49% of participants) provided information on the systems used to measure and collect data

Data Reliability

This year, 17 companies (49% of participants) provided information on the systems used to measure and collect data, and the methods used to gain assurance on the quality of that data. A summary of the results is provided below. It is encouraging to note that direct measurement of data is improving.

Data Reliability of 17 Companies	2012
% of data that has been estimated	15%
% of data that has been measured directly	44%
% of data covered by an international certification	28%

Information has also been provided on whether data has been assured by internal or external teams, as shown below.

Data Assurance of 17 Companies	2012
% of data that has been verified by an internal team	46%
% of data that has been verified by an external auditor	20%

Public Reporting

As companies gain experience of producing sustainability reports, more companies are making their reports available to the public. This is helping them to engage a wider range of stakeholders, promoting higher levels of transparency and accountability. Publishing the report to the public can enhance reputation, and improve the ability to compete for talent, improve employee engagement and retention, and stimulate improved performance.

Public Reporting	2010	2011	2012
Companies participating	17	33	35
Number of companies with public reports	4 (24%)	11 (33%)	13 (37%)*
Number of reports GRI checked (for application of guidelines used)	3	8	9
Number of reports achieving application level A	3	3	4
Number of reports achieving application level B	0	5	5
Number of reports achieving application level C	0	0	0
Number of public reports with third party assurance	1	0	1

**Anticipated number*

Eleven companies issued a public report in 2011 using the IPIECA and GRI 3.1 guidelines. Eight of these were checked by the GRI for application of the guidelines. In 2013, 13 companies intend to release a public report for 2012.

Companies Issuing Public Reports Covering 2012*

Dolphin Energy

2012

RasGas

2012

Qatargas

2012

Maersk Oil

2012

QAFCO

2012

QAPCO

2012

QAFAC

2012

Companies Issuing Public Reports Covering 2011

Dolphin

2011

RasGas

2011

Qatargas

2011

Qatalum

2011

Oryx

2011

Qatar Steel

2011

Nakilat

2011

ExxonMobil

2011

QAFAC

2011

MPower

2011

Saipem

2011

**Reports public at time of publication. Thirteen anticipated by the end of the year.*

Eleven companies issued a public report in 2011 using the IPIECA and GRI 3.1 guidelines. Thirteen companies intend to release a public report for 2012.

Sustainable Development Awards

The sustainable development awards were created as part of the SDIR programme to recognise excellence in sustainability reporting and performance. As captured in the assessment methodology below to win an award companies must be transparent and produce an engaging sustainability report, but they must also demonstrate performance and innovation on the main elements of the SDIR framework.

The sustainable development awards were created as part of the SDIR programme to recognise excellence in sustainability reporting and performance.

In February 2013, His Excellency the Minister of Energy and Industry and Chief Executives from more than 30 SDIR programme participating companies attended the first annual award ceremony to recognise excellence in sustainability reporting. Awards were presented to seven companies for their 2011 sustainability reports and performance.

For the 2012 SDIR awards, a similar methodology will apply, with a winner and one runner up for the large and medium sized organisations. The Special Recognition category will be changed to recognise one large and one medium sized company with the best performance in the focus areas of the 2012 reporting, namely health, and energy and water management.

Award for Excellence in Sustainability Reporting-Large Scale		
Winner	Joint Runner Up	
RasGas	Dolphin Energy	Qatar Steel

Award for Excellence in Sustainability Reporting-Medium Scale		
Winner	Joint Runner Up	
M Power	QAFAC	QVC

Special Recognition Award (Contribution to Sustainable Development) Large Scale
Qatar Petroleum

Sustainability Performance Highlights

Qatar's energy and industry sector continues to take steps towards improved sustainability performance. An indicative summary of the results is provided below. The performance data for each indicator is based on as much comparable company data as possible from 2011 to 2012, but is not fully reflective of the sector's complete performance. Detailed analysis and comment is provided in each relevant chapter of the report.

Sector Sustainability Performance Highlights				
	% Reporting Coverage	2011	2012	Change
Occupational illness rate (employees)	57%	0.32	0.25	-22%
Occupational illness rate (contractors)	23%	nil	nil	-
Fatalities (employees)	100%	1	2	+1
Fatalities (contractors)	91%	2	9	+7
Lost Time Injury Rate (employees)	100%	0.88	0.76	-14%
Lost Time Injury Rate (contractors)	89%	0.17	0.25	+47%
Water consumption (million m^3)	81%	38.76	43.16	+11%
Number of oil spills	88%	11	16	+45%
Waste disposal (tons)	76%	372,217	369,175	-0.8%
GHG emissions (tons CO_2e)	80%	76,389,392	80,591,709	+5.5%
Flaring (mmscm)	67%	4,802	4,325	-9.9%
Revenues (billion USD)	69%	125	138	+11%
New jobs created	60%	-	596	-
Social investment (million USD)	49%	19	31	+60%
Workforce size	89%	31,978	32,574	+2%
Qatarization (%)	86%	23.6%	25.0%	+8%
Female employment (%)	83%	9.7%	9.9%	+4%
Average hours of training per employee	69%	37.3	36.2	-3%

Future Plans

LNG Facilities

DG, in consultation with other stakeholders, has set a range of commitments for 2013-2014

Building on the success of the SDIR programme in 2012, DG, in consultation other stakeholders, has set a range of commitments for 2013-2014. These are set out below.

General SDIR Commitments

Transition to a combination of web and print based sustainability reporting by 2014

Formulate a sector wide sustainable development strategy, based on company five-year strategies

Formalise a sector-wide performance review process

Formalise a multi-stakeholder engagement process for policy review, recommendations and formation

Assess the company sustainability reports and present awards

Take additional steps to learn and share the SDIR experience internationally

Support and Tools Related Commitments

Produce guidance for companies to support their reporting on five-year sustainable development plans

Update the SDIR Programme company sustainability performance reporting guidelines, including improved definitions of the SDIR programme indicators

Produce a guidance note for companies about sustainability performance assurance processes

Produce guidelines to support reporting on the 2013 focus area of governance, and the 2014 focus area of social responsibility and workforce

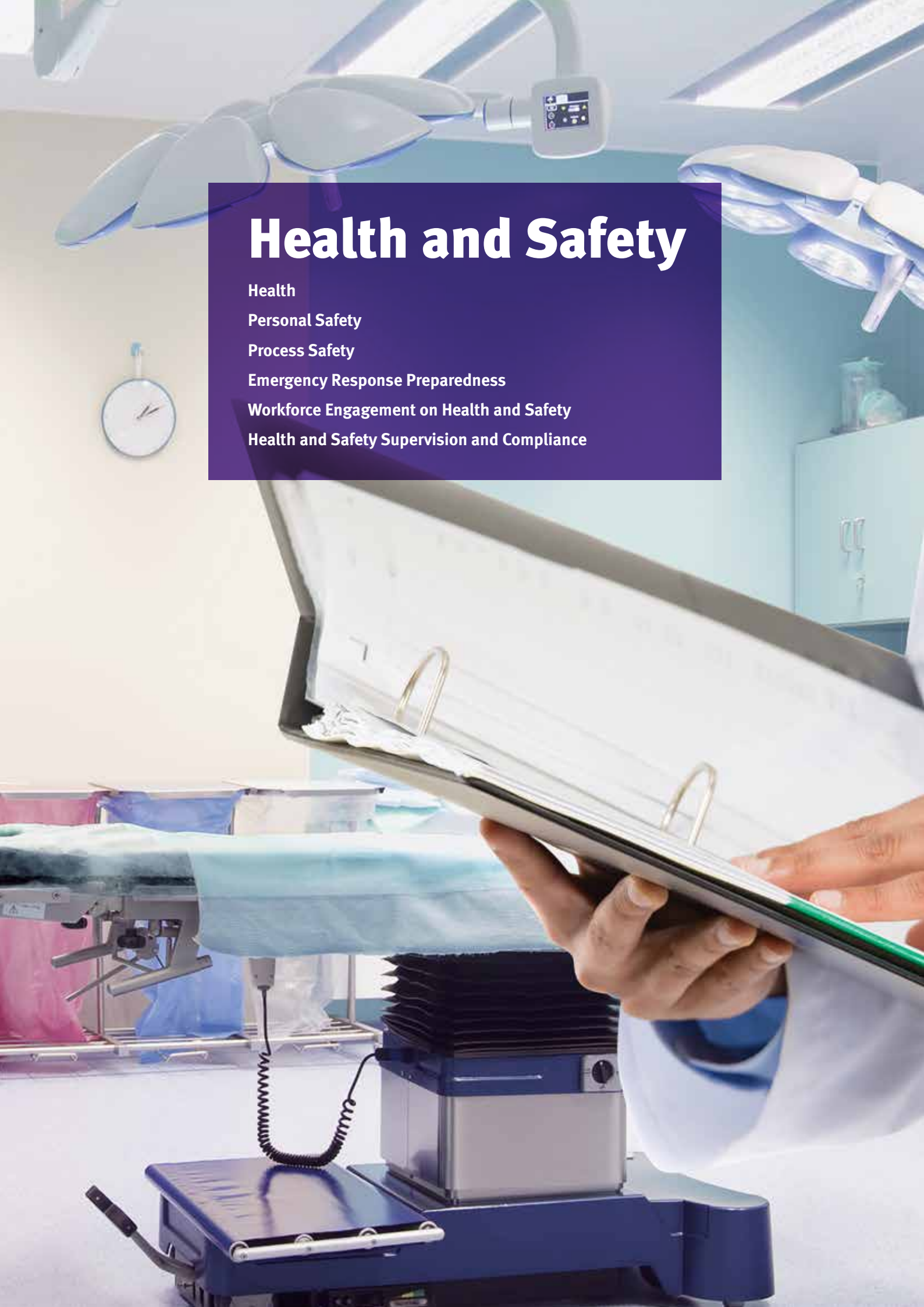
Host technical training sessions on sustainability strategy and reporting using international guidelines

Create an online data and case study submission system, including a benchmarking feature

Participating Company Specific Commitments

Produce a 2013 sustainability report by June 2014

Produce and report on a five-year sustainable development strategy



Health and Safety

Health

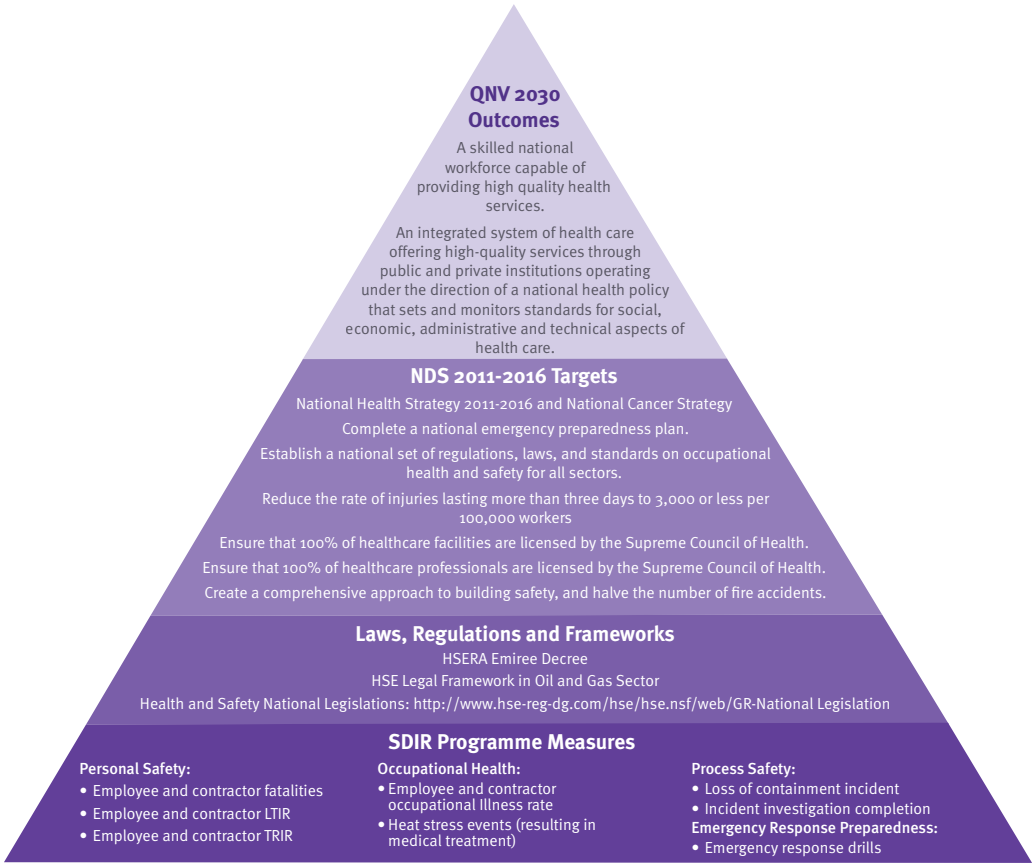
Personal Safety

Process Safety

Emergency Response Preparedness

Workforce Engagement on Health and Safety

Health and Safety Supervision and Compliance



2012 Achievements

13.6%
improvement in employee LTIR in 2012

59.9%
improvement in employee TRIR in 2012

42.9%
improvement in contractor TRIR in 2012

The Health and Safety Context

Health and safety risks vary significantly between sectors, and depend on the nature of particular company operations.

Managing occupational health and safety is an essential component of corporate responsibility as it promotes and maintains the physical, mental and social well-being of workers and the surrounding communities who may be at risk from business activities. Effective health and safety management minimizes costs on employers (by maintaining reliable operations and production, and reducing fines, rehabilitation costs, curative services, and compensatory damages).

Health and safety risks vary significantly between sectors, and depend on the nature of particular company operations. Risks also depend on the requirements of individual jobs and the specific tasks that individuals perform. In the energy and industry sector, which deals with varied processes and inherently hazardous substances, organisations manage a complex portfolio of risks. Health and safety management systems provide a framework for the identification, assessment, mitigation and management of these risks - from the possibility of major accidents to the control of specific tasks carried out by individuals in their day to day activities.

National Context

The State of Qatar recognises the importance of managing health and safety issues, especially in the energy and industry sector. The Qatar National Vision 2030 captures the importance of ensuring a healthy population in the Vision's outcomes, as can be seen in the alignment triangle. The National Development Strategy 2011-2016 also emphasises the need to manage health and safety in all sectors, and identifies specific programmes and targets.

Achieving the best possible health and safety results at a national level requires the cooperation and engagement of various stakeholders, such as regulators, authorities, companies and service providers. The energy and industry sector interacts regularly with the Supreme Council of Health (SCH), the Ministry of Labour (MoL), the Ministry of Business and Trade and QP Ports, Ministry of Environment and HSE Regulations and Enforcement Directorate (DG), through:

- Support of the implementation of relevant laws and regulations
- Participation in task forces and working groups
- Coordination of committees, workshops and trainings
- Investigations of incidents and outbreaks

DG is the regulatory entity in relation to health and safety matters, overseeing the implementation of national policies and strategies in the energy and industry sector. DG also develops specific HSE guidance and administrative measures and monitors implementation and compliance. DG has published 'Health, Safety and Environment (HSE) Legal Framework for the Oil and Gas Sector' in both Arabic and English. It is considered an easy-to-use legal reference for all HSE related regulations.

QAFCO
Safety Information System (SIS)

In 2012, QAFCO's Safety Information System was re-engineered on a web-based platform. It consists of a flexible set of software applications to manage all aspects of QAFCO's safety programme.

The system manages, tracks, and reports all QAFCO safety metrics in real-time, streamlines incident and OSHA reporting, and enables seamless compliance with standards such as OHSAS 18001, ISO 14001, and RC 14001. It also drives continuous improvement across the organization.

The Sector's Health and Safety Approach

The energy and industry sector 'Technical HSE Framework' and its associated regimes are under development. The first workshop on the Framework was held in June 2012. Following this, designated companies were asked to nominate experts to support the development of the Framework and its four regulatory regimes, with the participation of 48 sector experts. This unique initiative in the GCC, to involve the sector in the development of new regulations, aims to ensure that new measures benefit the State and the sector, by being applicable and fit for purpose.

The DG has drafted the following HSE guidelines applicable to the energy and industry sector which will help to fulfil the requirements of the Technical HSE Framework. The guidelines under review and approval cycle are:

- Hazards Identification and Risk Assessment (HIRA)
- HSE Risk Management Programme
- Contractors HSE Management in the Energy and Industry Sector
- Emergency Response Preparedness
- Emergency Exercise and Mutual Aid
- Management of Change (MoC)
- Pre-Start up Safety Review (PSSR)
- Guidelines For Radiation Protection and the Management of Radioactive Waste in the Oil and Gas Industry
- Guidance for DG directorate technical inspectors to identify compliance issue in the field of industrial radiation safety
- Occupational Health supervision checklist
- Heat Stress Management

Procedures under review and approval cover:

- Health Risk Assessment
- Reporting Significant Industrial Accidents
- Investigation Significant Industrial Incidents

By promoting transparency and accountability, the SDIR programme represents one of a range of efforts within the energy and industry sector to promote and manage health and safety risks.

In 2012, 21 companies reported that they had a well-established health and safety management system in place, ten of which were certified against the occupational health and safety system standard OHSAS 18001.

Health

Health risks in the energy and industry sector are greater than in many other sectors, given the routine handling of hydrocarbons and other chemicals, the hazardous work environment (including work offshore), and exposure to other hazards such as noise. In Qatar, these factors are accompanied by operating in extreme temperatures, wind, dust and humidity.

The responsibility of companies for health extends beyond their own employees to encompass contractors, the surrounding community, and the natural environment. Given its importance, health was selected as one of the SDIR programme focus areas for 2012.

The companies of the energy and industry sector work closely with DG and the Supreme Council of Health (SCH) to ensure the sector meets or exceeds national regulations and goals on health matters, including:

- Health-risk and health-impact assessments
- Occupational health, public health, environmental health and industrial hygiene, food sanitation and hygiene, International Health Regulations (IHR) including pandemic planning, communicable diseases, food safety, chemical disasters, and others
- Travel health
- Medical emergency response planning
- Healthcare providers and healthcare facility assurance framework (healthcare licensing assurance)
- Medical evacuation and continued medical care
- Health performance measures
- Incident investigation and monitoring
- Health audits and health inspections
- Health performance review, sector key performance indicators (KPIs), and trends analysis

Pandemic Planning Guideline Rollout: the final guideline was issued to the energy and industry sector in 2012, and was circulated to all companies and other stakeholders for implementation.

For the 20 companies that provided data in both 2011 and 2012, the employee occupational illness rate improved to 0.25 in 2012, from 0.32 in 2011.

Sector 2012 Health Highlights

2012 has seen excellent progress on various health subjects with emphasis placed on developing health guidelines, increasing stakeholder engagement and supervisory activity, and active surveillance, incident investigation and compliance with State healthcare licensing requirements. Some of the main health highlights during 2012 are listed below:

- Industry Health Advisors Forum (IHAF): under the patronage of the Director of DG, Mr. Saif Al Naimi, the 15th IHAF was opened. The aim of the forum was to update the energy and industry sector's HSE managers, health advisors and industrial hygienists on the current issues relating to health and healthcare within the sector in order to achieve synergy, cooperation and compliance with state legal requirements and sector best HSE practices.

- International Health Regulations (IHR 2005): The energy and industry sector and DG representatives sit on the technical task teams for food safety, communicable diseases, chemical disaster, nuclear and radiology and points of entry (POE) reporting back to the National IHR committee. The National IHR committee conducted several meetings in 2012 to review progress on IHR 2005 in the State of Qatar for the multi-sectoral parties.

- Pandemic Planning Guideline Rollout: the final guideline was issued to the energy and industry sector in 2012, and was circulated to all companies and other stakeholders for implementation. It includes checklists for self assessment and planning.

Energy and Industry Sector's Health Performance

Employee Occupational Illness Rate

The SDIR programme guidance note on health management and reporting requested all companies to report their employee occupational illness rate.

The coverage level of the sector's companies on this indicator was improved in 2012 with 26 companies reporting on this indicator, 74% of all companies, compared to 60% in 2011.

The sector's average employee occupational illness rate was 0.48 in 2012 – based on the 26 companies averages that reported; a deterioration in performance of 60% compared to the rate of 0.30 achieved in 2011. However, for the 20 companies that provided data in both 2011 and 2012, the employee occupational illness rate improved to 0.25 in 2012, from 0.32 in 2011.

The average employee illness rate for seven reporting companies in the petrochemical subsector improved by 12.5% in 2012.

Employee Occupational Illness Rate	2010	2011	2012
Number of companies reporting	15	21	26
Percentage of companies reporting*	43%	60%	74%
Average company employee occupational illness rate	1.10	0.30	0.48
Average company employee occupational illness rate (20 comparable companies)	-	0.32	0.25

**35 companies were invited to report on this indicator*

The petrochemical subsector achieved the higher reporting for this indicator with seven of the nine companies providing data between 2011 and 2012. The average employee illness rate for the seven reporting companies improved by 12.5% in 2012. The support services subsector was the only subsector where all companies reported their 2012 performance, which was zero employee illness rate. The LNG/NG subsector achieved improved performance by 22.2% in 2012, for the two companies that reported data in 2011 and 2012.

Contractor Occupational Illness Rate

The SDIR programme supports equal treatment of employees and contractors by requesting that companies report on contractor occupational illness rate, in addition to employee rates. In 2012, 11 companies reported on their contractor occupational illness rate, up from eight in 2011. The average contractor occupational illness rate in 2012 was zero for the 11 reporting companies, and the same result of zero contractor occupational illness rates was achieved for the eight companies with data for 2011 and 2012.

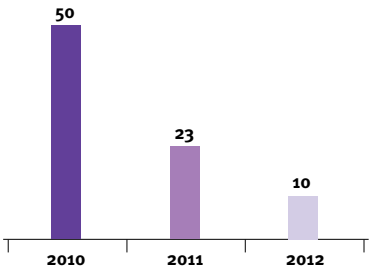
Employee Occupational Illness Rate by Subsector

Subsector	Companies Reporting		Average Employee Occupational Illness Rate			% Change for Comparable Companies
	2011	2012	2011	2012	2012 for Comparable Companies*	
LNG/NG	2	2	0.09	0.07	0.07	-22%
Mining, minerals and others	1	2	0.00	3.59	0.00	0%
Power and utilities	3	4	0.00	0.00	0.00	0%
Petrochemicals	7	8	0.85	0.61	0.61	-13%
Oil and gas (E&P)	4	4	0.00	0.00	0.00	0%
Refining	1	2	0.28	0.15	0.00	Decreased to 0
Transport, storage and distribution	0	1	-	0.00	-	-
Support services	2	3	0.00	0.00	0.00	0%

Contractor Occupational Illness Rate	2010	2011	2012
Number of companies reporting	6	8	11
Percentage of companies reporting*	17%	23%	31%
Average company contractor occupational illness rate	0.66	0.00	0.00
Average company contractor occupational illness rate (8 comparable companies)	-	0.00	0.00

**35 companies were invited to report on this indicator*

Heat Stress Events Reported



Heat Stress Events

Exposure to extreme natural heat can cause illness and even death. Energy and industry sector companies work continuously to mitigate the different types of heat related illnesses, and collaborate with DG on achieving the best results in this area. In May 2012, DG sent a circular on 'Heat Stress Management in Oil and Gas Sector' to all General Managers and CEOs in the sector. The Heat Stress Guideline was issued to the Technical Health Committee for review and feedback in July 2012, and is expected to be finalized and distributed in 2013.

In 2012, 40% of the sector's companies reported their heat stress events, an improvement from 34% in 2011. The total number of heat stress events in 2012 was 10 which represents improved performance on 23 cases in 2011 and the 50 cases in 2010. It should also be noted that the number of companies reporting in 2012 was higher than in previous years.

The power and utilities subsector, which had the best coverage for this indicator (with 80% of the sector's companies reporting their 2012 performance), recorded six heat stress events in 2012, compared to seven in 2011. The mining, minerals and other, the transport, storage and distribution and the support services subsectors did not report any data against this indicator in 2011 and 2012.

An example of the action taken is the Heat Stress Management System that Ras Girtas Power Company has implemented for all its activities including contractors. A health risk assessment covering heat stress risks has been prepared and communicated to all working parties within the plant. A flag system has been implemented to warn the workforce about extremes of heat.

Heat Stress Events	2010	2011	2012
Number of companies reporting	10	12	14
Percentage of companies reporting*	29%	34%	40%
Total number of heat stress events for the sector	50	23	10
Total number of heat stress events (12 comparable companies)	-	23	10

**35 companies were invited to report on this indicator*

QP's Medical Services Department held the first QP Occupational Health Nursing (OHN) Scientific Seminar in 2012,under the theme "Occupational Health Nursing: Current Practices and Future Challenges", as part of its efforts to continuously improve the delivery of OHN services as well as update healthcare professionals on the latest developments in the field of OHN practice.

The OHN seminar discussed a range of topics including best practices in occupational health nursing, the trends in functional capacity evaluation, sickness absence management and local perspectives in OHN education. Other presentations focused on the sector's frontline clinics, conducting psychological assessments, and the OH-HSE collaboration programme.

Health Screening Completed versus Planned

Health screening for employees save lives and prevents health problems and occupational illnesses. As a result, an additional indicator in the SDIR programme for 2012 sought information on 'health screening completed versus planned'. Forty-six percent of the sector's companies reported against this indicator, up from 29% in 2011 and 20% in 2010.

The sector's average 'health screening completed versus planned' improved in 2012 and recorded 74%, compared to 67% in 2011. However, for the 10 companies that reported data for 2011 and 2012, the health screening completed versus planned improved by 3% in 2012.

The petrochemicals subsector achieved the best coverage for this indicator with 77.8% of the subsector companies reporting. The refining and the transport, storage and distribution subsectors did not report any data on this indicator in 2011 and 2012.

Qatargas Medical Department has organised multiple healthy heart campaigns in different work locations. The prime objective of these mass screening activities is early identification of risk factors related to heart disease, namely obesity, high blood lipids, glucose and blood pressure and to diagnose as early as possible any concealed disorders. Data obtained from this evaluation is electronically stored in employee records and used as the basis for a health plan aimed at minimising or eliminating the impact of any risk factors discovered.

ExxonMobil Medicine and Occupational Health (MOH) is a Corporate Security, Safety, Health and Environmental service group providing global occupational and public health services to all ExxonMobil employees. The MOH's objective is to provide for the health and productivity of the ExxonMobil global workforce through leadership in the application of science, technology and risk-based occupational health practices. In Qatar, MOH provides clinical medical services, which include health assessments; early detection, diagnosis and treatment of work-related illnesses and injuries; the recognition and follow-up of non-work related medical conditions that may affect workers' ability to perform their jobs safely and effectively; and the provision of advice on any aspect of the interaction between health and work.

Health Screening Completed versus Planned	2010	2011	2012
Number of companies reporting	7	10	16
Percentage of companies reporting*	20%	29%	46%
Average company health screening completed vs. planned for the sector	70%	67%	74%
Average company health screening completed vs. planned (10 comparable companies)	-	67%	69%

**35 companies were invited to report on this indicator*

Occupational Risk Monitoring Assessment Completed versus Planned

Risk assessments are an essential task for analysing the severity and likelihood of a risk occurring, and the efforts required to mitigate risks as far as possible.

The sector's average 'occupational risk monitoring assessment completed versus planned' was 77% for the 13 companies that reported their performance in 2012, a 10% improvement compared with 70% in 2011 from the 10 companies that reported on this indicator. Performance against this indicator for the 10 companies that provided data in 2011 and 2012 improved by 1% in 2012 to reach 71%.

The petrochemicals subsector achieved the best coverage for this indicator with 77.8% of the subsector's companies reporting 2012 data. This subsector also reported improved performance by 1.6% for the six companies that reported data for the years 2011 and 2012. The following subsectors did not report any data against this indicator in 2011 and 2012: refining, transport, storage and distribution, and the support services subsector.

In 2012, a total of 61 events took place related to the licensing of healthcare facilities and healthcare workers.

Energy and Industry Sector's Compliance with Health Requirements

DG collaborates with SCH in active surveillance and joint inspections to raise the importance of reporting and notification of communicable diseases within the energy and industry sector. In 2012, DG with the SCH, conducted 20 inspections at different areas in Qatar.

Regular update meetings on the licensing status for health care workers and health care facilities in the energy and industry sector are held between DG and the Healthcare Quality and Patient Safety Department of SCH. In 2012, a total of 61 events took place related to the licensing of healthcare facilities and healthcare workers. These events included licensing related meetings with SCH, meetings with health care facilities and pre-inspections conducted by DG, despite the fact that the majority of healthcare facilities are project based and showed rapid turnover of healthcare workers.

By the end of 2012, 49% of the sector's healthcare facilities were licensed according to SCH requirements and 51% of the facilities were still under process to obtain the license. In the same year, 94% of healthcare workers were licensed by the SCH.

Occupational Risk Monitoring Assessment Completed versus Planned	2010	2011	2012
Number of companies reporting	7	10	13
Percentage of companies reporting*	20%	29%	37%
Average company occupational risk monitoring assessment completed vs. planned for the sector	86%	70%	77%
Average company occupational risk monitoring assessment completed vs. planned (10 comparable companies)	-	70%	71%

**35 companies were invited to report on this indicator*

Supreme Council for Health (SCH) Inspections

Month 2012	Location				Total
	Mesaieed	Doha	Ras Laffan	Dukhan	
July	0	2	2	1	**3**
September	2	2	2	1	**7**
October	2	2	0	0	**4**
November	0	1	2	1	**4**
Location total	4	7	6	3	**20**

Health Care Facilities

Location	Number of health care facilities in the sector	SCH licensed		Licensing under process	
		Number	Percentage (%)	Under process with SCH	Percentage (%)
Doha	11	8	73%	3	27%
Dukhan	16	4	25%	12	75%
Ras Laffan	67	31	46%	36	54%
Mesaieed	20	12	60%	8	40%
Total	**116**	**57**	**49%**	**59**	**51%**

Health Care Workers

Location	Total number of health care workers	SCH licensed		Not Submitted to SCH (i.e. New staffs etc.)		Submitted application for SCH		SCH Licensing Under process	
		#	%	Under process with SCH	%	#	%	#	%
Doha	149	146	98%	140	94%	6	4%	3	2%
Dukhan	98	90	92%	84	86%	6	6%	8	8%
Ras Laffan	285	265	93%	237	83%	28	10%	20	7%
Mesaieed	155	145	94%	132	85%	13	8%	10	6%
Total	687	646	94%	593	86%	53	8%	41	6%

Personal Safety

The safety of people in the energy and industry sector is an important priority for all operating companies which strive to achieve zero Lost Time Injuries (LTI) and fatalities for employees and contractors.

Personal safety risks within the energy and industry sector are inherent given its complex interdependent technical systems, and day-to-day operations that include the processing and handling of hazardous substances. The safety of people in the energy and industry sector is therefore an important priority for all operating companies which strive to achieve zero Lost Time Injuries (LTI) and fatalities for employees and contractors.

Employee and Contractor Fatalities

Regrettably, there were two employee fatalities in 2012, both of which occurred in the refining subsector.

All 35 companies from the energy and industry sector reported on their employee fatalities in 2012, maintaining the 100% coverage of this indicator from 2011.

At the contractor level, the percentage of companies that reported contractor fatalities in 2012 decreased to 91%, from 94% in 2011. Regrettably, the sector reported nine contractor fatalities in 2012, all of which happened within the LNG and mining, minerals and other subsectors. This was an increase when compared with 2011, when the number of fatalities was two. The higher number of fatalities in 2012 was due to an incident involving a fire, which occurred 25 nautical miles offshore of RLIC on board a tugboat TUG 53. The incident resulted in seven fatalities and four injuries. The emergency response team responded immediately to bring the incident under control.

Employee Fatalities	2010	2011	2012
Number of companies reporting	27	35	35
Percentage of companies reporting*	77%	100%	100%
Total number of employee fatalities	2	1	2
Number of companies reported zero employee fatalities	25	34	34

**35 companies were invited to report on this indicator*

Contractor Fatalities	2010	2011	2012
Number of companies reporting	25	33	32
Percentage of companies reporting*	71%	94%	91%
Total number of contractor fatalities	0	2	9
Number of companies reported zero contractors fatalities	25	32	29

**35 companies were invited to report on this indicator*

Employee and Contractor Lost-Time Injury Rate (LTIR)

Lost-time Injury Rate (LTIR) measures the number of lost-time injuries (LTI) recorded for a group of workers per million hours worked by that group.

In 2012, all companies within the energy and industry sector reported on their employee LTIR, maintaining the same level of coverage of 100% from 2011. The sector's simple company average employee LTIR improved by 13.6% in 2012 to reach 0.76, from 0.88 in 2011.

In 2012, three subsectors achieved improved employee LTIR performance, as follows:

- Transport, storage and distribution subsector achieved zero employee LTIR in 2012, from 0.45 in 2011
- Mining, minerals and other subsector improved results by 22.2% in 2012
- Petrochemicals subsector achieved a 5% improvement in 2012

Five subsectors recorded declined performance for the same indicator.

In 2012, three sub-sectors achieved improved employee LTIR performance

Employee LTIR	2010	2011	2012
Number of companies reporting	27	35	35
Percentage of companies reporting*	77%	100%	100%
Average company employee LTIR	0.76	0.88	0.76

**35 companies were invited to report on this indicator*

Employee LTIR by Subsector					
Subsector	Companies Reporting		Average Company Employee LTIR		
	2011	2012	2011	2012	Percentage change
LNG/NG	3	3	0.00	0.16	Increased from 0
Mining, minerals and others	3	3	6.05	4.71	-22%
Power and utilities	5	5	0.45	0.52	+16%
Petrochemicals	9	9	0.79	0.75	-5%
Oil and gas (E&P)	7	7	0.25	0.26	+4%
Refining	2	2	0.00	0.24	Increased from 0
Transport, storage and distribution	3	3	0.45	0.00	Decreased to 0
Support services	3	3	0.03	0.15	+400%

Contractor LTIR: declined in 2012 to 0.24, in comparison with 0.17 in 2011.

In 2012, the sector's coverage of the indicator 'contractor LTIR' remained at the same level from the previous year, at 89%. The sector's simple company average performance on 'contractor LTIR'– for the 31 companies that reported their 2011 and 2012 data - declined in 2012 to 0.24, in comparison with 0.17 in 2011.

Two subsectors achieved improved contractor LTIR performance in 2012. These were the power and utilities subsector – with four companies out of five reporting, and the petrochemicals subsector which achieved zero contractor LTIR in 2012, and with all the companies reporting their 2011 and 2012 performance.

Contractor LTIR	2010	2011	2012
Number of companies reporting	25	31	31
Percentage of companies reporting*	71%	89%	89%
Average company contractor LTIR	0.24	0.17	0.24
Average company contractor LTIR (31 comparable companies)	-	0.17	0.25

**35 companies were invited to report on this indicator*

Contractor LTIR by Subsector					
Subsector	Companies Reporting		Average Company Contractor LTIR		
	2011	2012	2011	2012	Percentage change
LNG/NG	3	3	0.03	0.10	+233%
Mining, minerals and others	1	1	0.28	1.18	+321%
Power and utilities	4	4	0.17	0.00	-100%
Petrochemicals	9	9	0.22	0.17	-23%
Oil and gas (E&P)	7	7	0.25	0.42	+68%
Refining	2	2	0.05	0.35	+600%
Transport, storage and distribution	2	2	0.00	0.00	0%
Support services	3	3	0.13	0.30	+130%

QP: world-class safety performance at major capital projects

As part of its pursuit of excellence, Qatar Petroleum (QP) has achieved world-class safety performances at the two multi-billion major capital projects currently being executed by its Technical Directorate. One of these projects, the Port Expansion Project in Ras Laffan Industrial City, has achieved 37 million man-hours without an LTI, while the Gas Sweetening Facilities Project in Mesaieed Industrial City and Dukhan has registered 15 million man-hours without an LTI. The work involved in these projects is complex and the environment in which the work has been executed is challenging. The number of workers on both project sites averages around 15,000, making the zero LTI record a significant achievement.

Employee and Contractor Total Reportable Injury Rate (TRIR)

Total reportable injury rate (TRIR) measures the overall frequency of injuries for every million man hours worked. The number of companies reporting on this indicator in 2012 was 34, compared to 33 in 2011.

The average 'employee TRIR' for the 33 companies that reported data for 2011 and 2012, declined to 1.99 in 2012 from 4.96 in 2011 (an improvement of 59.9%).

At subsector level, the power and utilities subsector achieved zero 'employee TRIR' in 2011 and 2012, with four companies out of five reporting on this indicator. From the subsectors that had 100% coverage of this indicator, the LNG/NG subsector improved its performance by 31.7% in 2012, the petrochemicals subsector improved its performance by 25.2% and the oil and gas (E&P) subsector achieved 95.9% improved performance.

Qatar Petroleum has executed its capital projects by ensuring world-class safety performance.

Employee TRIR	2010	2011	2012
Number of companies reporting	25	33	34
Percentage of companies reporting*	71%	94%	97%
Average company employee TRIR	2.80	4.96	1.99
Average company employee TRIR (33 comparable companies)	-	4.96	1.99

**35 companies were invited to report on this indicator*

Employee TRIR by Subsector						
Subsector	Companies Reporting		Average Company Employee TRIR			% Change for Comparable Companies
	2011	2012	2011	2012	2012 (Comparable Companies)	
LNG/NG	3	3	0.63	0.43	0.43	-32%
Mining, minerals and others	3	3	15.96	15.70	15.70	-2%
Power and utilities	4	4	0.00	0.00	0.00	0%
Petrochemicals	9	9	1.11	0.83	0.83	-25%
Oil and gas (E&P)	7	7	14.81	0.61	0.61	-96%
Refining	2	2	0.16	0.72	0.72	+350%
Transport, storage and distribution	2	3	0.00	1.56	1.56	Increased from 0
Support services	3	3	0.21	0.86	0.86	+309%

The sector also reported its 'contractor TRIR' with 89% of the sector's companies reporting on this indicator in 2012, the same level of coverage from the previous year.

The sector's average 'contractor TRIR' in 2012 was 1.41, from 2.47 in 2011, an improvement of 42.9% – based on data from the 31 companies that reported contractor TRIR data in 2012 and 2011.

At the subsector level, most improved their 'contractor TRIR' performance in 2012, including the mining, minerals and other, oil and gas (E&P), refining, petrochemicals, power and utilities and support services subsectors.

Contractor TRIR	2010	2011	2012
Number of companies reporting	23	31	31
Percentage of companies reporting*	66%	89%	89%
Average company employee TRIR	2.41	2.47	1.41
Average company contractor TRIR (30 comparable companies)	-	2.47	1.46

**35 companies were invited to report on this indicator*

The sector's average 'contractor TRIR' in 2012 was 1.41, from 2.47 in 2011, an improvement of 42.9%

Contractor TRIR by Subsector					
Subsector	Companies Reporting		Average Company Employee TRIR		
	2011	2012	2011	2012	Percentage change
LNG/NG	3	3	0.76	0.76	0%
Mining, minerals and others	1	1	0.98	1.97	+101%
Power and utilities	4	4	0.17	0.00	Decreased to 0
Petrochemicals	9	9	1.11	1.04	-6%
Oil and gas (E&P)	7	7	8.11	3.81	-53%
Refining	2	2	1.00	0.71	-29%
Transport, storage and distribution	2	2	0.00	0.00	0%
Support services	3	3	1.29	0.71	-45%

M Power: 'On-the-Spot Reporting'

One important component of MPower's occupational health and safety management systems is on-the-spot reporting of safety breaches. The safety system requires all employees and contractors to directly report any potential safety dangers or breaches, and enables them to request an immediate work stoppage of any type of work. If such a stoppage requires partial or full shutdown of main operations, the case must be reported directly to the shift supervisor and safety officer. Telephones and radio systems are located in all areas of the plant to facilitate communication between the workforce, the engineer in charge of each duty shift, the Environment, Health and Safety (EHS) officer, and the Human Resources (HR) office.

HSE Excellence: the Qatargas Jetty Boil Off Gas Project

In the 2012 Oil and Gas Industry HSE Excellence Awards, Qatargas won an award for its industry leading safety performance on the Jetty Boil Off Gas (JBOG) project. The JBOG project is the largest emission reduction investment of its kind in the world with a capital investment of around one billion dollars. It is projected to deliver an estimated 600,000 tonnes of annual gas flaring reduction, which translates to 1.6 million tonnes per year of carbon dioxide emissions reduction. The project has not only devised high quality procedures and guidelines, but also ensured that all initiatives are fully implemented. The contractors on the project, mainly Qcon and Qatar Kentz, have provided excellent support for Qatargas' JBOG goal of zero injury, thus helping around 3,000 people onsite to remain incident and injury free.

Process Safety

Major incidents in the energy and industry sector can cause severe harm to the workforce, the community, the environment, corporate assets, reputation and the financial stability of companies. Risk assessments, asset integrity evaluations, timely maintenance, safety management systems and procedures, and proper recording and investigation of incidents and near misses are essential tools for managing the risk of major incidents. If a major incident should occur, it is important that events are analysed to identify the root causes in order to strengthen risk and safety critical controls to prevent similar accidents happening again.

The sector's Technical HSE Framework encourages the use of management systems to reduce the risk of high potential accidents in areas such as, but not limited to:

- Loss of containments risks
- Process safety risks
- Dangerous substances
- Radiation
- Offshore activities
- Machinery and structural equipment
- Well operations

Many companies have well-established systems for accident investigation and for generating and circulating lessons learnt from 'high potential' incidents - that is, incidents that could have resulted in harm or damage had circumstances been slightly different.

Loss of Containment (LOC)

Companies in the energy and industry sector routinely deal with many dangerous substances like oil and gases, chemicals, and lubricants. Avoiding releases of these substances from containment is a main safety concern and indicator for the sector.

In 2012, 31 companies reported on losses of containment, which covers 89% of the 35 companies. This was the same number of companies that reported on this indicator in 2011.

The total number of LOC incidents reported in 2012 increased to 339, compared with 320 incidents in 2011.

At the subsector level, three subsectors reported zero LOC incidents in 2012, namely the power and utilities, the transport, storage and distribution and the support services subsectors. In the same year, 2012, three subsectors recorded declined performance, namely the oil and gas (E&P), the LNG/NG and the refining subsectors.

Loss of Containment (LOC) Incidents	2010	2011	2012
Number of companies reporting	22	31	31
Percentage of companies reporting*	63%	89%	89%
Total number of LOC Incidents	50	320	339

**35 companies were invited to report on this indicator*

Loss of Containment (LOC) Incidents by Subsector						
Subsector	Companies Reporting		Loss of Containment (LOC)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 (Comparable Companies)	
LNG/NG	3	3	3	11	11	+267%
Mining, minerals and others	3	2	0	0	0	0%
Power and utilities	5	5	1	0	0	-100%
Petrochemicals	8	8	14	11	11	-21%
Oil and gas (E&P)	7	7	290	301	301	+4%
Refining	2	2	12	16	16	+33%
Transport, storage and distribution	2	2	0	0	0	0%
Support services*	1	1	0	0	0	0%

*this indicator is applicable for only one company in the support services subsector out of the three companies that make this subsector

The sector's average 'incident investigation completion' was 84.3% in 2012, which represents a 5.2% improvement compared to 80.1% in 2011.

Incident Investigation

Understanding the root causes of incidents through investigation is a fundamental practice that prevents recurrence of similar events in the future. Incident investigation also helps to identify new potential consequences or control weaknesses that could result in other incidents.

There was a cooling tower fire in one of the sector's companies during the year 2012. After this incident, an independent committee with representation of the required experts from the sector was established to investigate the incident and provide recommendations. In order to avoid a similar incident and to share experience with the sector, relevant regulations / guidelines are under development and will be issued to the sector for review and implementation.

In 2012, 86% of the energy and industry sector's companies reported on this indicator, a decline from 89% in 2011.

The sector's average 'incident investigation completion' was 84.3% in 2012, which represents a 5.2% improvement compared to 80.1% in 2011. For the 29 companies that reported data for 2011 and 2012, the average performance improved to 84.0% in 2012, from 79.5% in the previous year.

At the subsector level, the power and utilities subsector achieved 100% incident investigation completion in 2011 and 2012 for the 80% of the companies that reported on this indicator.

Incident Investigation Completion Rate	2010	2011	2012
Number of companies reporting	20	31	30
Percentage of companies reporting*	57%	89%	86%
Average company incident investigation completion for the sector	80.0%	80.1%	84.3%
Average company incident investigation completion (29 comparable companies)	-	79.5%	84.0%

*35 companies were invited to report on this indicator

Incident Investigation Completion Rate by Subsector						
Subsector	Companies Reporting		Incident Investigation Completion (%)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 (Comparable Companies)	
LNG/NG	3	2	93%	100%	100%	0%
Mining, minerals and others	2	2	100%	100%	100%	0%
Power and utilities	4	4	100%	100%	100%	0%
Petrochemicals	9	9	70%	73%	73%	+4%
Oil and gas (E&P)	7	7	70%	70%	70%	0%
Refining	1	2	88%	94%	87%	-1%
Transport, storage and distribution	2	1	100%	100%	100%	0%
Support services	3	3	67%	67%	67%	0%

Qatargas launched a Process Safety Programme (QGPSP) which forms one of the initiatives within the Qatargas Vision 2015 to become the world's premier LNG Company.

In 2012, QP conducted a workshop on radiation safety, held with experts from the International Atomic Energy Agency (IAEA), which was attended by more than 50 safety and environment professionals from the Ministry of Environment and the energy and industry sector. The workshop focused on topics related to radiation safety and environmental protection in the industrial sector, as well as important technical cooperation projects between the State of Qatar and the IAEA.

In 2012, Qatargas launched a Process Safety Programme (QG-PSP) which forms one of the initiatives within the Qatargas Vision 2015 to become the world's premier LNG Company. QG-PSP will be rolled out at every operating asset within Qatargas.

QG-PSP is a structured programme to operate within well-defined and understood operating limits, practice situational awareness, conduct proactive monitoring and manage abnormal situations. The programme has the following objectives:

- Determine the operating limits and set corresponding alarms.
- Standardize certain types of communications and planning within, across, and beyond shifts.
- Manage situational awareness
- Enable proactive monitoring of the process and selected equipment.
- Define a common method for managing abnormal situations.

Through a five year partnership with Texas A&M University at Qatar, ConocoPhillips has established a national platform for industrial process safety. The annual process safety symposium, a two-day event, titled "The Importance of Leadership Commitment in Making Safety a Core Value", featured 18 speakers presenting topics including incident case studies, best practices in process safety, research on process safety, incident investigations and safety success stories. The event provides an excellent opportunity to share knowledge among process safety practitioners and build networks to promote and enhance safety for the wellbeing of the community.

Emergency Response Preparedness

Emergency and crisis preparedness continued to be a major focus for Dolphin Energy in 2012. Activities included the implementation of wide-reaching internal and external training sessions, preparedness checking of Site Emergency Control Centres, Emergency Management Centres, as well as other Emergency Centres belonging to Human Resources, Corporate Communication and Public Relations teams, and updating and issuing emergency response and management plans and procedures.

Emergency response management is a process of systematic management of emergency events or conditions to enable the timely and effective application of resources and response. In the event of an emergency, effective management response minimises harm and loss.

In the energy and industry sector, emergency response preparedness and management is a need given the potential scale of impact of an incident.

Emergency preparedness requires company-level readiness as well as preparation and collaboration with all relevant stakeholders to plan for the protection of health and safety of employees, communities, industrial assets and the environment.

In line with instructions from His Excellency, the Minister of Energy and Industry to focus on safety aspects across the oil and gas sector, the HSE Regulations and Enforcement Directorate identified "Key Indicators for the Assessment of Emergency Response" and developed a questionnaire for companies to conduct a "Self-Assessment of Emergency Response System".

In order to address sector needs and concerns, the questionnaire was developed in consultation with companies, Fire Management Forums, Emergency Coordination Forums, Maritime Taskforce and other similar forums.

Operating companies were encouraged to carry out self-assessments on emergency preparedness. A total of 28 companies involved in Onshore, Offshore, Marine and Maritime Operations completed self-assessments and submitted reports to DG.

To address the areas of concern identified in the above reports, as well as facilitate implementation of requirements within Decision No 18 dated 07-05-2012 issued by the Chairman and Managing Director of QP, DG has developed two relevant guidelines,which are in the review and approval cycle. Additionally, the Directorate is developing regulations to address the areas of concern identified to serve as standard guidance for companies to enable them to meet the requirements related to emergency preparedness within the State of Qatar in line with the regional and international standards and best practices.

DG's role on emergency management, preparedness and response in the energy and industry sector also includes:

- Supporting companies in their self-assessment for the emergency response system questionnaire developed by DG.
- Developing Guidelines for Emergency Exercise and Mutual Aid for the oil and gas sector.

Dolphin Energy conducted a range of emergency drills in 2012, from regular local fire drills in the head office to on the ground simulation drills. A large-scale corporate-wide crisis drill was conducted in 2012, as well as two major exercises, one in the UAE and one in Qatar.

- Developing regulations on emergency preparedness, response and recovery.
- Implementing emergency management systems within the MIC, in accordance with QP decision #18.

In 2012, the MIC's "Emergency Management System" was developed, which included the formation of Mesaieed Emergency Committees. Guidelines on Emergency Preparedness, Mutual Aid, and Emergency Exercise were utilised by the committee in fulfilling their obligations. DG provides technical assistance to MIC companies on issues such as flare minimization, VOC incineration, NOx in ethylene crackers, zero discharge of effluents to the sea, air carrying capacity, salinity in cooling tower blow down, and others.

The energy and industry sector has developed more emergency response focused committees and forums in 2012, in collaboration with DG. These included:

- The Ras Laffan Fire Management Forum.
- The Ras Laffan Emergency Coordination Forum.
- Maritime Task Force.

In 2013, DG aims to:

- Develop regulations related to all aspects of Emergency Planning, Preparedness, Response and Recovery.
- Approve, issue and implement relevant emergency and crisis management Guidelines and Procedures.
- Draft new guidelines in line with emergency and crisis management objectives.
- Conduct a workshop or conference to raise awareness of the Emergency Response Preparedness Guidelines and upcoming regulations.

Qatargas:
Pre-Incident Plans
To enhance its emergency response preparedness, Qatargas has established around 300 Pre-Incident Plans (PIPs). These provide comprehensive documentation specific to a location detailing the emergency preparedness. A PIP includes pre-determined actions which describe the required actions during an emergency situation.

QP Dukhan: emergency response drill

QP Dukhan Operations conducted an emergency response drill in December 2012. The drill, based on the scenario of a gas leak in the vicinity of the Township, involved the partial evacuation of Dukhan Township. The exercise involved approximately 4,300 employees, services contractors and residents, QP and contractor staff based in zones 1, 2 and 3B of the Dukhan Township and the Dukhan Operations Management Building.

Emergency Response Drills

For 33 companies from the sector that reported the number of emergency response drills they conducted in 2012, the sector conducted 6,956 emergency response drills. This compares to 5,177 emergency response drills for the 31 companies that reported in 2011.

For the 31 companies that reported data in 2011 and 2012, the total number of emergency response drills increased from 5,177 in 2011 to 6,826 in 2012.

In 2012, the QP's Emergency Preparedness and Disease Control Unit in collaboration with the World Health Organization (WHO) conducted a two-day workshop on 'Assessment of National Capacity for Emergency Preparedness and Response in Health Sector'. All International Health Regulations (IHR) national focal points were invited to attend.

Emergency Response Drills	2010	2011	2012
Number of companies reporting	20	31	33
Percentage of companies reporting*	57%	89%	94%
Total number of emergency response drills	2,491	5,177	6,956
Total number of emergency response drills (31 comparable companies)	-	5,177	6,826

**35 companies were invited to report on this indicator*

Engagement on Health and Safety

Conoco Phillips and HMC awareness campaign

In support of the Qatar National Vision, ConocoPhillips have recently partnered with Hamad Medical Corporation (HMC) to organize a National Health and Safety awareness campaign "Kulluna". The campaign seeks to raise levels of public awareness of general health issues, personal safety, HMC services and lifesaving practices. The campaign uses different campaign activities to tackle a range of topics and medical issues.

Successful health and safety management requires the creation and maintenance of a strong health and safety culture. An effective safety culture is established when safety is valued as highly as productivity, and when continuous and active stakeholder engagement is routine. This requires managerial and supervisory involvement in and emphasis on the importance of health and safety.

In 2012, the sector completed several health awareness and education sessions and workshops on different health and safety topics with a focus on health. These covered:

- Seasonal influenza: in coordination with the SCH and Centre for Health and Wellness, DG organized the seasonal flu campaign 2012 which included the following activities:
  - Free of charge vaccines for 1,000 healthcare workers in industrial concession areas, 500 community members in MIC and 500 community members in Dukhan where the QP Medical Services staff coordinated the actual vaccine uptake in the various regions.
  - The Centre for Health and Wellness provided statistics for the uptake of vaccines.
- Health Alerts/Awareness communication: the health alerts received from the SCH were shared with the energy and industry sector for their use, knowledge and further distribution as necessary
- Active Surveillance workshop: DG, in collaboration with SCH, conducted a workshop on Surveillance and Outbreak Control of Communicable Diseases for the sector's health representatives from health care facilities.
- The SCH conducted an immunization week symposium, supported by DG.
- A Managing Heat Stress Awareness Workshop organized by the MIC.

Engaging Employees

There are many examples of companies in the sector engaging with their staff to reinforce the importance of safety.

RasGas Safety Leadership Programme

RasGas recognises the importance of visible and strong safety leadership, particularly in setting the right example for the company's entire workforce, whether they are employee or contractor. The RasGas Safety Leadership Programme targets chief officers, managers, section heads and supervisors, to develop the skills and knowledge of the leadership team. Its modules are linked to the elements of RasGas Element for Excellence (RGEE) management system and the behavioural competencies outlined in the company's job families. Since its introduction at the start of 2012, RasGas has run a total of four courses. The course has been updated to include additional topics for 2013 and beyond.

Material and Product Safety Data Sheets

In keeping with the concept of product responsibility and to avoid health and safety incidents for workers and the wider community, when relevant, companies in the sector use material or product safety data sheets. These sheets are an effective way to ensure that employees, contractors, emergency services and customers are well aware of what the materials they are handling or products they are purchasing. These sheets detail the physical properties of the material, how to handle the material in a safe manner, and procedure in case of an incident.

Ras Girtas Power Company: "Fresh Eyes"

Ras Girtas Power Company has implemented a Behaviour Based Safety programme called "Fresh Eyes" to enhance the involvement of all employees in safety related activities. The initiative is designed to help continually improve safety as measured by observation in the field. The key values of the Fresh Eyes programme are that it:

- Is employee led and anonymous
- Reinforces good behaviour and identifies 'at risk' behaviour
- Provides immediate and fair feedback
- Drives continuous improvement.

Health and Safety Supervision and Compliance

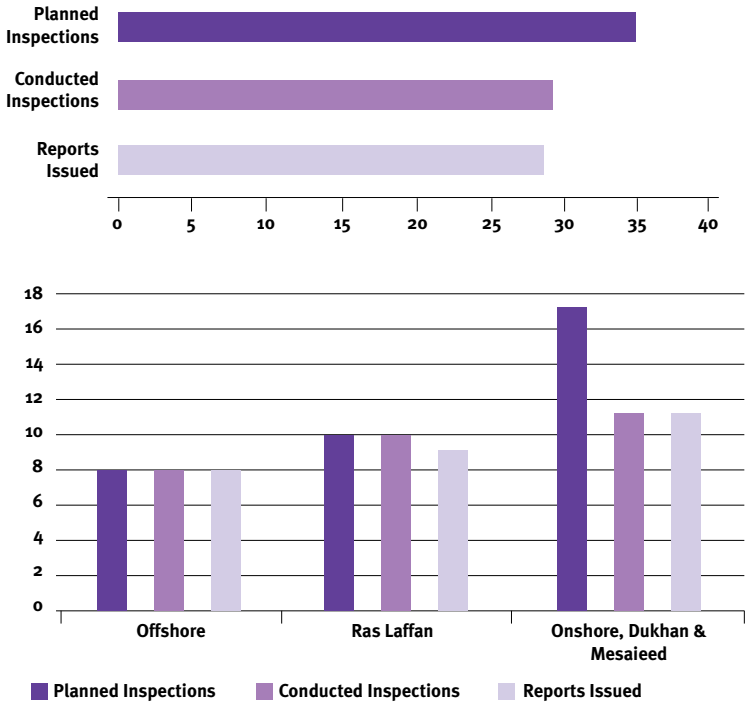
Monitoring the energy and industry sector's implementation of HSE procedures, guidelines and policies for compliance purposes is an essential part of DG's responsibilities. The Supervision approach adopted is to engage positively with stakeholders and recognize good HSE practice and legal compliance. A partnership approach is used to address any differences or concerns that arise from supervision visits. DG does not ensure compliance through inspections alone; it also collects HSE data and provides feedback and information on compliance challenges to companies.

HSE Supervision

In 2012, DG conducted 29 supervision visits out of the 35 visits scheduled with approved stakeholders. These covered various industrial sites to ensure that environmental, technical and process safety aspects are in line with the requirements of national legislation and industry best practice.

In 2013, DG aims to continue to work in alignment with organizations such as the SCH, MoL, the Port Authority and Industrial Cities, to regulate and monitor sector performance.

2012 Supervision



In 2013, DG aims to continue to work in alignment with organizations such as the MoE, SCH, MoL, Port Authority and Industrial Cities, to work in alignment with them, in regulating and monitoring sector performance

The Environment

Water Management

Spills

Waste Management

Air Emissions

Biodiversity

2012 Achievements

0.6%
reduction in waste disposed between 2011 and 2012

7 Million m^3
of water recycled in 2012

14%
reduction in SOx emissions between 2011 and 2012

A Unique Natural Environment

Qatar's unique environment

"The environmental pillar will be increasingly important as Qatar is forced to deal with local environmental issues, such as the impact of diminishing water... and the effects of pollution and environmental degradation..."

Qatar National Vision 2030

Qatar's natural environment is characterised by a unique mix of benefits and stresses. The benefits include Qatar's abundant natural hydrocarbon resources, which have led to economic boom. At the same time, Qatar ranks as one of the most water scarce countries in the world with a unique and sensitive biodiversity eco-system.

The country faces a range of environmental challenges that must be addressed in order to sustain the rapidly growing population and economy, while simultaneously protecting the health and value of natural resources. Challenges include limited fresh water resources, increasing volumes of waste with limited availability of landfill, threats to biodiversity from industrialisation and climate change, the loss of endangered species, and increases in various local pollutants mixed with sand -based particulates in the air.

Qatar's National Development Strategy 2011–2016 (NDS) translates the Qatar Vision 2030 into a country-wide strategic action plan. The strategy explicitly connects the growth of national prosperity to the realities of environmental constraints by establishing a programme and action plans for strengthened environmental management.

This chapter is prepared in view of the NDS and it outlines the direction and key initiatives that the sector will take under the leadership of Ministry of Environment (MoE). For the 11 environmental projects outlined in the NDS, the Environment Sector strategy identifies clear outcomes and related targets to be achieved by 2016 to ensure safe water, cleaner air, reduced waste, biodiversity conservation, greener urban spaces, increased environmental awareness and improved governance.

The State of Qatar has passed a variety of laws and regulations that seek to protect the environment. These include Decree Law No. (30) on Environmental Protection in 2002, Decision No. 4/2005 by the Chairman of Supreme Council for the Environment and National Reserves, and Law No. 4 of 1983 on the protection of living aquatic resources.

Qatar has signed several international treaties on environmental conservation, such as:

- The 1992 Convention on Biological Diversity.
- The Basel International Convention on the control of transferring hazardous wastes and their disposal across borders of 1995.
- The Protocol to Prevent Marine Pollution by Dumping of Wastes and Other Matter of 1996.

Continuous support is provided to the sector by enhancing environmental guidelines for companies, taking account of best practice. Accordingly in 2012 water management was selected as a focus area for the sector.
The guidelines provided to the companies are helping to improve and standardize corporate reporting on water management. The guidance covers reporting on fresh water consumption, water discharge by source, water discharge content, and wastewater recycle and reuse

- The Montreal Executive Protocol of 1987 on Substances that Deplete the Ozone Layer and its amendments of 1990 and 1992.
- The Cartagena Protocol on Biosafety and Biodiversity of 2000.
- The Stockholm Convention on Persistent Organic Pollutants of 2001.

The Sector's Environmental Approach

Companies in the energy and industry sector seek to comply with the State's laws, regulations and environmental guidelines, and also pursue innovation and technological advancement that seeks to take performance beyond regulatory limits.

All companies within the sector require a Permit to Construct (PTC) or Environmental Authorisation from the MoE prior to establishing facilities. Companies are also required to receive Consent to Operate (CTO) from the MoE. CTO is updated and approved annually to account for changes in environmental standards and requirements. The PTC and the CTO represent the main tools of laws and regulation that have been put in place to govern the sector's operations in relation to the environment.

The 'Health, Safety and Environment (HSE) Legal Framework for Oil and Gas Sector' is a reference document on environment regulations to be used by companies. It is available in English and Arabic. To support compliance, DG conducts company visits and assessments to advise on potential areas of risk or opportunity, acting as a hub for sector-wide awareness and collaboration on environmental action.

Continuous support is provided to the sector by enhancing environmental guidelines for companies, taking account of best practice. Accordingly in 2012 water management was selected as a focus area for the sector. The guidelines provided to the companies are helping to improve and standardize corporate reporting on water management. The guidance covers reporting on fresh water consumption, water discharge by source, water discharge content, and wastewater recycle and reuse. DG has also published guidelines on ballast water management.

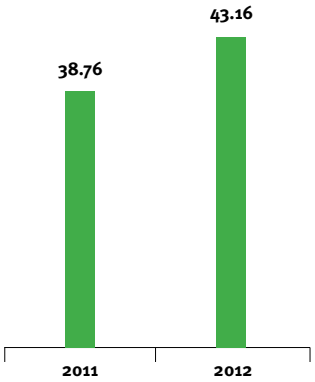
Qatar's awesome heritage

Water management

QAPCO: Grey Water Landscaping

QAPCO has implemented a Grey Water Landscaping System that has resulted in recycling 39.3% (1.4 million m3) of its fresh water input for reuse in production and landscaping.

Total water consumption (million m³) for 27 companies



Potable water is a basic human need and the reliable provision of clean water is fundamental to national progress and prosperity. Water availability, use, treatment and disposal are increasingly important challenges facing many companies and countries worldwide.

With one of the world's lowest levels of rainfall, Qatar relies on water from three sources: desalination, groundwater and recycled water. All three face challenges. The country's growing economy and population make water scarcity an issue of increasing importance. According to the Water Stress Index 2011, Qatar is the second-most 'water-stressed' country in the world.[3]

Challenges associated with water in Qatar include:

- Rapidly growing demands for water arising from population growth, industrialization, urbanization, and agriculture.
- Desalination, which accounts for about half of Qatar's water usage, depends on costly and energy intensive cogeneration processes which use large areas of coastal land and require seawater within the desirable levels of salinity.
- Network losses, which reached more than one-third of total production in 2006. Even though this rate has declined to 28% in 2010, it is still higher than the target of 18%.[4]

These challenges have made it vital for Qatar to reduce network losses, invest in new technologies, and adopt water conservation measures.

To improve water management, a National Water Act is to be established no later than 2016. The act will put in place a structured and consolidated approach to water management in a bid to stem rising salinity, rising water tables, higher water temperatures, increasing consumption, growing rates of water leakage and the reduced availability of fresh water resources. Qatar is already undertaking initiatives to improve efficiency. One of these involves efforts by Kahramaa (the national water authority) to stem losses of desalinated water in its distribution network.

The energy and industry sector has a significant role to play in managing water resources by improving the management of water generation and sea water extraction, developing water conservation technologies and practices, and increasing water reuse and recycling.

The sector is also seeking to introduce more efficient technologies. Encouraging all companies to implement water efficiency practices and technologies is a priority, with steps being taken to manage water generation and consumption, including emphasis on water reuse, treatment, recycling and disposal.

Dolphin Energy: Water recycling

Dolphin Energy has an on-site wastewater treatment plant for its operations in Qatar that uses recycled water in operations to reduce discharges.

In addition to practical action now, some companies are investing in long-term research to enhance water management. For example, ConocoPhillips' Global Water Sustainability Center in the Qatar Science and Technology Park is focused on innovative solutions to treat by-product water from the oil and gas industry as well as desalination, recycling, awareness and conservation.

Water Consumption

In 2012, 30 companies reported on their total water consumption, representing 91% of the total companies invited to participate in the SDIR programme. In 2012, the total amount of water consumed by the sector was 43.3 million m3, an increase of 11.4% compared with 2011. Eleven companies reported improved performance, reducing water consumption by 2.96 million m3 in 2012.

Twenty seven of the 30 companies reporting this year presented data by providing information on water consumption in 2011 and 2012. Of the 27, 15 showed increased water consumption, 11 reduced their consumption and one remained unchanged. In total, these 27 companies reported an increase of 11.4% in water consumption between 2011 and 2012.

Water Consumption Reporting

	2010	2011	2012
Number of companies reporting	21	27	30
Percentage of companies reporting*	64%	82%	91%
Total water consumption (million m^3)	27.06	38.76	43.26
Water consumption for 27 comparable companies (million m^3)	-	38.76	43.16
Percentage change in water consumption for 27 comparable companies	-	-	+11.4%

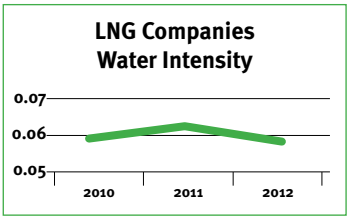
**33 companies were invited to report on this indicator*

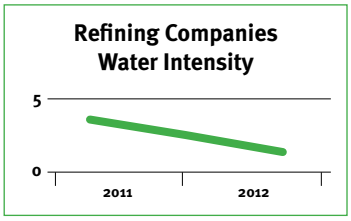
Water Consumption by Subsector

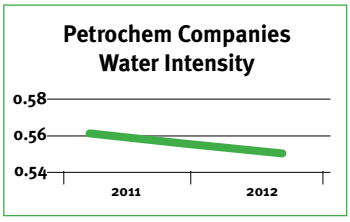
Subsector	Companies Reporting		Water Consumption (million m^3)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 for Comparable Companies*	
Power and utilities	5	5	14.451	13.821	13.821	-14%
Refining	2	2	6.94	11.31	11.31	+63%
Petrochemicals	9	9	6.584	7.864	7.864	+19%
LNG/NG	3	3	7.74	7.45	7.45	-4%
Mining, minerals and others	3	3	2.611	2.463	2.463	-6%
Support services	1	1	0.17	0.04	0.04	-76%
Oil and gas (E&P)	4	6	0.271	0.315	0.218	-20%
Transport, storage and distribution	0	1	-	0.0087	-	-

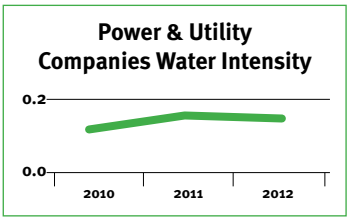
RLPC: Zero Liquid Discharge Project

RLPC is working on implementing a Zero Liquid Discharge Project to recover process waste-water and eliminate all liquid discharge from the facility. This project will help save the energy required to produce fresh water.









Subsector Performance

Fifty eight percent of water consumption can be attributed to the LNG and power and utilities subsectors. The largest reduction in water consumption came from the power and utilities subsector, accounting for 14% of the total 4.5 million m3 reduction in 2012. The refining subsector increased water consumption by 63% between 2011 and 2012. This was principally due to Qatar Shell operations moving into full production in 2012.

In the support services subsector, Saipem reduced its water consumption by 76.2% in 2012 by implementing a water-saving awareness programme. It included training and awareness initiatives carried out by the project's HSE Team. A water loss control programme was established to identify potential leak or drainage issues, with a view to reducing potential damage to facilities, impact on the environment and costs.

Subsectors' Water Intensity Performance

Water intensity refers to the amount of water consumed by a company per unit of production. All four subsectors showed improvements in their water intensity between 2011 and 2012. For instance, the power and utilities subsector reduced its water intensity by 17% between 2011 and 2012. RGPC contributed significantly to this reduction by implementing Multi-effect Distillation (MED) technologies to their desalination plant, resulting in a 14% reduction in water consumption while increasing electricity production by 499,803 MWH, or 17%.

The highest decrease in water intensity - 35% between 2011 and 2012 - was achieved by the refining subsector. This was mainly due to Qatar Shell's operations going into full production in 2012 which increased production by 264%.

Subsector Water Intensity

Subsector (Companies Reporting)	Unit	Change 2010-2012	Change 2011-2012
LNG (2)	m3/tonne LNG	-2.8%	-6%
Refining (2)	m3/tonne oil equivalent		-35%
Petrochemicals (8)	m3/tonne petrochemical		-2%
Power & Utilities (4)	m3/MWH	+6.5%	-16%

NOTE - water intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total water consumption and combined total production of the companies, and thus it does not represent the intensity of one single product.

ExxonMobil Qatar: Water Reuse Research Programme

ExxonMobil Qatar launched a water re-use programme in 2010 in recognition of the challenges of water resource management in an arid region, and the desire for more efficient treatment and re-use options for industrial wastewater. The programme is investigating water treatment technologies that allow for the beneficial reuse of treated industrial wastewater.

Water Discharge and Recycling

Following Qatar's long-term plan to reduce water discharges to the sea in order to negate any potential harmful effects on the marine ecosystem, the energy and industry sector has committed to work towards "near zero" water discharge to sea, in conjunction with the MoE target of achieving Zero Liquid Discharge of process wastewater by December 2016.

The sector is aiming to achieve this primarily through investments in water recycling and reuse, using wastewater treatment plants and using treated wastewater to irrigate green zones as well as re-using water in core operations and production processes. There is much to be done to achieve the ambitious goal of near zero water discharge, and in the meantime the sector is reducing the impact of water discharged by monitoring effluent quality and temperature.

In 2012, 16 companies reported on their total water discharge, representing 48% of the total companies invited to participate in the SDIR programme. With reporting in its early stages, there are challenges relating to the consistency of measurement and data reliability. Data quality is expected to improve in future reports.

The total amount of water discharge for the 16 reporting companies was 110,733 million m^3 at the end of 2012. Only two companies reported a reduction in their water discharge in 2012. Total E&P Qatar reported a reduction of 3.1 million m3 in 2012 (a reduction of 12% compared to 2011) and Qatar Vinyl Company Ltd (QVC) reported a reduction of 5% in 2012.

The oil and gas (E&P) subsector reduced total water discharge in 2012, while discharge volumes in the other three subsectors increased.

Oil or Chemicals in Water Discharged to Sea

Companies recognise the need for seawater returned to the sea to be at temperatures and salinity levels that do not harm marine life. Conditions of discharge are regulated by the MoE, and seawater used for cooling is tested to ensure it does not breach levels agreed within companies' CTOs.

Data reported on discharges to sea for the sector is not complete, with only five companies providing water discharge composition data. With reporting in its early stages, there are challenges relating to the consistency of measurement and data reliability. However, from those five companies, four have reported zero oil and chemical in their water discharge.

In alignment with the goals of the NDS, MIC Industrial City companies are working to design and install a comprehensive seawater quality monitoring network to evaluate the effectiveness of treatment options and assess the cumulative effect on the receiving water body.

Water Recycling

Nine companies reported the amount of water they recycled, which totalled 7 million m3 in 2012. While the limited amount of data has made it difficult to identify trends in performance, there are a number of initiatives of note where companies have begun water recycling.

Spills

Hydrocarbon spills are a significant environmental risk as they can have a major impact on wildlife and marine and land-based ecosystems. Preventing losses of containment is therefore a key objective for the oil, petrochemical and shipping industries.

In recent years, a number of major international incidents have heightened awareness of the impact of spills, in particular from offshore operations. Therefore, the State of Qatar places a high priority on preventing losses of containment during the exploration, extraction, production, refining and distribution of hydrocarbons and hydrocarbon-based products, with the energy and industry sector playing a leading role in these efforts. Oil spill contingency plans for the State of Qatar, with QP leadership, have been formulated, which include aerial video surveys, research, and the use of rescue and oil spill mapping software.

All companies in the sector, for whom loss of containment is a risk, are committed to reducing the number of significant spills to zero. As a precautionary measure, they also invest in spill response planning and capability development. QP has well-developed national emergency response capabilities in the event of a major offshore incident in Qatari waters. The QP Oil Spill Emergency Response Department set quality objectives in 2007, which included measures to control and reduce oil spills. The Oil Spill and Emergency Response Department at QP is the designated spill notification point for the state of Qatar with provision for all spills to be reported to the Ras Abu Abboud communication control room, operated by QP.

Sector Performance

In 2012, 29 companies reported data for the number of significant oil spills, defined as a loss of hydrocarbons of more than one barrel (equivalent to 159 litres of oil) that reached the environment. All 29 companies provided data on their performance on oil spills for 2011 and 2012. The 16 spills reported in 2012 originated from eight companies, with 21 companies experiencing no oil spills in 2012.

Maersk Oil Qatar: RECSO membership

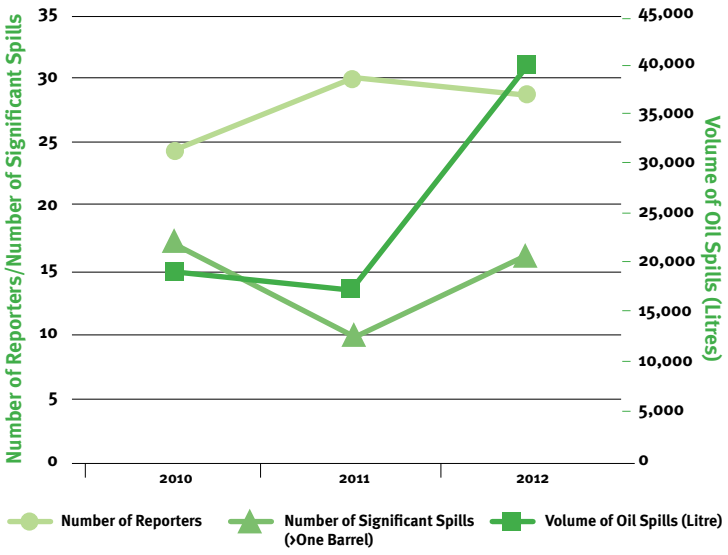
Maersk Oil Qatar, as a member of the Regional Clean Sea Organization, is committed to the 'Clean Gulf' concept. Maersk is the only private sector member of this forum, which has the objective of protecting the marine environment in the Gulf from the impact of oil and which provides opportunity for promoting collaboration and sharing experience and capability.

Significant Spills	2010	2011	2012
Number of companies reporting on significant oil spills (>one barrel)	24	30	29
Percentage of companies reporting*	73%	91%	88%
Total number of spills	17	11	16
Number of companies reporting on volume of oil spills	22	30	27
Percentage of companies reporting*	67%	91%	82%
Total volume of spills (litres)	19,077	17,581	39,999

**33 companies were invited to report on this indicator*

The total volume of oil spills in 2012 was 39,999 litres, an increase of 128% from 2011. Eighty three percent of the total volume of oil spills is attributed to three companies. While the number of significant oil spills reported by two of these companies in 2012 was lower than in 2011, the volume of oil spilled was higher than in the previous year. The other four companies that reported the volume of oils spills accounted for 17% of the total volume of oil spilled.

Oil Spills Reporting



Oxy Qatar spill response planning

In 2012, Oxy Qatar continued to expand implementation of automated process, pipeline and well monitoring and control systems; reinforced operator authority to shut down facilities, pipelines and wells safely — without the need to first contact a supervisor — when a potential incident is detected; reinforced spill prevention and response training; and maintained a robust interface with QP.

Waste Management

The joint technical team report recommended focusing initially on "quick wins" related to the recycling of non-domestic waste, and non-hazardous solid waste. This would be implemented preferably through a joint venture between the stakeholder and a specialized international partner with proven experience in waste management.

Waste management poses a significant challenge for Qatar, with its growing population, expanding economic activity in a range of sectors and waste management infrastructure that is under development.

According to the NDS, Qatar creates more than 7,000 tonnes of solid waste every day, with commercial and industrial activities accounting for 70% of waste generated.[5] At present, most of Qatar's waste is sent to one major landfill site. Approximately 8% of waste is recycled.

Implementing sound waste management practices – including monitoring, collecting, transporting, processing and disposing of waste materials – is essential to protect human health and livelihoods. Qatar has committed to developing a comprehensive solid waste management plan to encourage recycling, incentivizing waste reduction, promoting source separation and developing a robust recycling sector, with the goal of reaching a national recycling rate of 38% by 2016.[6]

In pursuit of this goal, the government of Qatar has established an integrated domestic solid waste management centre in Mesaieed. The centre is expected to reduce the share of domestic waste disposed of in landfills by 3–5%, The centre will support efforts to convert waste to energy and raise the level of waste recycling from 8% to 20-25%.[7]

The Sector Approach

In common with several other sectors and society at large, the energy and industry sector is committed to the national goal of waste reduction, and reuse and recycling. Minimizing waste to increase process efficiency is an important goal for the sector. In recent years, reuse and recycling have also become more prevalent. As waste management infrastructure develops, including markets for recycled materials, economic opportunities for recycling are beginning to emerge.

DG, in cooperation with an industry operator, established a joint technical team in 2012 to work on a waste management project aligned to the Qatar National Vision 2030 and NDS targets. These call for environmentally sound management of waste to reduce waste volumes, encourage a recycling culture and promote the innovative reuse of waste in order to use resources more efficiently. The plans foresee the active involvement of the private sector in the waste recycling industry.

The joint technical team report recommended focusing initially on "quick wins" related to the recycling of non-domestic waste, and non-hazardous solid waste. This would be implemented preferably through a joint venture between the stakeholder and a specialized international partner with proven experience in waste management. Future project expansion may include other kind of wastes, such as medical waste, spent batteries, bio sludge, spent catalysts, and others.

Saipem Qatar reduced their waste generated, by 23,395 tonnes between 2011 and 2012, or 48.5%. Saipem's strategy on waste management is based on principles of waste limitation and segregation, in a controlled manner, with as much material as possible being handled close to its source of generation for further reuse, recycling, and safe disposal.

Given the nature of the sector's operations and the materials it handles on a regular basis, the treatment and disposal of hazardous waste represents another aspect of the challenge facing the energy and industry sector. Hazardous waste disposal is currently handled by third parties approved by the Ministry of Environment. The relative immaturity of waste management facilities in the region means that a number of companies are taking steps to ensure that third-party waste handlers adhere to international best practice.

Waste Disposal

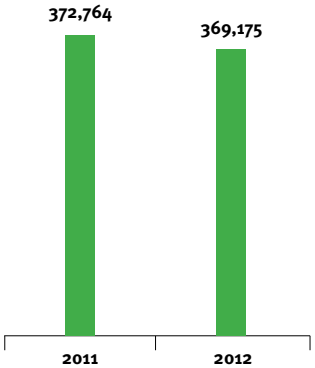
In 2012, 28 companies reported the total amount of waste disposed, representing 85% of the companies invited to participate in the SDIR programme. The sector disposed of a total of approximately 370,383 tonnes of waste in 2012, including both hazardous and non-hazardous waste. Total waste disposed decreased by 0.6% between 2011 and 2012 despite two more companies reporting in 2012.

Twenty five companies included data for 2011 and 2012. Of these 14 reported an increase in waste and 10 recorded a decrease. The total reduction for the 25 comparable companies reached 3,042 tonnes, or 0.8%.

Three companies from the sector have contributed to a reduction of 30,241 tonnes of disposed waste between 2011 and 2012. QP has achieved a reduction of 12% between 2011 and 2012, amounting to 5,614 tonnes. Saipem Qatar also reduced their waste generated, by 23,395 tonnes between 2011 and 2012, or 48.5%. Saipem's strategy on waste management is based on principles of waste limitation and segregation, in a controlled manner, with as much material as possible being handled close to its source of generation for further reuse, recycling, and safe disposal.

Other companies in the sector have started initiatives to reduce their waste, ranging from cutting office waste volumes to reducing waste generated from operations. For example, QAFCO have reduced volumes of paper waste in their offices by transferring many routine human resource procedures online. Qatalum has introduced initiatives to reduce their waste, including a recycling programme. The implementation of these initiatives has helped Qatalum to reduce its waste by 1,232 tonnes between 2011 and 2012, equal to 24%.

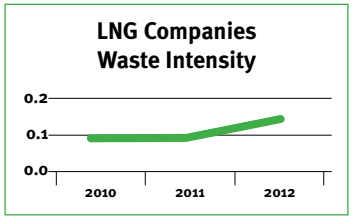
Waste disposed (tonnes) for 27 companies

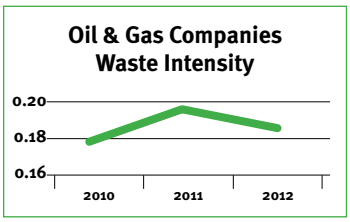


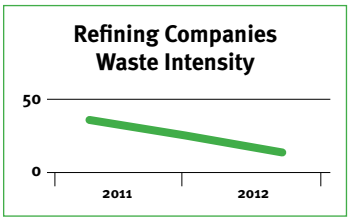
Waste Disposed	2010	2011	2012
Number of companies reporting	19	26	28
Percentage of companies reporting*	58%	79%	85%
Total waste disposed (tonnes)	301,690	372,764	370,383
Waste disposed for 25 comparable companies (tonnes		372,217	369,175
Percentage change in waste disposal for 25 comparable companies (tonnes)			-0.8%

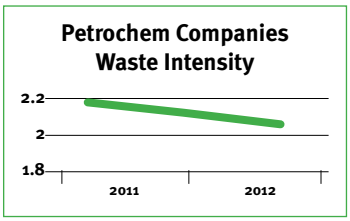
**33 companies were invited to report on this indicator*

Reporting shows increased recycling efforts by companies, with six companies achieving recycling rates greater than 40% in 2012.









Subsector Waste Intensity Performance

Waste disposal intensity shows the performance of the sector in reducing the amount of waste generated per unit of production.

The goal for each subsector is to ensure the efficient use of materials in the production processes, which in turn will reduce waste disposed per unit of production.

An analysis of the data available for the subsectors showed that from the four subsectors that had sufficient information to calculate waste intensity, three have showed a decrease in their waste intensity in 2012. For example, while the refining subsector increased its total waste disposed, it also significantly increased production. The amount of waste disposed per unit of production therefore dropped by 55%, representing a significant improvement in efficiency. The biggest increase in waste intensity was attributed to the LNG subsector (72%) which came as a result of a two major planned shutdowns which generated larger than normal waste levels.

Waste Recycling

In 2012, 23 companies reported on the percentage of waste recycled, representing 70% of the companies involved in the programme. From the 23 reporting companies, 12 reported an increase in the percentage of waste recycled between 2011 and 2012.

Reporting shows increased recycling efforts by companies, with six companies achieving recycling rates greater than 40% in 2012. Q Power, for example, achieved the highest recycling rate (90%) in 2012 by implementing initiatives including segregation and recycling for office waste and metal scrap and containers. QAFCO achieved 70% recycling of its waste in 2012, through the continued implementation of its '3Rs' programme (Reduction, Reuse and Recycling). QAPCO has recycled approximately 57% of its waste.

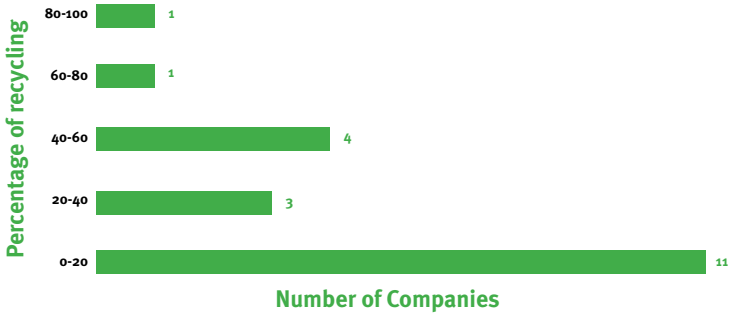
Subsector Waste Intensity

Subsector (Companies Reporting)	Unit	Change 2010-2012	Change 2010-2012
LNG (2)	kg/tonne LNG	+60%	+72%
Oil and gas (3)	kg/tonne crude oil	+5%	-4%
Refining (2)	kg/tonne oil equivalent		-55%
Petrochemicals (8)	kg/petrochemical		-6%

NOTE – waste intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total waste disposed and combined total production of the companies, and thus it does not represent the intensity of one single product.

QAFCO achieved 70% recycling of its waste in 2012, through the continued implementation of its '3Rs' programme (Reduction, Reuse and Recycling). Since the start of full production, Qatalum has been able to sell the carbon to Qatar Steel, saving Qatalum up to approximately QAR 15 million annually in disposal expenses, and earning a modest fee.

Waste Recycling Trends in 2012



Although volumes and practices are not currently measured within the sector, there is a growing opportunity to use recycled material as industrial input. For example, QAFCO continued its Waste Exchange Donation System (WEDS) initiative, which provides a free and confidential non-hazardous waste materials exchange system based on the idea that one business's waste could be raw material for another business.

In an agreement between Qatalum and Qatar Steel, carbon powder and grade-A scrap steel from Qatalum are being reused by Qatar Steel. As both organizations are located in Mesaieed Industrial City (MIC), long-distance transportation costs for materials disposal are eliminated. Since the start of full production, Qatalum has been able to sell the carbon to Qatar Steel, saving Qatalum up to approximately QAR 15 million annually in disposal expenses, and earning a modest fee.

Air Emissions

Qatargas: Leak Detection and Repair

Qatargas achieved a reduction of 1,716 tonnes of NOx between 2011 and 2012 (equal to 12.9%), due to the continuing implementation of its Leak Detection & Repair (LDAR) programme that helps detect and repair any gas leaks, which in turn avoid NOx emissions. This initiative began in 2011 and involves a re-monitoring initiative at LNG assets and the Ras Laffan Refinery in late 2012. The results have provided important information to help set the agenda for future controls on air emissions for all Ras Laffan industries.

With a growing economy, Qatar faces the challenge of maintaining air quality, and reducing the negative impact of air pollution on the environment and human health, especially when air emissions are combined with the high level of dust which is a feature of atmospheric conditions in Qatar.

Air emissions arising from the energy and industry sector can be classified into two groups: greenhouse gas emissions (which are covered within the climate change section of this report), and non-greenhouse gas emissions, which include:

- Nitrogen oxides (NOx).
- Sulphur oxides (SOx).
- Volatile organic compounds (VOCs).

The NDS 2011-2016 includes measures to tackle air pollution. These include the development of a national air quality management project that is underway. As part of the project, efforts are being made to increase compliance with the regulations that govern air quality, enhance air quality monitoring and management systems, and increase dialogue and information sharing among national stakeholders and GCC countries.

The strategy makes clear that all sectors, especially the private sector, have a role to play. Acceptable emission levels are set within all companies' CTOs, set by the Ministry of Environment. The sector continues to develop specific guidance on complying with these limits.

DG is currently working with the Ministry of Environment, QP Industrial Cities Directorate - Ras Laffan and the Ras Laffan Environmental Association (which groups RLIC companies) in a project to evaluate the environmental air carrying capacity at Ras Laffan Industrial City. This includes a focus on air emissions (including NOx, SOx, particulate matter and ozone). A similar study will be conducted for MIC in the near future.

QAFCO: De-NOx Technology

By implementing 'De-NOx' Technology, QAFCO reduced its NOx emissions by 18.7% against 2011 levels. QAFCO have invested in infrastructure for the preparation, storage, and export of the De-NOx solutions. QAFCO also completed the process of revamping auxiliary boilers to reduce NOx emissions and installed De-NOx test units in the plants.

NOx Emissions Performance

In 2012, 30 companies reported a total of 145,127 tonnes of NOx emissions. This represented a decrease of 9% compared with 2011 levels, despite a higher number of companies reporting. Sixteen reporting companies reported lower levels of NOx emissions with Sixteen companies reported lower levels of NOx emissions with four reporting an 86% reduction, while QP is contributing 70% of the total reduction in 2012.

Twenty five companies included data for 2011 and 2012. Of these, 11 showed an increase in NOx emissions and 14 recorded a decrease. The total reduction for the comparable companies reached 18,074 tonnes, or 11.4%.

NOx Emissions	2010	2011	2012
Number of companies reporting	23	29	30
Percentage of companies reporting*	70%	88%	91%
Total NOx emissions (tonnes)	48,188	158,968	145,127
Total NOx emissions for 29 comparable companies (tonnes)		158,968	140,894
Percentage change in total NOx emissions for 29 comparable companies			-11.4%

**33 companies were invited to report on this indicator*

Subsector Performance

Six subsectors reported lower NOx emissions between 2011 and 2012, while two subsectors reported higher emissions. The largest share of NOx emission reductions was achieved by the oil and gas (E&P) subsector, which was responsible for 78% (14,575 Tonnes) of the total reduction in 2012.

NOx Emissions by Subsector

Subsector	Companies Reporting		NOx Emissions (Tonnes)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 (Comparable Companies)	
LNG	3	3	25,788	23,621	23,621	-8%
Oil and gas (E&P)	7	7	106,205	91,630	91,630	-14%
Refining	2	2	2,972	2,088	2,088	-30%
Petrochemicals	9	9	8,517	8,876	8,876	+4%
Mining, minerals and others	3	3	6,578	6,230	6,230	-5%
Power and utilities	3	4	2,869	3,909	3,237	+13%
Transport, storage and distribution	1	2	5,153	8,509	4,949	-4%
Support services	1	1	884	262	262	-70%

The refining subsector improved NOx intensity by 72% between 2011 and 2012.

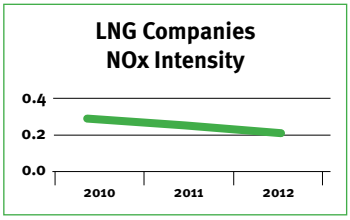
Companies in the sector are also implementing initiatives that help others reduce air emissions. TOTAL Research Centre-Qatar (TRC-Q) and Qatar Energy and Environment Research Institute (QEERI) at Qatar Foundation signed a Memorandum of Understanding to develop an integrated Air Quality Management System pilot for Qatar.

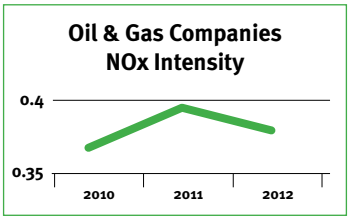
QAFCO is studying the implementation of Selective Catalytic Reduction Technology, which is considered one of the most cost efficient and effective means of controlling NOx emissions that will be implemented in all heavy duty diesel trucks and bus engines. QAFCO is also helping Mesaieed Power Company, Ras Girtas Power Company and Qatalum in reducing their flue NOx emissions by providing them with ammonia which is used in the chemical reduction of NOx emissions.

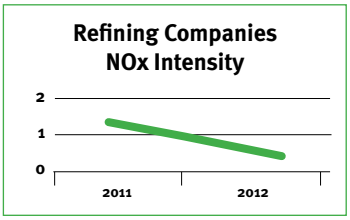
NOx Intensity

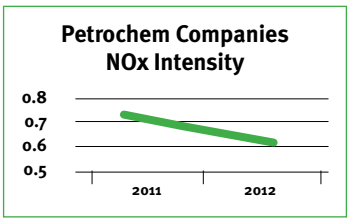
NOx intensity shows sectoral performance trends on NOx emissions (in kilograms) per unit of production. Data provided by the companies (NOx emissions and corresponding production) enabled the calculation of subsector NOx intensity for four subsectors.

Analysis of NOx intensity shows that all four subsectors improved their NOx intensity from 2011 to 2012. The refining subsector improved NOx intensity by 72% between 2011 and 2012. This reflects the continuous efforts by the sector to implement technologies for reducing NOx emissions, while maintaining production levels. The LNG subsector also achieved an improvement in NOx intensity between 2010 and 2012, equal to 17%.









Subsector (Companies Reporting)	Unit	Change 2011-2012	Change 2011-2012
LNG (2)	kg NOx/tonne LNG	-17%	-10%
Oil and gas (3)	kg NOx /tonne crude oil	+3%	-5%
Refining (2)	kg NOx /oil equivalent	-	-72%
Petrochemicals (8)	kg NOx /petrochemicals	-	-14%

NOTE - NOx intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total NOx emissions and combined total production of the companies, and thus it does not represent the intensity of one single product.

SOx Emissions Performance

In 2012, 30 companies from the sector reported their SOx emissions. Total emissions of SOx equalled 523,273 tonnes, a decrease of approximately 17% for the companies that provided data in 2011 and 2012. Eleven companies reported a reduction in their SOx emissions while fourteen companies reported increased SOx emissions between 2011 and 2012.

Around 90% of the SOx reductions achieved by the sector are derived from reductions in QP's emissions.

SOx Emissions	2010	2011	2012
Number of companies reporting	22	29	30
Percentage of companies reporting*	67%	88%	91%
Total SOx emissions (tonnes)	81,797	606,796	523,273
Total SOx emissions for 29 comparable companies (tonnes)		606,796	502,150
Percentage change in total SOx emissions for 29 comparable companies			-17%

**33 companies were invited to report on this indicator*

Around 90% of the SOx reductions achieved by the sector are derived from reductions in QP's emissions. RasGas also made a significant reduction (38%) with emissions totalling 6,973 tonnes.

Four subsectors reported reduced SOx emissions between 2011 and 2012, while four reported higher. The oil and gas (E&P) subsector contributed 99% of the total reduction of SOx in 2012.

SOx Emissions by Subsector

Subsector	Companies Reporting		SOx Emissions (Tonnes)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 (Comparable Companies)	
LNG	3	3	27,166	25,492	25,492	-6%
Oil and gas (E&P)	7	7	564,931	453,970	453,970	-20%
Refining	2	2	5,005	4,752	4,752	-5%
Petrochemicals	8	8	4,196	11,146	11,146	+166%
Mining, minerals and others	3	3	2,214	3,512	3,512	+59%
Power and utilities	3	4	89	690	96	+8%
Transport, storage and distribution	2	2	3,109	23,685	3,156	+2%
Support services	1	1	86	25	25	-71%

SOx Intensity

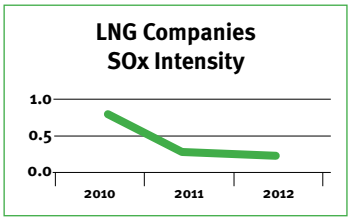
SOx intensity shows the performance of the sector regarding SOx emissions (in kilograms) per unit of production. The data provided in 2012 by reporting companies (SOx emissions and corresponding production) allows the presentation of subsector SOx intensity for four subsectors.

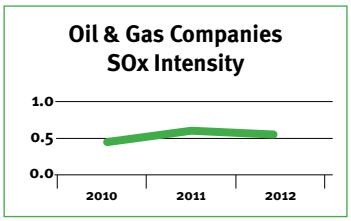
Analysis of SOx intensity shows that three subsectors reduced their SOx intensity. The LNG subsector achieved a noticeable improvement in SOx intensity between 2010 and 2012, equal to 61%. The Refining sub-sector achieved 61% improvement in SOx intensity between 2011 and 2012

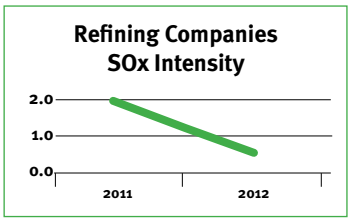
Subsector (Companies Reporting)	Unit	Change 2011-2012	Change 2011-2012
LNG (2)	kg SOx/tonne LNG	-61%	-8%
Oil and gas (3)	kg SOx/tonne crude oil	+14%	-8%
Refining (2)	kg SOx/tonne oil equivalent	-	-61%
Petrochemicals (8)	kg SOx /tonne petrochemical	-	+118%

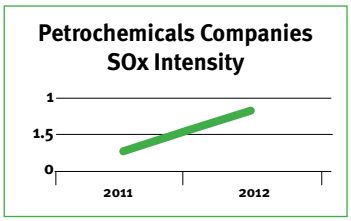
NOTE - SOx intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total SOx emissions and combined total production of the companies, and thus it does not represent the intensity of one single product.

The LNG subsector achieved a noticeable improvement in SOx intensity between 2010 and 2012, equal to 61%.









Beginning in 2011, Dolphin Energy's Qatar Operations implemented a VOC Fugitive Emissions Monitoring programme for equipment and components at the onshore gas plant in Ras Laffan City.

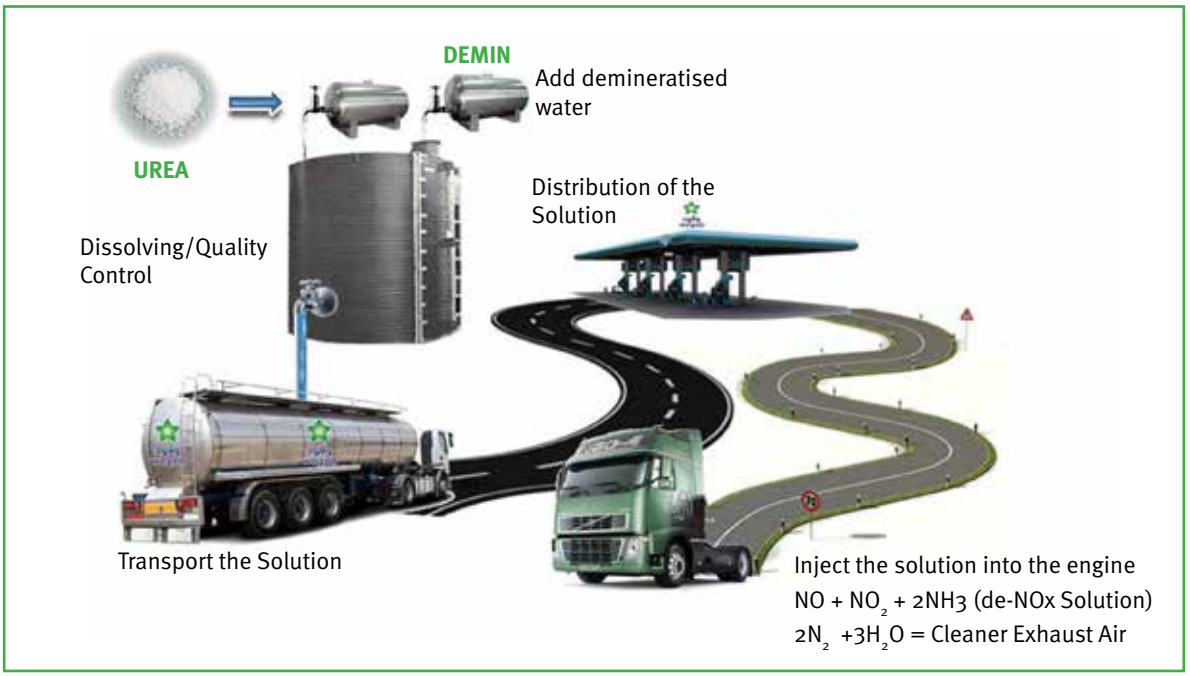
VOCs

Volatile organic compounds (VOCs) are organic compounds that vaporise in the atmosphere and may participate in the formation of ground-level ozone. At present, the extent of VOC emission reporting does not enable consolidated sector-wide analysis.

Notable initiatives to reduce VOC emissions include Dolphin Energy's Fugitive Emissions Monitoring Programme (FEM). Beginning in 2011, Dolphin Energy's Qatar Operations implemented a VOC Fugitive Emissions Monitoring programme for equipment and components at the onshore gas plant in Ras Laffan City, as mandated by the Qatar Ministry of Environment. Field monitoring of potential leakage sources is carried out annually, in alignment with US EPA requirements for the tagging, monitoring, and repair of VOC leaks from equipment at onshore Natural Processing Plants. FEM fieldwork applies to all equipment and components "in VOC service," including connections, compressor seals, flanges, pump seals, valves, open-ended lines, and sample points. The 2012 FEM campaign began in May. The contractor began the campaign by updating and revising the 2011 inventory of VOC emission sources, followed by monitoring which was completed in December 2012.

The above activity is undertaken by other major Operators under the name of Leak Detection and Repair (LDAR).

Selective Catalytic Reduction Technology - Simulation



Biodiversity

Qatar's sea turtles

The release of ballast water from an increasing number of ships transporting LNG and other goods to and from Qatar can also have a significant impact on marine ecosystems

As in many countries across the world, biodiversity in Qatar is under threat from a wide range of human activities. Some 31 species found in Qatar, including the Arabian Oryx, the green turtle and the brown shark, are categorized as threatened with extinction. Qatar has therefore sought to adopt policies that protect and promote biodiversity in accordance with international conventions, such as the 1992 Convention on Biological Diversity, which Qatar ratified under Decree No. (90) in 1996.

Recognizing the importance of biodiversity, the NDS includes the goal of creating a national biodiversity database by 2016 to inform decision making. This practical step supports regional activities that protect biodiversity. The NDS also envisions increasing protected areas as a way of sustaining biodiversity in the country. Qatar's protected territorial area increased from less than 1% in 2004 to 30% in 2007, and currently there are 10 protected environmental areas that include preserved land, parks and landscapes, and sensitive stretches of coast incorporating diverse ecosystems.

The Sector and Biodiversity

The energy and industry sector recognizes that its continuing business success, including gaining access to new resources, depends upon its ability to explore for and develop reserves without adversely affecting the natural environment. Companies within the sector are therefore seeking to integrate biodiversity considerations into their everyday business practices and operations. Doing so helps minimize risks and enables companies to make a positive contribution to conservation, on and offshore.

One of the major effects of the sector comes from its water discharge to the sea, in which temperature and salinity can have a significant effect on fragile marine ecosystems. The sector has committed to work towards achieving "near zero" water discharge into the sea. While there is much to be done to achieve this, efforts are being made to reduce the impact of wastewater discharged to sea through monitoring effluent composition and water discharge temperatures.

The release of ballast water from an increasing number of ships transporting LNG and other goods to and from Qatar can also have a significant impact on marine ecosystems. DG continues to recommend additional practical steps to safeguard against the potential for a major incident, including the Guidelines for Ballast Water Management. Shipping companies within the sector have implemented ballast water management plans that minimise the use of ballast water and promote mid-ocean ballast exchange whenever possible.

Biodiversity Research and Protection

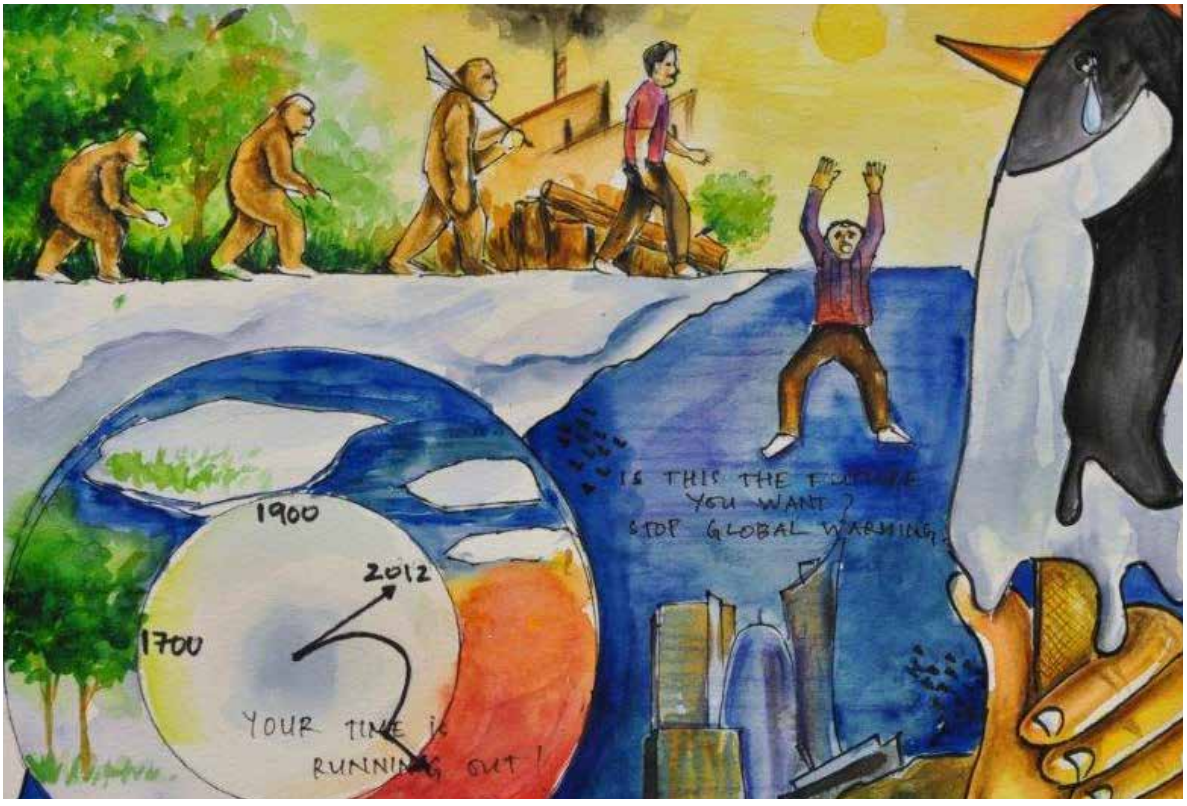
Many companies have initiated research studies to develop a better understanding of ecosystems, and obtain deeper knowledge of the relationship between their operations and the local environment.

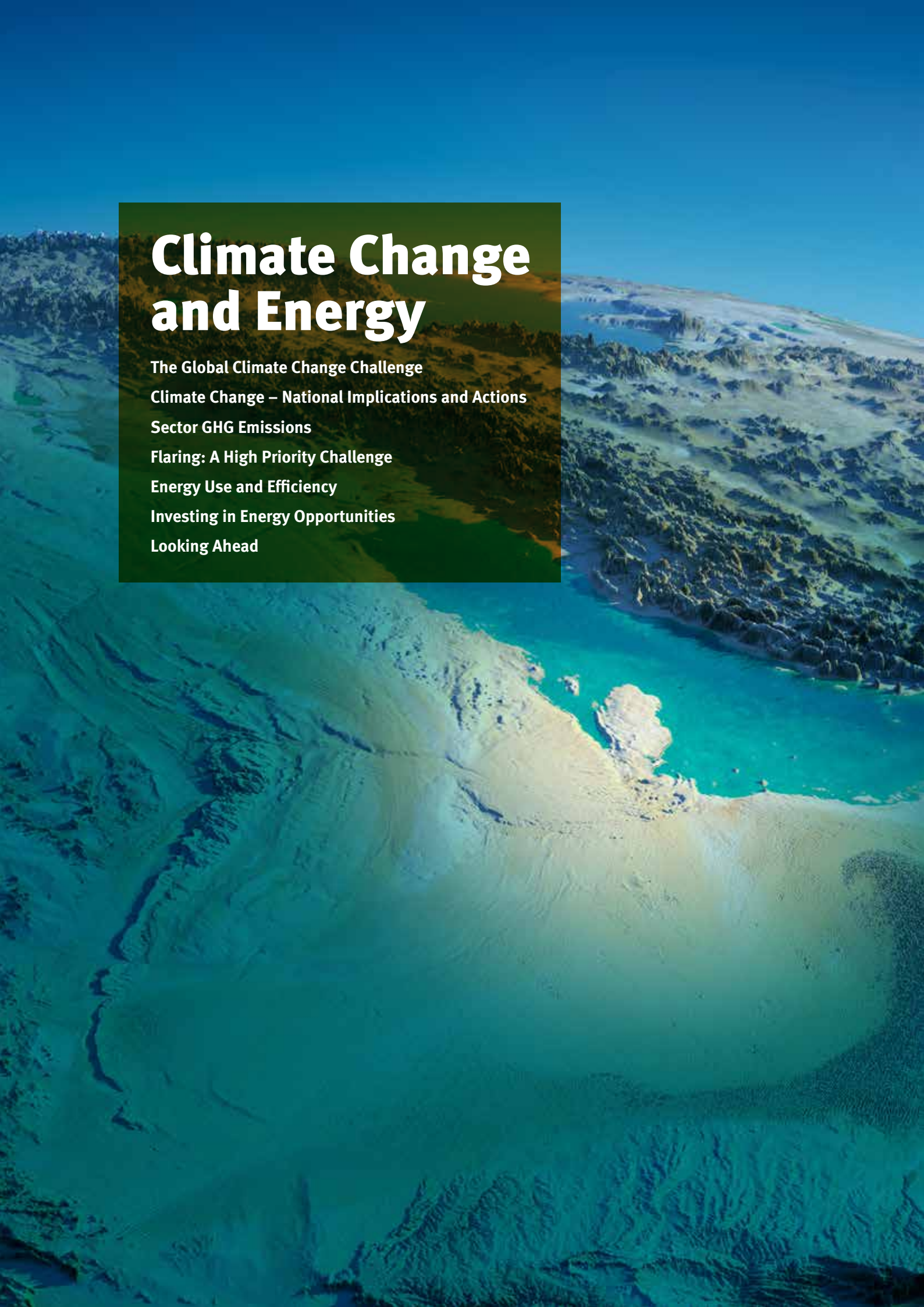
Total E&P Qatar and the Total Foundation have partnered with "Friends of the Environment Centre" on a six-year research initiative with the French National Institute for Agronomical Research to establish a comprehensive entomological inventory of the insects of Qatar

Company	Programme
Dolphin Energy	**Coral Habitat Conservation and Turtle Protection Programmes** Dolphin Energy has a long-standing commitment to protect biodiversity. Since the inception of the Dolphin Gas Project, the company has made concerted efforts to limit its activities' impact on biodiversity surrounding its facilities.
Maersk Oil	**Researching the Marine Environment** In 2012, Maersk continued to support scientific research projects that explore the diversity of marine species in Qatari waters, in partnership with the Qatar MoE. One of the initiatives is the Qatar Whale Shark Research project which involves satellite tagging of whale sharks and the deployment of other detection equipment around the platforms in the Al Shaheen field.
QAFCO	**Preservation/ Conservation – Al Besheriya Island** QAFCO has been the environmental custodian of the island since 2006. Presently, efforts are ongoing to declare the island a protected area and to restrict any movement on it during the migration and nesting season. The first ecological study was carried out and documented by the Environmental Studies Centre on the Al-Besheriya Island, in 2009.
Qatar Gas	**Coral Relocation Project Monitoring and Assessment Project** Qatargas has continued with the Coral Relocation Project Monitoring and Assessment project in collaboration with the MoE. Qatargas relocated approximately 4,500 living hard corals from the near-shore portion of the QG 2, QG 3&4 and Common Condensate Single Point Mooring Project pipeline corridors offshore of Ras Laffan Industrial City (RLIC) to a coral reef area known as Fasht al Hurabi. Monitoring has been conducted at six monthly intervals from 2009 to 2012.
RasGas	**Coral Protection** Among the initiatives that RasGas has taken for the protection of the marine life during the Barzan gas Project pipeline construction is the relocation of 1,600 coral colonies from the pipeline corridor which links the offshore platform with the onshore facilities.

Company	Programme
RasGas	**Marine mammals and sea turtles Observation Programme** This initiative aims to minimize the impact of the Barzan Gas Project on marine mammals by providing a structured programme for marine mammal observation, including daily logging of mammal sighting, and accompanying mitigation measures.
Total E&P	**Establishing Entomological Inventory of the Insects of Qatar** Total E&P Qatar and the Total Foundation have partnered with "Friends of the Environment Centre" on a six-year research initiative with the French National Institute for Agronomical Research to establish a comprehensive entomological inventory of the insects of Qatar. The research has revealed many interesting discoveries about Qatar fauna such as the huge number of insect species (500 listed to date) compared with the size of the country, or the fact that Qatar is home to species of Coleoptera, Hemiptera or Lepidoptera which have not previously been described by the scientific community.

Sustainability Expo 2012
Childrens Art Competition Winners' Paintings





Climate Change and Energy

The Global Climate Change Challenge

Climate Change – National Implications and Actions

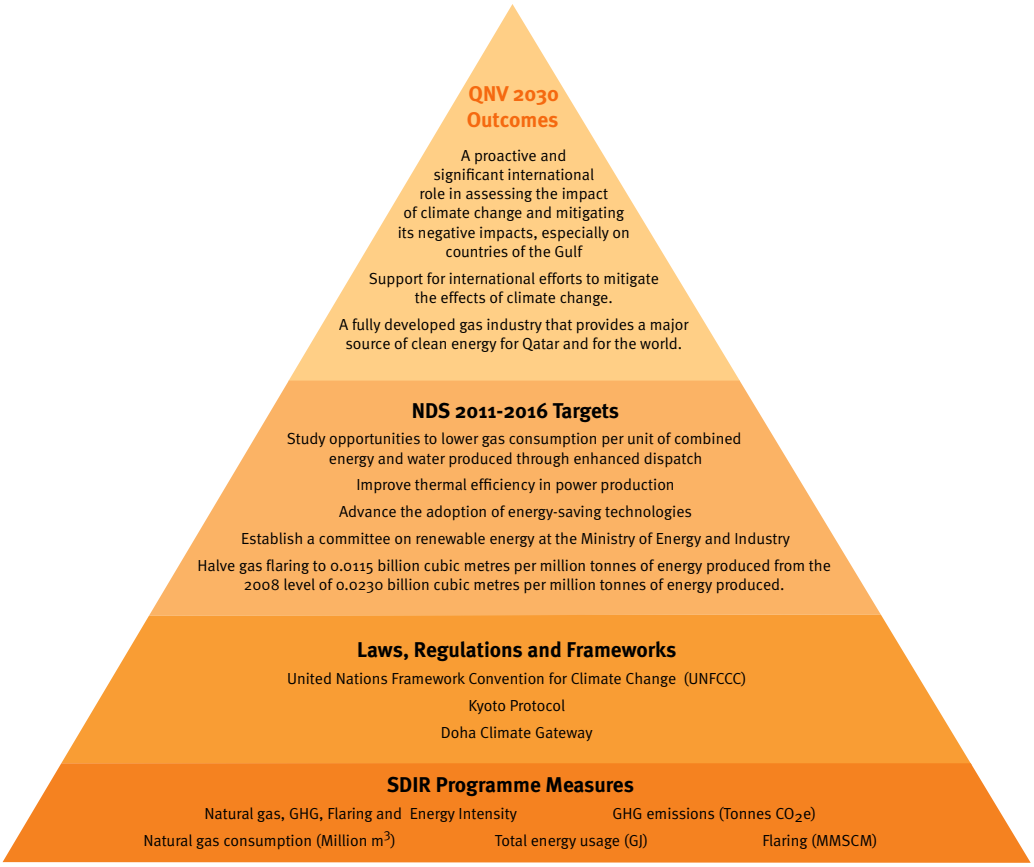
Sector GHG Emissions

Flaring: A High Priority Challenge

Energy Use and Efficiency

Investing in Energy Opportunities

Looking Ahead



2012 Achievements

3,342,293 GJ
reduction in energy consumption in the oil and gas (E&P) subsector

17.3%
improvement in natural gas use per unit of production in the power and utilities subsector

303 million
cubic metre reduction in sector wide flaring

The Global Climate Change Challenge

"One of the great challenges that we must face is the question of climate change and its bad and destructive consequences for all countries. This requires us to cooperate and work together to reach the best solutions for this challenge."

- His Highness Sheikh Hamad bin Khalifa Al-Thani

Rio +20 conference www.un.org/en/sustainablefuture/stories_ga2.shtml

Global energy and resource use has created tangible changes in weather patterns and ecosystems that have widespread implications on the economy, the environment, and societies. These shifts result from the release of greenhouse gasses into the atmosphere, primarily carbon dioxide emitted during the combustion of hydrocarbons. Global scientific consensus supports the reality of climate change and its tangible implications for current and future prosperity around the world.

Climate change is a complex global issue which can be viewed through three perspectives: policy, adaptation, and mitigation. The United Nations and other international organisations are important focal points for climate change discussions seeking to address the challenges posed by climate change through binding, internationally ratified agreements defining greenhouse gas emissions boundaries and global frameworks for adaptation.

Under the auspices of the United National Framework Convention on Climate Change (the UNFCCC), the global community turned its attention towards Qatar as the host of the COP 18 negotiations in December 2012. The conference outcomes provided a foundation for the future development of a long-term, internationally binding, cooperative agreement by 2015 to come into effect by 2020. The primary outcomes of the "Doha Climate Gateway" are as follows.

Amendment of the Kyoto Protocol

The Kyoto Protocol, as the only existing and binding agreement under which developed countries commit to cutting greenhouse gases, has been amended so that it will continue with effect from 1 January 2013 for an additional eight years. The Kyoto Protocol's Market Mechanisms – the Clean Development Mechanism (CDM), Joint Implementation (JI) and International Emissions Trading (IET) – will continue as of 2013.

Signing ceremony of the Global Gas Flaring Reduction (GGFR) agreement attended by HE Dr. Mohammed Bin Saleh Al-Sada, Minister of Energy and Industry and Rachel Kyte, World Bank Vice President (Sustainable Development)

The Doha Climate Gateway

At the 2012 UN Climate Change Conference in Doha, Qatar "http://unfccc.int/meetings/doha_nov_2012/meeting/6815.php" \t "_top" COP18/CMP8), governments consolidated the gains of the last three years of international climate change negotiations and opened a gateway to necessary greater ambition and action on all levels

Time table for the 2015 global climate change agreement and increasing ambition before 2020

Governments have agreed to work speedily toward a universal climate change agreement covering all countries from 2020, to be adopted by 2015, and to find ways to scale up efforts before 2020 beyond the existing pledges to curb emissions so that the world can stay below the agreed maximum 2 degrees Celsius temperature rise.

Completion of new carbon finance infrastructure

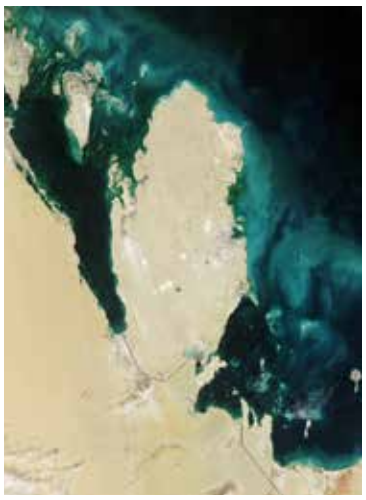
In Doha, governments significantly advanced the completion of new policy infrastructure to channel technology and finance to developing nations and move toward the full implementation of this infrastructure and support. Most importantly, they endorsed the selection of the Republic of Korea as the location of the Green Climate Fund and the work plan of the Standing Committee on Finance. The Carbon Technology Center (CTC), along with its associated Network, is the implementing arm of the UNFCCC's Technology Mechanism.

Long-term climate finance

Developed countries reiterated their commitment to deliver on promises to continue long-term climate finance support to developing nations, with a view to mobilizing 100 billion USD for adaptation and mitigation by 2020. Governments will continue a work programme on long-term finance during 2013 under two co-chairs to contribute to the on-going efforts to scale up mobilization of climate finance and report to the next COP on pathways to reach that target. Germany, the UK, France, Denmark, Sweden and the EU Commission announced concrete finance pledges in Doha for the period up to 2015, totaling approximately 6 billion USD.

While international agreements such as these create legal frameworks for addressing climate change on a global scale, individual countries, including Qatar, are addressing the challenges posed by climate change at a national level.

Climate Change: National Implications and Actions



Qatar has created a National Committee for Climate Change to lead the country's response to the challenge. In 2011, it submitted the Initial National Communication to the UNFCCC outlining Qatar's national climate change strategy. The Qatar National Vision 2030 and the National Development Strategy 2011-2016 provide a national strategic framework for addressing the challenges posed by climate change, recognising the importance of the issue to the country's development ambitions.

The World Bank estimates that the cost of global climate change adaptation will be between $70 billion to $100 billion per year.[8] As a result, adaptation is increasingly seen as an essential element in managing long-term costs and impacts, and emphasizes the importance of risk management and vulnerability assessment. Research and analysis of temperature, air quality and emission trends are building a better understanding of Qatar's climate change vulnerability. A 2012 World Bank report forecasted the challenges Qatar and the GCC face from climate change. Among the challenges associated with climate change,[9] the most pressing for the State of Qatar are:

- Sea level rise and resulting coastal land degradation and loss.
- Deterioration of health and quality of life as a result of rising temperatures and air pollution.
- Compromised food and water security resulting from drought and shifts in weather patterns.
- Increased costs for businesses resulting from uncertainties associated with climate change impacts.

The State of Qatar is working closely to monitor these issues, involving different government departments on the issues above.

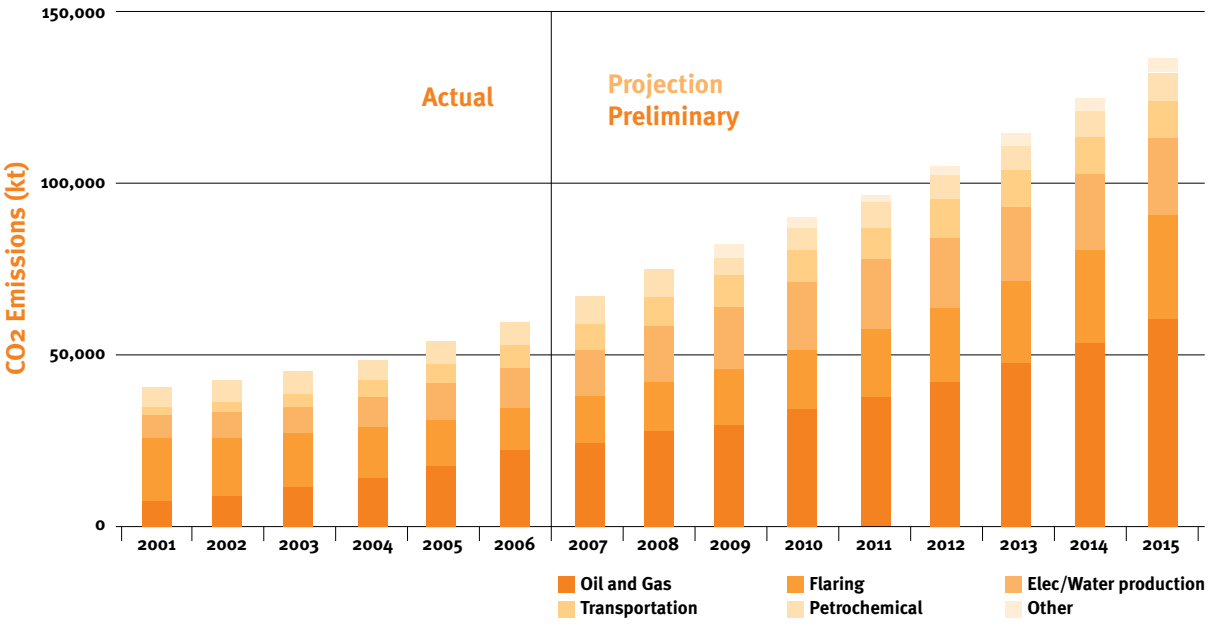
Connecting Climate Change to the QNV 2030

Sector GHG Emissions: Shared Responsibility, Shared Opportunity

With Qatar's oil and gas sector accounting for approximately 58% of national GDP in 2012, the sector's critical role in Qatar's economy is undeniable. At the same time it is also responsible for 67% of the country's CO2e emissions; the sector, therefore, stands at the crossroads of challenge and opportunity.[10] Recognising their responsibility to take action on climate change, companies in the sector have already sought to reduce and mitigate emissions in alignment with the goals of QNV 2030 and NDS.

Measuring and managing GHG emissions is an important step towards developing successful mitigation plans. The energy and industry sector is taking a lead in implementing various projects and programmes. In addition to process improvements, opportunities exist for innovation and product development that will reduce GHG emissions.

Qatar Carbon Dioxide Equivalent (CO_2e) Emissions by Sector, 2001-2015[11]



Qatargas recognises that the proactive preparation for potential future carbon management and regulations is better achieved by understanding and managing GHG emissions profile. To achieve this it has embarked on a long term GHG Management strategy, which has been divided into 3 phases.

GHG Emissions Measurement and Reporting

The SDIR programme asks companies to report on their direct and indirect GHG emissions in tonnes of CO_2e. In 2012, 28 companies reported GHG emissions, with all 28 providing data for 2011 and 2012. This year, 14 companies reported reduced GHG emissions since 2011, while 14 reported an increase in GHG emissions. Overall, 85% of companies* participating in the SDIR programme provided data, a slight decrease from 2011 participation.

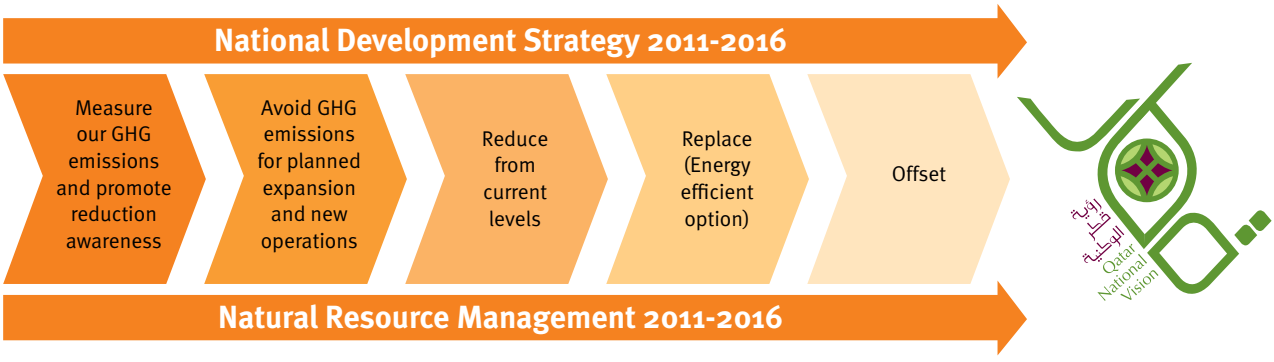
GHG management and reduction is at different stages within the sector. QP and DG are working to improve GHG measurement and management across the sector through their SD reporting programme. In future, knowledge transfer and support will drive improvements and standardisation in the measurement and management of GHG emissions.

Sector GHG Emissions

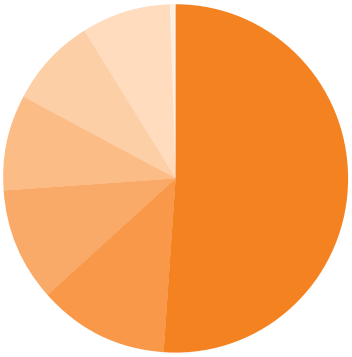
The tables opposite present the reported GHG emissions (combining direct and indirect emissions) by subsector. Increases across subsectors are mainly attributable to increases in the scale of production and operations, with many companies reaching full production capacity for the first time or operating new facilities. Support services and the transport, storage and distribution subsectors both reported reduced GHG emissions. The significant reduction in emissions from the support services sector is due to the completion of major projects in 2011.

While total sector-wide GHG emissions (excluding the power and utilities subsector) from 24 comparable companies increased, the rate of increase was significantly lower than the rate of increase in the 2011 SDIR reporting cycle (13% versus 5.50%). It is expected that net GHG emissions will continue to increase as a result of increased production and expanded operations. However the slower rate of increase can be seen as a result of heightened awareness and attention towards efficiency and mitigation throughout the sector.

Qatar Energy and Industry Sector GHG Strategy[12]



GHG Emission by Subsector - 2012



- LNG/NG 51%
- Power & Utilities 12%
- Petrochemicals 11%
- Mining, minerals and others 9%
- Oil and Gas (E&P) 8%
- Refining 8%
- Transport, storage and distribution 0.4%
- Support Services 0.03%

GHG Emissions Reporting	2010	2011	2012
Number of companies reporting	23	29	28
Percentage of companies reporting*	70%	88%	85%
Companies reporting higher GHG emissions	5	13	14
Companies reporting reduced GHG emissions	7	7	14

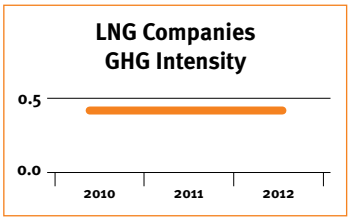
**33 companies were invited to report on this indicator*

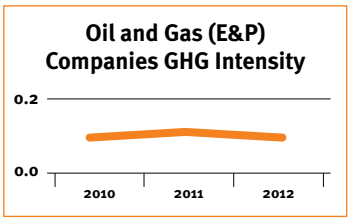
Long-term plans for GHG measurement and management are being developed. For example, RasGas implemented a GHG management strategy in 2012 to address key issues such as emissions reduction, mitigation opportunities, and RasGas is beginning to consider emissions across its entire supply chain. As part of its action, the company has been implementing an acid gas capture and injection project to store CO2 and hydrogen sulphide. RasGas and QP are working together to understand future applications of this technology within the sector.

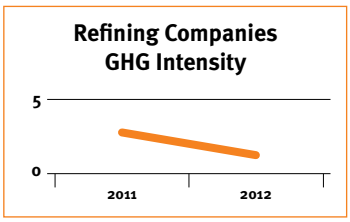
QAFAC's Carbon Dioxide Recovery system, featured in the Investing in Energy Opportunities section below provides a cutting-edge example of re-using CO2 created from methanol production rather than emitting it into the environment. There are an increasing number of examples in Qatar and abroad of companies looking at how to use resources more efficiently and hence minimise GHG emissions.

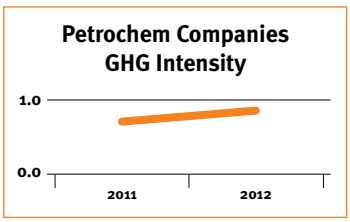
Direct and Indirect GHG Emissions by Subsector

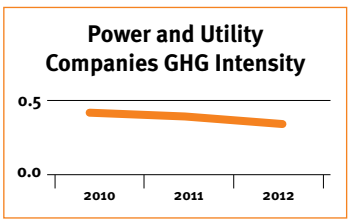
Subsector	Companies Reporting		GHG Emissions (tonnes CO_2e)		Percentage change
	2011	2012	2011	2012	
LNG/NG	3	3	46,121,263	47,067,971	+2%
Power and utilities	4	4	10,344,864	11,236,840	+9%
Petrochemicals	8	8	7,817,806	9,587,044	+23%
Mining, minerals and others	2	2	7,453,925	8,286,071	+11%
Oil and gas (E&P)	6	6	7,760,968	7,691,100	-1%
Refining	2	2	6,755,790	7,577,340	+12%
Transport, storage and distribution	2	2	367,520	353,627	-4%
Support services	1	1	112,120	28,554	-75%







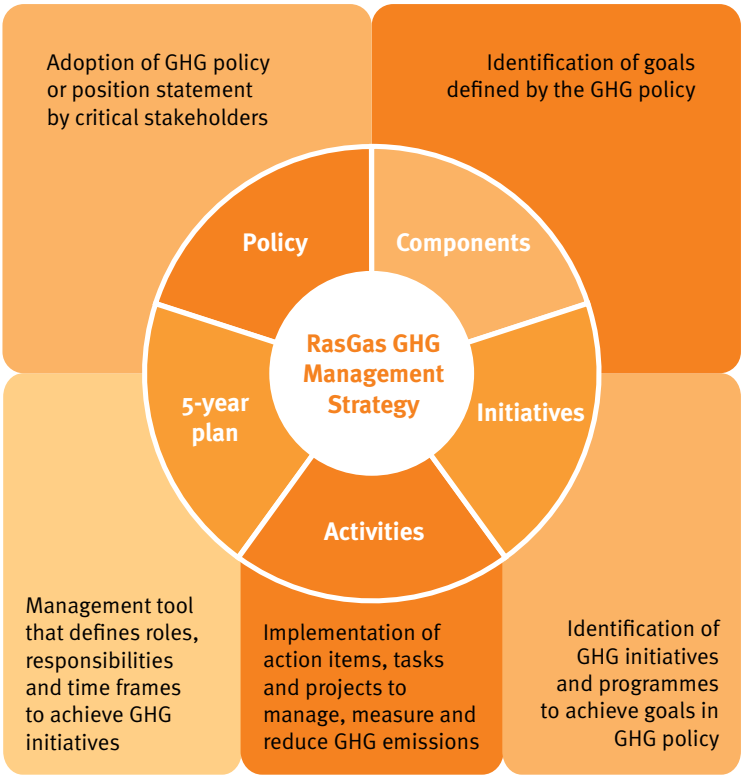




Total GHG Emissions Excluding Power and Utilities Subsector (tonnes CO2e)	2010	2011	2012
Number of companies reporting	19	24	24
Total sector GHG emissions (tonnes CO2e)	58,868,949	76,389,392	80,591,709
Percentage change			+5.50%

**33 companies were invited to report on this indicator*

RasGas GHG Management Strategy[13]



GHG Intensity

GHG intensity is a measure of the level of CO_2e emissions normalised against production. By normalising the data against production, trends in GHG intensity provide a valuable indicator of subsector performance on CO_2e emissions. Improvement in CO_2e emissions is defined by negative GHG intensity trends and thus reduction in the amount of CO_2e emissions per unit of production. GHG intensity data is presented for the five subsectors for which GHG emissions are relevant and for which there is sufficient data for both emissions and production.

Subsector (Reporting companies)	Unit	Change 2010-2012	Change 2011-2012
LNG (2)	CO_2e/tonne LNG	-1%	+1%
Oil & Gas (3)	CO_2e/tonne crude oil	-2%	-9%
Refining (2)	CO_2e/tonne oil equivalent	-	-55%
Petrochemicals (8)	CO_2e/tonne petrochemical	-	+16%
Power & Utilities (4)	CO_2e/MWH	-16%	-17%

NOTE - GHG intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total direct and indirect GHG consumption and combined total production of the companies, and thus it does not represent the intensity of one single product.

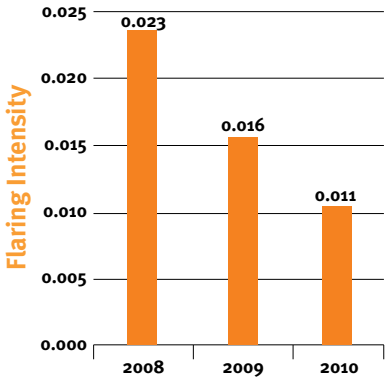
GHG intensity has improved for three out of five subsectors from 2011 to 2012.

GHG intensity has improved for three out of five subsectors from 2011 to 2012. A number of new production facilities, using the latest technologies and improved measurement of emissions, came on line in 2012, improving GHG intensity. The significant change in GHG intensity for the refining subsector is attributed principally to the start of operations at Qatar Shell's Pearl GTL plant in 2012, which significantly increased the refining sector's production output relative to emissions. The significant improvement in GHG intensity in the power and utilities subsector indicates efficiency gains in power generation resulting from a shift towards more continuous combined cycle generation. As a supplier of the nation's power, this advance creates a positive impact not only for the sector, but also for the State of Qatar as a whole.

On a company-by-company basis, measurement and tracking of GHG intensity is still emerging. As an example, GHG intensity for QAPCO improved by 13% in 2012 despite a net increase in GHG emissions. Having the capacity to understand performance trends at a company as well as sector level, is an important part of the sector's GHG management objectives.

FLARING: A High Priority Challenge

Qatar Gas Flaring Intensity: 2008-2010 (bcm/ million tonnes of energy production)[14]



**Note: Flaring intensity measured as satellite observations of volumes divided by energy production.*
Source of data: NOAA (2011); and BP (2012).

Technical flaring is a necessary part of oil and gas operations. It is used to safely combust gas during normal conditions or during unexpected events in the interests of safety. The release of non-waste gas reduces wear and damage to equipment resulting from overpressure, especially during shutdown and restart of operations. Efforts to reduce and eliminate flaring under normal conditions continue to advance, creating new efficiencies while reducing emissions.

Global Goals, National Impact

In 2009, His Excellency, the then Deputy Prime Minister H.E. Abdullah bin Hamad Al-Attiyah, signed a three-year agreement on behalf of QP and the sector with the World Bank's Global Gas Flaring Reduction (GGFR) initiative. Qatar was the first GCC country to participate in the GGFR initiative. The partnership was extended in 2012 as part of Qatar's continued commitment to flaring reduction. As the first GCC country to participate in the GGFR initiative, Qatar's leadership on flaring reductions has set a precedent within the region. The Qatar government's stated goal is to halve by 2016 the volume of gas flared to 0.0115 billion cubic metres per million tonnes of energy produced.

As part of the initiative, the government has supported the development of corporate action plans for flaring reduction. Successes in flaring reductions have created environmental and economic gains from improved operational efficiency, reduced GHG emissions, and improvements in air quality.

Technical training and awareness programmes are being implemented in the sector to further reduce flaring. Current data suggests that the national flaring reduction target can be achieved, led by energy and industry sector initiatives.

Flaring Reporting

Reporting on flaring continues to improve with 15 of the 21 companies invited to report on this indicator providing data in 2012. Ten companies reported a decrease in flaring from 2011 to 2012, while four reported an increase over the same period. Four companies have reported a decrease in flaring for four consecutive years, from 2009 to 2012.

Flaring Reporting	2010	2011	2012
Number of companies reporting	9	14	15
Percentage of companies reporting*	43%	67%	71%
Companies reporting an increase in flaring	3	5	4
Companies reporting a decrease in flaring	4	3	10

**21 companies were invited to report this indicator*

From 2011 to 2012, flaring for 14 comparable companies indicates a reduction in flaring by 9.9%

Sector Flaring Performance

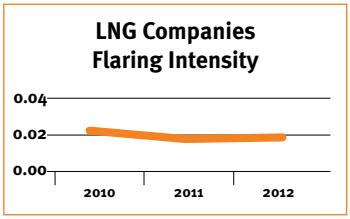
From 2011-2012, flaring for 14 comparable companies indicates a reduction in flaring by 9.9%, led by significant reductions in the refining subsector. As an example of successful flaring reduction programmes, QPD continued its zero flaring initiative, achieving 94% operation with zero flaring and resulting in a significant decrease in flared gas volume in 2012.

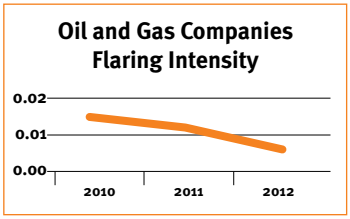
Flaring performance varies across subsectors, petrochemicals increased by 98% among four comparable companies and refining decreasing flaring by 43% from two comparable companies. The significant increase in flaring in the petrochemicals sector is attributed to QAPCO's new LDPE plant becoming operational in 2012 and the relatively low level of reporting on this indicator within the subsector. For the refining subsector, decreases were achieved as new operations move into full continuous production.

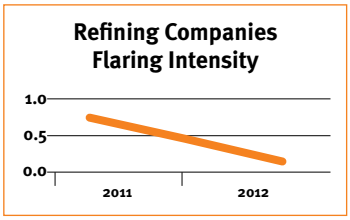
Flaring Performance	2010	2011	2012
Total flaring (MMSCM*)	2,308	4,802	4,499
Total flaring for 14 comparable companies (MMSCM)	-	4,802	4,325
Percentage change for 14 comparable companies	-	-	-9.9%

**MMSCM - million standard metric cubic meters*

Flaring by Subsector						
Subsector	Companies Reporting		Flaring (MMSCM)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 for Comparable Companies*	
LNG/NG	3	3	1,910	2,071	2,071	+8%
Refining	2	2	2,102	1,202	1,202	-43%
Oil and gas (E&P)	5	5	596	668	668	+12%
Petrochemicals	4	5	195	558	385	+98%







Some initiatives to reduce flaring have been recognised internationally. In 2012, Qatargas was presented with the "Award for Excellence in Flaring Reduction" by the GGFR Partnership as a result of their achievements in flare reduction and management, delivering a 52% reduction in flaring intensity and a 21% reduction in flaring volume from 2010 to 2012.

In 2012, RasGas implemented a new five-year flare minimization programme for its Ras Laffan facilities. Building on its previous five-year programme, RasGas has set a target to reduce flaring by 90% by 2016 from 2005 levels.

Flaring Intensity

Flaring intensity measures the volume of gas flared (in billion cubic metres) normalised against production in million tonnes. Flaring intensity is a measure of efficiency, but comparing intensities between subsectors does not take into account important differences in process.

Data for the three sectors with relevant information suggests that flaring intensity has improved significantly in the oil and gas (E&P) and refining subsectors. From 2010 to 2012, the LNG and oil and gas (E&P) subsectors both improved flaring intensity, by 14% and 52% respectively. The refining subsector achieved similar results in 2012, reducing flaring intensity by 77% for two companies.

Subsector (# Companies Reporting)	Unit	Change 2010-2012	Change 2011-2012
LNG (2)	BCM/tonne LNG	-14%	+8%
Oil & Gas (3)	BCM/tonne crude oil	-52%	-45%
Refining (2)	BCM/tonne oil equivalent	-	-77%

NOTE - flaring intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total flaring and combined total production of the companies, and thus it does not represent the intensity of one single product.

Energy Use and Efficiency

"The State of Qatar is pursuing a policy for the optimal use of resources as part of the Natural Resources Management Strategy, which is the road map to ensure its sustainability and to protect the rights of the coming generations. The conservation of resources is a common responsibility, which calls upon us to increase energy efficiency and stop waste. Conservation is an investment for the future that should take root as a culture of the people".

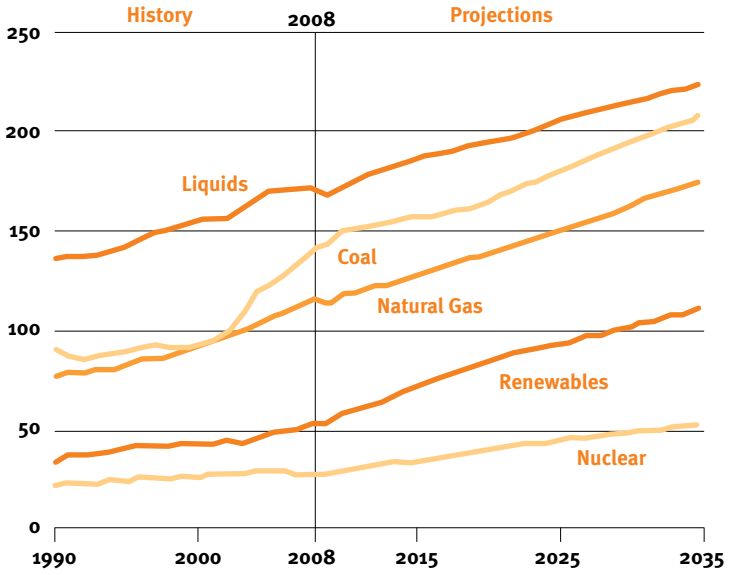
- Dr. Mohammed Saleh Al-Sada
Qatar's Minister of Energy and Industry

Meeting Global Energy Needs

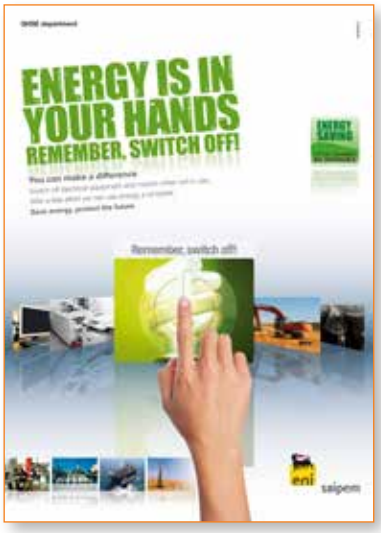
Global demand for energy continues to grow. Expert projections state that global energy consumption will continue to increase in the decades ahead. The continuing demand for energy, coupled with increased recognition of the environmental, social, and economic implications of reliance on fossil fuels, has initiated a shift in global energy markets towards lower-carbon fuels. Natural Gas represents a significant component of the market for cleaner carbon fuels around the world, as it emits approximately 37% fewer CO_2 emissions than oil and 71% fewer emissions than coal, when combusted.[15] The continued development of Qatar's LNG and energy resources supports the global shift towards efficient and lower-carbon energy resources.

As a net exporter of oil and the world's largest exporter of Liquefied Natural Gas (LNG), Qatar is an important player in the global energy market. Qatar's energy and industry sector supports global efforts to meet current and future global energy needs, and makes a significant contribution to Qatar's economic development. The sector's growth and expansion in upstream and downstream markets is helping to realise the country's development ambitions.

World Energy Consumption by Fuel, 1990-2035 (quadrillion Btu)[16]



Indirect energy:
Energy produced outside an organisation's boundaries, but used by it in its operations - such as electricity or steam.



Energy Opportunities

As the energy sector plays such a central role in Qatar's economy, improvements in its energy efficiency not only enhance sectoral profitability, reduce environmental impact, and increase competitiveness, but also bring benefits on a national scale. In addition to these drivers, the potential shift away from energy subsidies will further the business case for energy management initiatives in industry and increase the importance of energy reduction for businesses and individuals in Qatar.

To highlight the sector's work on energy awareness and efficiency, and to stimulate further efforts, energy management was selected as one of the three focus areas for this year's SDIR programme report.

Energy Management and Reporting

Reporting of energy use is still evolving in Qatar. In 2012, 28 companies (representing 85% of those participating in the SDIR initiative) provided information on direct and indirect energy use. Of the 28 companies, 11 companies reported reduced energy use in 2012 when compared with 2011 while 15 reported increased consumption over the same period. One company had no trend in energy consumption and one company had no comparable data. Given the emergence of energy management and reporting, DG will continue to emphasize its importance to all participants while also providing guidance on best practice.

Detailed indicators for energy use breakdown were included in this year's SDIR programme to encourage comprehensive measurement and reporting and to provide guidance to companies on what to report and how, in accordance with good international practice. In future, the SDIR programme will build on this foundation to gain further insight into energy use patterns and trends.

Direct and Indirect Energy Usage

The three primary sources of energy consumption in the sector are the combustion of natural gas as a fuel and feedstock, electricity consumption, and vehicle fuel use. Fuel gas use and electricity generally play a more significant role in overall energy use than vehicle fuel consumption because fuel gas and electricity are used in far greater volumes than vehicle fuels such as petrol and diesel.

Reporting of energy use by subsector shows the expected trend of increased energy consumption across the majority of subsectors with the exception of the oil and gas (E&P) and support services subsectors. The notable increase in the petrochemicals subsector is the

Energy Use Reporting	2010	2011	2012
Number of companies reporting	22	28	28
Percentage of companies reporting*	67%	85%	85%
Companies reporting higher energy use	10	11	15
Companies reporting reduced energy use	3	9	11
Companies with no trend in energy use			1

**33 companies were invited to report on this indicator*

Direct and Indirect Energy Consumption						
Subsector	Companies Reporting		Total Direct and Indirect Energy Consumption (GJ)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 for Comparable Companies*	
LNG/NG	3	3	558,947,775	592,051,223	592,051,223	+6%
Petrochemicals	9	9	141,728,527	201,756,219	201,756,219	+42%
Mining, minerals and others	3	3	102,663,646	115,466,861	115,466,861	+13%
Power and utilities	4	4	212,614,255	234,957,446	234,957,446	+11%
Oil and gas (E&P)	6	5	103,337,007	99,890,162	103,232,455*	-3%
Refining	2	2	46,121,972	54,259,447	54,259,447	+18%
Transport, storage and distribution	0	1	-	54,000	-	-
Support services	1	1	1,816,458	454,016	454,016	-75%

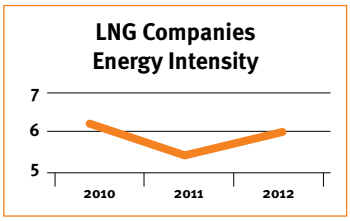
Different tools like energy audits and energy monitoring are being used by companies in the sector to develop their understanding of energy use patterns and opportunities for improvement.

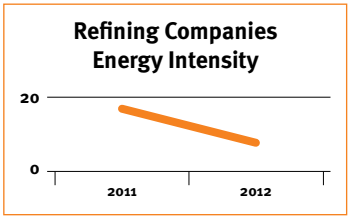
result of increased operations from QAPCO's new LDPE production facility and changes to the scope for some reporting to more accurately capture energy use from all aspects of operations. Similarly, the commencement of Qatar Shell's Pearl GTL plant in 2012 contributed to the increase in energy use in the refining sector.

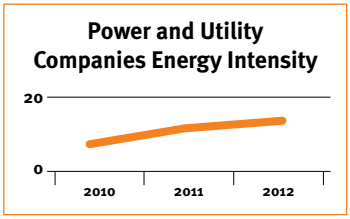
Energy use in the power and utilities sector is an important determinant of national trends in electricity use and water consumption. As shown below, energy use has increased in the power and utilities sector but awareness and education campaigns are being carried out to reduce energy use on a national scale.

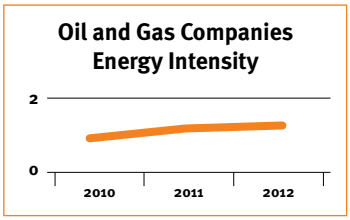
Continued increases in energy use, while expected due to new operations and increased production, also signal opportunities for investment in energy efficiency and energy management systems. Different tools like energy audits and energy monitoring are being used by companies in the sector to develop their understanding of energy use patterns and opportunities for improvement.

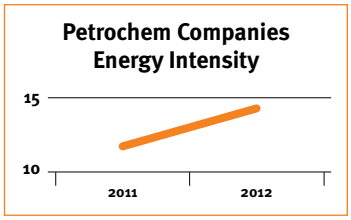
The creation of long-term energy management plans, which seek to reduce energy consumption and which frequently focus on operational and behavioural change, can be combined with investment in retrofitting and upgrading existing equipment. Many companies in the sector are seeking to improve energy efficiency and enhance their profitability and competitiveness by reducing energy use in this way.











Energy Intensity

Energy intensity, which measures the input of energy per unit of production, is a valuable indicator of production efficiency across subsectors. Improvements in energy intensity, indicated by a negative trend, signal an increase in production per unit of energy.

In 2012, energy intensity increased for three of the five relevant subsectors. Within the refining subsector, the commissioning of Qatar Shell's Pearl GTL plant created significant increases in production relative to energy consumption and account for the significant improvement in energy intensity in 2012. In petrochemicals, changes in the scope of reporting for energy consumption as well as a new production plant coming online have affected the energy intensity data. From 2010 to 2012, the LNG subsector reported a 1.4% improvement in energy intensity. The oil and gas (E&P) subsector reported increased energy intensity for 2010 to 2012, indicating opportunities for improvement in energy efficiency in the future though the total energy consumption has reduced by 3.2% for the comparable companies since 2011.

Subsector (Reporting companies)	Unit	Change 2010-2012	Change 2011-2012
LNG (2)	GJ/tonne LNG	-1%	+4%
Oil & Gas (3)	GJ/tonne crude oil	+23%	+6%
Refining (2)	GJ/tonne oil equivalent	-	-53%
Petrochemicals (8)	GJ/tonne petrochemical	-	+17%
Power & Utilities (3)	GJ/MWH	+42%	-1%

NOTE - Energy intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total direct and indirect energy consumption and combined total production of the companies, and thus it does not represent the intensity of one single product.

Natural Gas: Fuelling Sustainable Development

As the largest exporter of natural gas in the world, Qatar's energy wealth is the backbone of the country's current and future economic growth. In addition to generating revenues from the sale of LNG in international markets, natural gas provides the feedstock for downstream industry development in petrochemicals, metal production and electricity and water production. It is therefore an important element in Qatar's ambition to translate its energy wealth into the diversified economic development which will drive future prosperity.

the consumption of natural gas for 25 comparable companies increased by 1.5%

Natural Gas Reporting

Measurement and reporting of natural gas consumption is a critical component in developing understanding of energy consumption trends. As the feedstock and main fuel source for many companies, the use of natural gas is an important factor in current and future energy performance reporting.

Reporting of natural gas consumption is increasing, with 81% of companies reporting in 2012, representing 26 of the 32 companies invited to report on this indicator. Twenty companies reported higher levels of natural gas consumption in 2012, while five reported lower levels. The increase in natural gas use reflects increases in production and a number of new operations, including a petrochemicals plant.

Sector Natural Gas Consumption Performance

In 2012, the consumption of natural gas for 25 comparable companies increased by 1.5%, an expected trend as a result of increased operations across several sectors.

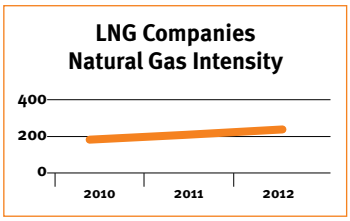
Natural Gas Consumption Reporting	2010	2011	2012
Number of companies reporting	20	25	26
Percentage of companies reporting	63%	78%	81%
Companies reporting an increase in natural gas consumption	10	12	20
Companies reporting a decrease in natural gas consumption	4	8	5

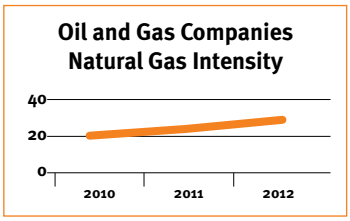
**32 companies were invited to report on this indicator*

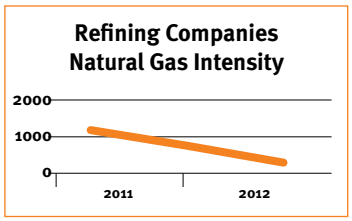
Natural Gas Consumption	2010	2011	2012
Total natural gas consumption (million m^3)	404,555	416,804	423,183
Total natural gas consumption for 25 comparable companies 2011-2012 (million m^3)	-	416,804	423,150
Percentage change for 25 comparable companies			+1.5%

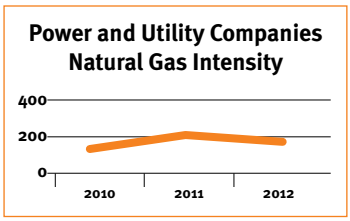
**32 companies were invited to report on this indicator*

Natural Gas by Subsector						
Subsector	Companies Reporting		Natural Gas Consumption (million m³)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 for Comparable Companies*	
Mining, minerals and others	3	3	360,061	360,986	360,986	+0.26%
LNG/NG	3	3	24,057	25,708	25,708	+7%
Petrochemicals	6	7	17,362	20,089	20,057	+16%
Power and utilities	5	5	9,915	10,991	10,991	+11%
Refining	2	2	2,731	2,873	2,873	+5%
Oil and gas (E&P)	5	5	2,679	2,537	2,537	-5%
Transport, storage and distribution	0	0	--	--	--	--









Natural gas consumption increased across the majority of relevant subsectors, except in oil and gas (E&P) which reported a 5.32% reduction in 2012. The transport subsector is not included in the subsector breakdown due to insufficient reporting. The support services subsector was not requested to report on this indicator due to the nature of the its operations.

Natural Gas Intensity

In 2012, natural gas intensity improved in power and utilities and refining subsectors, while it declined in LNG and oil and gas (E&P) subsectors. The trend for the refining sector is directly related to the fact that Qatar Shell's Pearl GTL plant began commercial operations in 2012. As the world's largest GTL plant, the increase in production resulting from start of operations has created the significant jump seen in the refining sector. Future comparison of refining sector performance will indicate whether the Pearl GTL production facility has created a durable improvement in natural gas intensity within the refining sector.

Subsector (Companies reporting)	Unit	Change 2010-2012	Change 2011-2012
LNG (2)	m³/tonne LNG	+24%	+6%
Oil & Gas (3)	m³/tonne crude oil	+30%	+11%
Refining (2)	m³/tonne oil equivalent	-	-58%
Power & Utilities (4)	m³/MWH	+34%	-17%

NOTE – natural gas intensity has been calculated for the subsectors with enough data in 2011 and 2012, using the combined total natural gas consumed and combined total production of the companies, and thus it does not represent the intensity of one single product.

Investing in Energy Opportunities

Qatar has undertaken to generate 2% of its total power from renewable sources by 2020

The development of alternative energy presents new opportunities for Qatar, offering the potential for renewable low-carbon sources of energy, new economic demand, and reduced emissions. Solar represents Qatar's strongest opportunities for alternative energy, with a number of solar plants under development.

Qatar has undertaken to generate 2% of its total power from renewable sources by 2020 - a commitment made by the Emir H H Sheikh Hamad bin Khalifa Al Thani during his speech at the closing of COP18. In addition, Qatar signed a memorandum of understanding with the International Renewable Energy Agency (IRENA) to support the development of renewable energy within Qatar.

As an example of investment for renewable energy, polysilicon, a critical component of solar power cells, will now be produced in Qatar following an agreement between Kahramaa and Qatar Solar Technologies (QSTec) for a $1 billion polysilicon production facility in Ras Laffan. Once operational, this factory will support the growth of solar power and technologies in Qatar, creating new economic opportunities.

In response to the new impetus behind alternative energy, a significant increase in renewable energy projects occurred in 2012. New projects include:

- A Nebras Power energy venture between QEWC, QPI and Qatar Holding, which will invest $1 billion in renewable energy across the globe[17]
- A Solar Test Facility at the Qatar Science and Technology park which will invest $20 million toward development of solar technologies in Qatar [18]
- A 200 MW Solar Park led by Kahramaa which will generate solar energy by 2020 [19]

Clean Development Mechanism and Carbon Capture Projects

Under the Kyoto Protocol, the Clean Development Mechanism (CDM) allows developing countries to earn credits for emission reduction projects. These credits can be sold for use by industrialized countries to achieve their emissions reduction targets.

Qatar registered the first CDM project in the Gulf region in 2007, marking the largest oil and gas sector CDM project in the world.

QAFAC tendered a large scale CO_2 recovery plant from Mitsubishi Heavy Industries as part of its Carbon Dioxide Recovery (CDR) plant.

The Al-Shaheen Oil Field Gas Recovery and Utilization Project has achieved 90% reduction in flaring since 2007, resulting in savings of approximately 2.31 million tonnes CO_2 equivalent per year. The project was officially registered into the CDM registry of UNFCCC on 29th May 2007. The project received certified emission reduction (CERs) of 3,178,197 tonnes for the first monitoring period from the UNFCCC in November 2012. Also in 2012, QP, in coordination with Al Shaheen's operator, Maersk Oil Qatar, organized a forum to share best practice and lessons from the Al Shaheen CDM project and to create knowledge and enthusiasm for other potential CDM projects in Qatar.

Qatar Petroleum with other stakeholders such as RLPC and QAFAC has submitted CDM prior consideration forms and is working for the registration of these projects with UNFCCC.

In 2012, QAFAC tendered a large scale CO_2 recovery plant from Mitsubishi Heavy Industries as part of its Carbon Dioxide Recovery (CDR) plant. Scheduled for operation in 2014, this plant will absorb 500 tonnes CO_2/day, greatly reducing QAFAC's CO_2 emissions. It will be the first plant to recover CO_2 and re-inject it into methanol production.

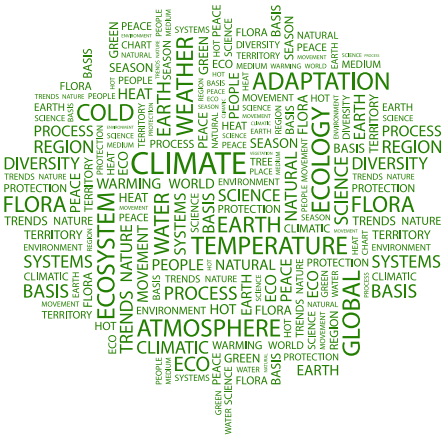
The development of new emission reduction projects continues in Qatar. In September 2012, a $70 million, 10-year research partnership between Shell, Qatar Petroleum, Imperial College London and the Qatar Science and Technology Park, founded the Qatar Carbonate and Carbon Storage Research Centre. This partnership between industry and academia will develop solutions for implementing carbon storage and capture in Qatar and the Gulf region.

QAFCO's Sahara Forest Project is an example of integrated environmental impact improvement. The project uses CO_2, salt water, and desert land to generate power, potable water and food.

These projects point towards the various opportunities for creative solutions to national and international challenges such as climate change, food availability and fresh water access.

QAFCO Sahara Forest Project

Looking Ahead



Development of a sector-wide climate change strategy in alignment with the COP18/CMP8 decisions and encouraging all companies in the sector move to develop and implement their own individual climate change strategy.

Focus on climate change issues has advanced significantly in Qatar, aided by the international attention of the COP 18 conference. Innovation, investment, and collaboration continue to create new and exciting opportunities for the future growth and development of Qatar's energy and industry sector in alignment with economic and environmental objectives. Annual reporting on energy, climate change and flaring emissions will also continue to improve the sector's understanding of its current and future impact on Qatar's economic, social, and environmental objectives.

In line with the aspirations of the QNV 2030, the UNFCCC agreements on legally binding targets (which will apply to all by 2015 and will take affect by 2020) and existing climate change related laws and regulations, DG is encouraging the further reduction of GHG emissions and better mitigation plans/ programmes with the intent to provide support via the following measures.

Short and Medium Term (1-5 years) Plans

Climate Change Strategy

- Development of a sector-wide climate change strategy in alignment with the COP18/CMP8 decisions and encouraging all companies in the sector move to develop and implement their own individual climate change strategy.

Projects/Programmes

- GHG accounting and reporting programme at Ras Laffan, which includes the possibility of creating an online portal for collecting standardised GHG data from all companies within the sector.
- Mitigation actions through a renewed partnership programme with the GGFR programme, and support for current and future CDM projects.
- Energy efficiency and alternative energy implementation through procedures and guidelines for the sector.
- SDIR programme and annual reporting to stakeholders on the contribution and performance on climate change.

Capacity building

- Technical training /workshops/ awareness campaigns and flare reduction best practices and emerging technologies in alignment with GGFR.
- Qatar-specific sustainable development, climate change and climate science communications video for awareness raising and best practice sharing purposes.

Regulation

- Development of a regulation on the monitoring of GHG inventory for the sector.
- Development of flare reduction regulation.

Long Term (› 5 years) Plans

- Extension of GHG verification and reporting programme to all companies in the sector.
- Evaluation of GHG management options including a carbon markets mechanisms and market linkages as a leverage mechanism in line with future UNFCCC legal obligations.
- Building partnership programmes on mitigation / adaptation projects.
- Evaluation of Climate Change performance to help drive continual improvement within the sector.

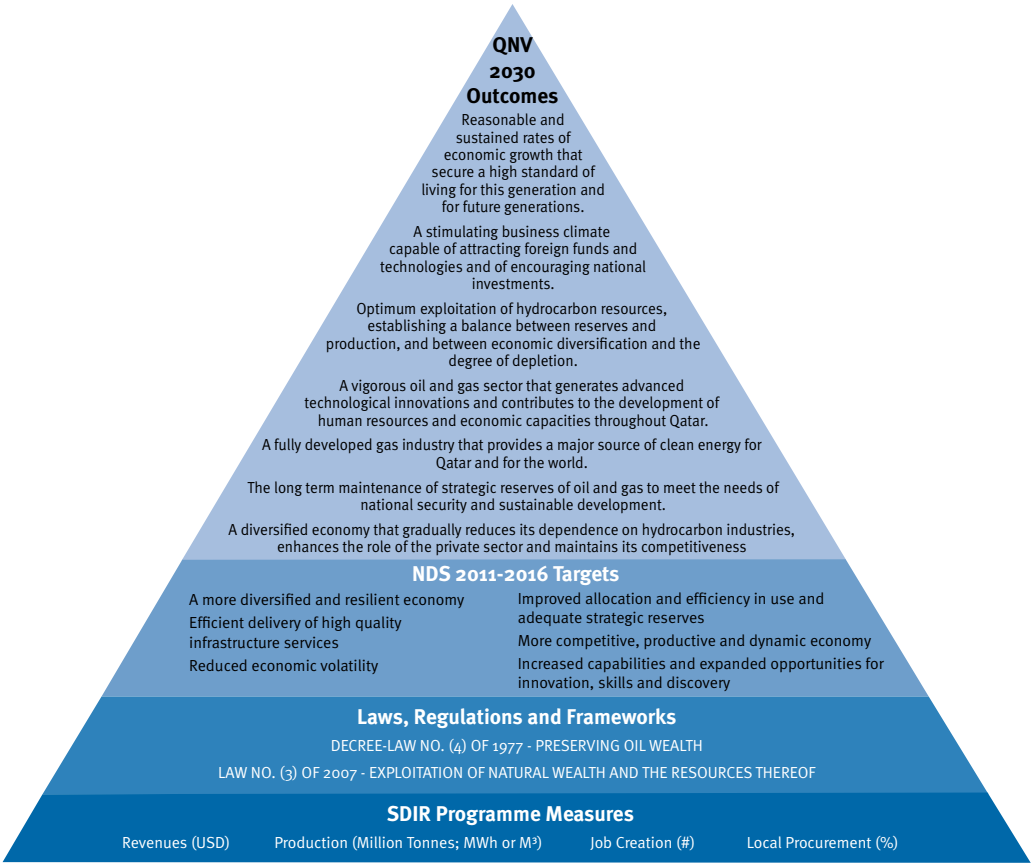
The Economy

Energy and Industry Sector Contribution to Qatar's Economy

Sector Production and Expansion

Economic Diversification

Direct Local Economic Development



2012 Achievements

10.7%
increase in sector revenues

596
new jobs created

54%
of procurement budgets spent locally

National Economic Prosperity

"Qatar must invest too in world class infrastructure to create a dynamic and more diversified economy in which the private sector plays a prominent role."

H.H. The Emir in Qatar National Vision 2030

With the successful development of its hydrocarbon resources, Qatar's economy has been prospering rapidly. Sustaining economic prosperity requires wise management of the country's resources, to ensure that future generations can also benefit and inherit the means to meet their own aspirations. Making best use of these resources, aligned to responsible management of current reserves, is allowing the country to convert its natural assets into financial wealth.

The energy and industry sector is the main driver of national economic growth and contributor to the economic strength of the State. As the most critical sector to Qatar's economy, it is contributing to multiple economic goals including the expansion of current and new opportunities, the diversification of products to ensure greater value is derived from Qatar's main natural resource, and support for local economic development through the creation of jobs and opportunities in the supply chain.

Economic Highlights[20]

- Qatar was the fastest growing economy in the world from 2008-12 as it developed its huge natural gas reserves and emerged as the largest LNG exporter in the world.
- At current extraction rates, gas production could last for more than 160 years.
- Qatar is the most competitive country in the GCC according to World Economic Forum rankings.
- The non-hydrocarbon part of the energy and industry sector will be the key driver of growth in 2013-14, as US$183 billion of planned investments through the NDS 2011-16 peaks.

Energy and Industry Sector Contribution to Qatar's Economy

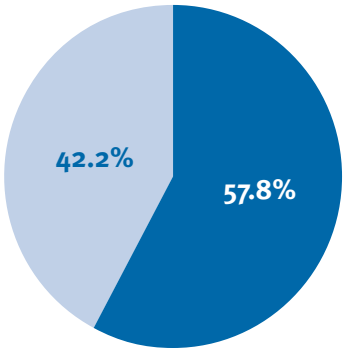
The successful development of oil and gas, which began in 1940, has given Qatar one of the highest per capita incomes in the world. This growth has been driven by the development of Qatar's enormous reserves of natural gas, making the country the world's largest exporter of liquefied natural gas (LNG) since 2006. This has boosted nominal GDP to 192.4 billion USD[21] in 2012, making Qatar the third largest economy in the GCC.

The guidance of His Highness the Father Emir Sheikh Hamad bin Khalifa Al-Thani, which calls for the optimal exploitation and use of the country's natural resources, has been allowing the energy and industry sector to grow while creating new jobs and wealth that is enabling investments in other sectors of the economy. High inflows of hydrocarbon export revenue are enabling government spending on infrastructure, administration, and education and health, which stimulate economic diversification. In addition, laws and regulations that protect foreign capital have attracted global energy players and provided a sophisticated and flexible business environment.

Contribution to National GDP

According to Qatar Statistics Authority and QNB Group estimates, the oil and gas sector was responsible for 57.8% of Qatar's total nominal GDP in 2012. Nominal GDP increased by 12% in 2012 after an expansion of 14% from 2008-2012. Growth was driven by the gas sector, which accounted for 42% of total GDP in 2012, and rising hydrocarbon prices. Incorporating subsectors other than oil and gas raises the percentage growth even further.

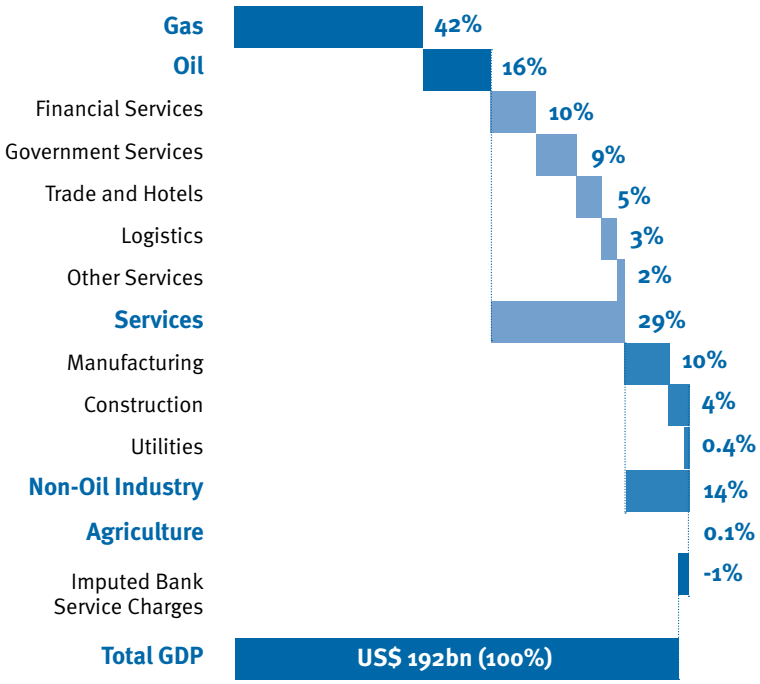
Nominal GDP % Share - 2012



Sector Contribution to GDP[21]	2010	2011	2012
Nominal GDP (Billion USD)	125.1	171.5	192.4
Growth (%)	27.9	37.0	12.2
Oil and Gas Sector (% share)	52.6	59.3	57.8
Real GDP Growth (%)	16.7	13.0	6.2
Oil and Gas Sector Growth (%)	28.9	15.7	1.7
Non-oil Sector Growth (%)	8.6	10.8	10.0

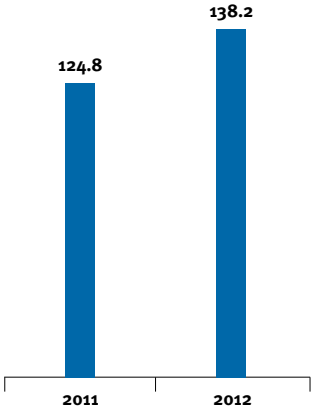
According to Qatar Statistics Authority and QNB Group estimates, the oil and gas sector was responsible for 57.8% of Qatar's total nominal GDP in 2012.

GDP by Economic Sectors - 2012 (% share and US $bn)



Source: QSA and QNB Group analysis and estimates

Total Revenues (Billion USD)



Sector Revenue Generation

An increase in productivity and investment to enhance production has helped the sector to improve revenues, also aided by higher oil and gas prices. In 2012, 24 companies reported their revenues, which totalled more than 138 billion USD, a 13.4 billion USD increase from 2011, or 10.7% Data submitted shows that 13 of the 24 reporting companies increased revenues in 2012.

Among the subsectors generating increased revenues, the refining subsector (which is represented by three companies reporting on their performance) increased revenues by almost threefold compared with 2011. This can be attributed principally to Qatar Shell's first full year of production. The mining, minerals and other subsector achieved a 16% increase and LNG/NG 14% when compared with 2011 revenues. Other subsectors such as oil and gas (E&P) and transport, storage and distribution reported static revenues, while petrochemicals and power and utilities reported lower revenues.

Revenues	2010	2011	2012
Number of companies reporting	21	24	24
Percentage of companies reporting*	60%	69%	69%
Total revenues reported (Billion USD)	49.8	124.8	138.2
Change in revenues (Billion USD)	-	-	13.4
Percentage change in revenues (%)			+10.7%

**35 companies were invited to report on this indicator*

Indirect Economic Impact

Figures on the indirect economic impact of the sector have not yet been compiled. However, with a direct workforce of 34,710 employees, and many more jobs supported in the form of suppliers and contractors, the sector's economic impact extends well beyond revenues and spending by companies in the sector.

The households of direct and indirect employees of the sector contribute to the local economy in the form of rent, education, hospitals and purchasing power. As individuals and families, their impact and spending power can be felt in all parts of the Qatar economy, and continues to grow as the sector continues to expand.

With a direct workforce of 34,710 employees and many more jobs supported in the form of suppliers and contractors, the sector's economic impact extends well beyond revenues and spending by companies in the sector.

Revenues by Subsector

Subsector	Companies Reporting		Annual Revenue (Billion USD)			
	2011	2012	2011	2012	Change	
LNG/NG	3	3	70.9	80.9	10.0	+14%
Oil and gas (E&P)	3	3	39.8	39.7	-0.1	-0.3%
Refining	3	3	1.4	5.4	4.0	+286%
Petrochemicals	8	8	7.3	6.9	-0.4	-5%
Mining, minerals and others	3	3	3.2	3.7	+0.5	+16%
Power and utilities	1	1	1.2	0.6	-0.6	-50%
Transport, storage and distribution	1	1	0.9	0.9	0%	+0%
Support services	1	1	0.2	0.1	-0.1	-50%
Total	**24**	**24**	**124.8**	**138.2**	**13.4**	**+11%**

Sector Production and Expansion

Improvements in efficiency are supporting continued economic growth while opportunities for diversification are widening and supporting the country's ambition to create a vibrant, diversified and knowledge-based economy.

Total Subsector Production

In 2012, production continued to increase, as demand for energy and other products continued to rise. As hydrocarbon expansion projects are maturing, non-hydrocarbon sectors are expected to drive growth in the coming years as Qatar continues to invest in a variety of downstream projects relating to natural gas. Gas production has more than doubled in recent years, and an upsurge of new LNG and GTL facilities, and industrial projects particularly in the petrochemicals sector and power generation, has been witnessed.

Sector Expansion

New projects are now coming on stream. Some major expansion projects were completed in 2012, or became operational for the first time. In particular, the Qatar Shell GTL project, the largest Gas-to-Liquids plant in the world, completed its first full year of production in 2012, which is reflected in the higher production and revenue figures. QAPCO's LDPE 3 plant, launched in 2012, is a good example of technology advancement, with no run-off flowing into the waters off the coast of Mesaieed Industrial City. Additionally, the heat produced at the plant is recycled for heating and power. Other expansion projects broke ground in 2012, and agreements for future initiatives were also formalised.

Case Study: Carbonates Acid Stimulation Project (Qatar Petroleum and Total)

In May 2012, Qatar Petroleum and Total signed a research and technology project agreement on carbonates acid stimulation. The project aims to increase hydrocarbon production in Qatar by addressing a major concern in carbonate oil and gas fields: improving the efficiency of acid stimulation to enhance reservoir permeability and, hence, the productivity of producing wells. The research project will especially focus on highly permeability contrasted formations and, at the same time, mitigate unwanted water production.

Case Study: Qatar Petroleum and partners sign Joint Venture Agreement for the Laffan Refinery-2 Project

Qatar Petroleum (QP) signed a Joint Venture Agreement with Total, Idemitsu, Cosmo, Marubeni and Mitsui for the new Laffan Refinery-2 (LR2) Project. The new LR2 condensate refinery is similar to the first Laffan Refinery (LR1), which started operations in September 2009. It has a similar processing capacity of 146,000 barrels per day.

Subsector	Comparable Companies	Products	Metric	Production		
				2010	2011	2012
Liquid natural gas/ natural gas*	3	Natural gas; Liquefied natural gas	Million Tonnes	72.81	91.62	91.88
Oil and gas (E&P)	3	Crude Oil and oil equivalent; condensates and associated gas	Million Tonnes	23.01	22.65	22.70
Refining**	2	Gas-to-Liquids Propane; Butane; Condensate; Sulphur; Normal Paraffin; Naphtha; Kerosene; Gasoil (Diesel); Base Oil (lubricants)	Million Tonnes	-	2.69	6.78
Petrochemicals	6	Ammonia, Urea, Methanol, MTBE, LDPE, LLDPE, Ethylene, Polyethylene, 1-Hexene, EDC, VCM and Caustic Other products - *(Normal Alpha Olefins and Slop oils)*	Million Tonnes	8.00	10.70	13.00
Mining, minerals and other***	2	Steel, Aluminum,	Million Tonnes	5.52	6.25	6.90
Power and utilities	4	Electricity	MWh	20,412,298	25,647,426	29,093,938
	3	Water	M^3	285,181,657	324,514,005	355,820,708

** Liquid Natural Gas/ Natural Gas subsector, figures correspond to LNG and natural gas production only.*
The production of other minor sub-products is not included, such as Condensate; Sulphur; Helium; PG; Pipeline gas; LPG
*** Includes the total production for all products mentioned*
****The subsector also produces cement, but production figures are not available.*

The Qatar Shell GTL project, the largest Gas-to-Liquids plant in the world, completed its first full year of production in 2012

The project will be operated by Qatargas and will have a daily production capacity of 60,000 barrels of naphtha, 53,000 barrels of jet fuel, 24,000 barrels of gasoil, and 9,000 barrels of LPG. Its total cost is estimated at USD 1.5 billion, and its construction is expected to be completed in the second half of 2016. Construction of the new refinery will give Ras Laffan a total installed condensate refining capacity of approximately 300,000 barrels per day, making it one of the largest single site facilities of its kind in the world.

Qatar's advantage on production of Liquefied Natural Gas (LNG)

Qatar has become the largest exporter of LNG and GTL products in the world, with a supply chain of global reach. The country's fully integrated LNG model incorporates managing its gas reserves, developing liquefaction facilities and developing shipping and terminal facilities. Qatar's LNG market strategy includes holding stakes in a number of re-gasification terminals around the world which receive LNG cargoes, and investing in a fleet of more than 70 LNG tankers to deliver products internationally. The main companies producing LNG are Qatargas and RasGas for export. Dolphin Energy produces and processes natural gas from Qatar's North Field and transports the dry gas via sub-sea export pipeline from Qatar to the UAE.

	Qatar's LNG Value Chain	Ownership
Upstream	• Application of advanced technology • Wellhead operations scaled up to optimize size • Moving dehydration facilities onshore • Minimizing offshore operational and maintenance staff	*Operated by QP under Exploration and Production Sharing Agreements/ Development and Production Sharing Agreements with International Oil Companies*
Downstream	• Scaling up liquefaction plant capacity • Application of APX liquefaction technology	*QP subsidiaries in joint ventures*
Transportation	• Building own fleet and reducing margins • Increased capacity of tankers (Q-Flex and Q-Max) • On board re-liquefaction plants, eliminating cargo losses	*Nakilat operates and manages LNG fleets*
Regassification	• Co-investment in regassification terminals	*Qatar Petroleum International (QPI) has co-ownership of terminals*
Marketing	• Customized sales and purchase agreements • Volumes to match long-term needs • Flexibility to meet unanticipated needs, and to redirect cargo	*Qatargas and RasGas*

Cost ↓ Value ↑

Note: EPSAs/DPSAs - Exploration and production sharing agreement/Development and production sharing agreement
Source: Primary data from Qatar Petroleum and its subsidiaries.

LNG Projects – 2012

Qatar Petroleum has been developing the LNG sector through knowledge-transfer partnerships with international oil companies who bring the expertise and technology needed to implement new projects. ExxonMobil has stakes in all but two LNG projects in Qatar, and has an overall share of 20% of production capacity.

LNG Project	Qatargas 1	Qatargas 2	Qatargas 3	Qatargas 4	RasGas 1	RasGas 2	RasGas 3	Total
Trains	3	2	1	1	2	3	2	14
Capacity (M t/y)	9.7	15.6	7.8	7.8	6.6	14.1	15.6	77
Start Dates	'96- '98	'09	'10	'11	'99-'00	'03-'06	'09-'10	
Ownership								
QP	**65%**	**67%**	**68%**	**70%**	**63%**	**70%**	**70%**	**68%**
Foreign Partners	**35%**	**33%**	**32%**	**30%**	**37%**	**30%**	**30%**	**32%**
Exxon- Mobil (US)	10%	24%			25%	30%	30%	20%
Total (France)	10%	8%						3%
Conoco-Phillips (US)			30%					3%
Shell (UK/Holland)				30%				3%
Mitsui (Japan)	8%		2%					1.1%
Marubeni (Japan)	8%							0.9%
Itochu (Japan)					4%			0.3%
Kogas (Korea)					3%			0.3%
Minority Stakes					5%			0.4%

Source: Qatargas, RasGas, the International Group of LNG Importers (GIIGNL) and QNB Group analysis

Economic Diversification

QATALUM Aluminium Reduction Potline

"Sustaining prosperity over the long term requires wise management of exhaustible resources to ensure that future generations inherit ample means to meet their aspirations. This management must secure optimum utilization of these resources and create a balance between reserves and production, and between economic diversification and the depletion of non-renewable hydrocarbon resources."

- QNV 2030

As oil and gas production reaches its capacity, plans to diversify the economy are being focused on emerging industries such as petrochemicals, fertiliser manufacturing and metal production. In future, reliance on downstream and other sectors will become increasingly important to ensure sustained economic development.

Non-oil Industry

Qatar's non-oil industry accounted for 14% of nominal GDP in 2012, according to Qatar Statistics Authority. The sector grew by 11% from 2008 to 2012 in real teams, with the manufacturing sector being the largest contributor, and a key growth driver due to the various projects in GTL, petrochemicals, fertilizers, cement, metals and other industries.

Case Study: Ras Laffan Mega-petrochemical Complex (QAPCO)

In February 2012, QP and QAPCO signed a Heads of Agreement for the joint development of a new mega-petrochemical complex in Ras Laffan Industrial City. Scheduled for completion in 2018, the complex will feature a world-scale mixed-feed steam cracker, with the feedstock of ethane, butane, and naphtha coming from natural gas plants in Ras Laffan. Qatar Petroleum will hold 80% equity interest and QAPCO the remaining 20%.

The venture is a pioneering initiative: it marks the first time that two Qatari entities have developed a petrochemical complex on this scale without the ownership or support of multinational partners. The Ras Laffan project is part of Qatar's expansion of its petrochemicals sector. The venture will create more than 1,500 career opportunities for Qataris and will bring new outlets for the expansion of local economic partnerships and community development. The plant will produce ethylene, high-density polyethylene (HDPE), linear low-density polyethylene (LLDPE), polypropylene, butadiene and py-gasoline. It represents an important milestone in the industrial development of the State of Qatar, and a further integration of the downstream petrochemicals market with the upstream operations carried out in Ras Laffan.

Major Non-Oil and Gas Projects

Other non-oil sectors include construction and utilities, with large scale developments driving economic diversification, as demonstrated in the table below.

Projects	Cost (US$bn)	End-Date
Qatar National Railway System	29.0	2020
New Doha Port	7.0	2027
Lusail mixed-use development*	6.3	2014
Kahramaa Power Plant	5.0	2016
Musheireb (phase 2-4)	4.1	2017
Lusail Development: Al-Sidra Golf Residential Development*	3.5	2013
Ras Laffan IWPP Expansion	3.0	2014
Doha International Airport	2.8	2013
Education City: Sidra Digital Medical Care & Research Centre*	2.5	2013
Automated People Mover in West Bay	2.2	2020

**Projects with Qatar Petroleum's involvement through ASTAD Project Management"*

Education City aims to be the center of educational excellence in the region. It is also conceived of as a forum where universities share research and forge relationships with businesses.

Direct Local Economic Development

The sector directly supports local businesses through the procurement of local goods and services, creating new jobs and contributing to the development of skills within the local economy. In 2012, 28 companies reported their total procurement spending with local suppliers. Although work is ongoing in order to ensure consistent boundaries of measurement for this indicator at a company level, the reported proportion spent with local suppliers averaged 53.78%, compared with 49.32% in the previous year.

These figures include transactions among companies operating at Mesaieed Industrial City (MIC) and Ras Laffan, which usually supply neighboring companies with raw materials or other products produced locally, that are required for other production processes. Companies also look to international suppliers to source highly specialized equipments and products that are not available in the local market.

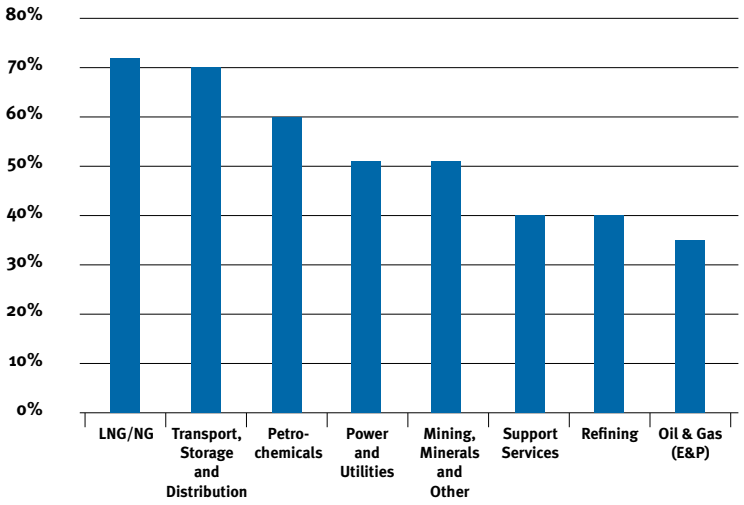
In 2012, average spending on local suppliers among the reporting companies of the LNG/NG subsector was 74.5%, the highest percentage among all subsectors. The next highest average percentage was recorded in transport, storage and distribution; and the

Average spending on local suppliers among the reporting companies of the LNG/NG subsector was 74.5%, the highest percentage among all subsectors.

Spending on Local Suppliers	2010	2011	2012
Number of companies reporting	23	28	28
Percentage of companies reporting*	66%	80%	80%
Average company spending on local suppliers (%)	48%	49%	54%

**35 companies were invited to report on this indicator*

Local procurement spending by subsector 2012



In 2012, the sector created 596 new direct full-time jobs, according to figures reported by 31 companies.

petrochemical subsectors with 70% and 60.7% respectively. For individual companies, the percentage ranges from 15% to 92%. Overall, the majority of subsectors spent more than 50% of total procurement with locally based suppliers.

Case Study: The e-Registration Program (Dolphin Energy)

In 2012, Dolphin Energy launched a pilot project to enhance local partnerships and encourage local suppliers. Its e-Registration pilot programme was launched for 50 suppliers and vendors, who were invited to register core information—such as services, expertise, technical capacities, and products—in an online directory. The system simplifies the registration process and encourages participation, enabling Dolphin Energy's procurement department to make "Requests for Proposals" available to vendors and suppliers electronically. When the programme is publically released in 2013, it will provide Dolphin Energy with greater opportunity to meet its demand from the local market, and will further stimulate the local economy.

Case Study: Preferential terms of evaluation for local vendors (Maersk Oil Qatar)

Maersk Oil supports local businesses through the company's tender evaluation process which grants preferential terms of evaluation to make local vendors' bids more competitive; allowing an additional 5% on goods and 10% services for local vendors. In 2012, Maersk Oil Qatar spent more than $475 US million with local vendors. Over the past four years, approximately 58% of the company's total procurement turnover has been spent in the local market.

Case Study: Strategic Procurement Forum Initiative (QAPCO)

The Strategic Procurement Forum Initiative, spearheaded by QAPCO's materials department, aims to bring together companies operating in MIC to share procurement best practices, discuss advances and challenges related to procurement and logistics, and develop outlets for collaboration between companies and suppliers. Initiated in 2012, the Forum meets quarterly and includes Qatar Petroleum (QP), QAPCO, Qatalum, Qatar Steel, QAFAC, QAFCO, QVC, and Q-Chem.

This forum is one example of how QAPCO is working to maximize the efficiency and positive economic impact of its operations. In future, the forum will investigate ways to gain maximum long-term benefit from collective purchasing by harnessing the economic potential of the companies in MIC, using consortium buying and supplier relationships.

Job Creation

Qatar continues to develop its downstream industries and the economy is reducing its dependence on hydrocarbon production facilities, which tend to be capital intensive but do not usually require large numbers of workers when operational. As downstream industries expand, new direct jobs and other jobs in the supply chain are being created.

According to the Qatar Statistics Authority Labour Force Survey 2011, the energy and industry sector accounted for 7% of total jobs in Qatar despite accounting for almost 58% of GDP in the same year. In 2012, the sector created 596 new direct full-time jobs, according to figures reported by 31 companies.

Society

Social Development

Business Ethics

QNV 2030 Outcomes

Establish a secure and stable society operating on the principles of justice, equality and the rule of law

Recruitment of the right mix of expatriate labor, protecting their rights, securing their safety, and retaining those who are outstanding among them

An effective social protection system for all Qataris that ensures their civil rights, values their contribution in developing their society, and ensures an adequate income to maintain a healthy and dignified life.

NDS 2011-2016 Targets

Reduce the annual number of road accidents from 300 per 100,000 people to 250 and related fatalities from 14 per 100,000 people to 10.

Increase participation in sports and physical activity by Qatari men, women and children.

Implement a corporate responsibility framework suited to the country's economic, political and social context, including a monitoring system.

Improve the country's national image regionally and globally to strengthen Qatar's position as a cultural hub.

Laws, Regulations and Frameworks

LAW NO. (14) OF 2004 LABOR LAW

Relevant Ministerial decisions

SDIR Programme Measures

Social investment budget (QR)

Corruption and human rights incidents

2012 Achievements

Zero
reported incidents of human rights violations

82%
increase in community development spending

61.8 million USD
invested in community development in 2012

National Social Development

"The welfare of our children and of our children yet to be born, demands that we use our resource-wealth wisely. Qatar must continue to invest in its people so that all can participate fully in economic, social and political life"

Tamim bin Hamad Al-Thani
Qatar National Vision (QNV 230)

The Qatar National Vision 2030 reflects the aspirations, objectives and culture of the Qatari people. It sheds light on future trends and foresees the creation of a sound social structure, a society of skilled, flexible and creative people, with opportunities for quality education, jobs and life-long learning available to all. It also outlines its goal of building a society that promotes justice, benevolence and equality and with constructive dialogue and openness toward other cultures in the context of its Arab and Islamic identity, based on the principles of the Permanent Constitution.

Qatar has become a pioneer in fostering education, scientific research and community development in the Middle East. The energy and industry sector has been contributing to many aspects of Qatar's ambitions, helping to move towards these goals by contributing to community development programmes, and by carrying out its activities on a foundation of sound principles and business ethics.

Direct Investment in Society

"ASTAD Project Management confidently looks forwards towards fulfilling its designated role under the 2030 National Vision of Qatar (QNV 2030), by embracing a clear commitment to contribute to the expanding opportunities while we remaining dedicated to delivering the highest standards of capital and environmental development".

Ali Al-Khalifa, ASTAD's Chief Executive Officer

The energy and industry sector plays a direct role in the social development of Qatar by generating revenues for government, providing jobs, and contributing to the community through a range of channels including social infrastructure development, direct donations, in-kind contributions and volunteering professional time and expertise.

At the centre of the sector's contribution to social development is the partnership between Qatar Petroleum and Qatar Foundation for Education, Science and Community Development, a non-profit organisation established in 1995 by the Emir of Qatar, H.H. Sheikh Hamad bin Khalifa Al Thani and his wife, H.H. Sheikha Mozah bint Nasser Al-Missned. Their partnership has ensured the realisation of large scale projects in education, health, science and technology, transport, cultural landmarks and public spaces.

Infrastructure projects The "ASTAD Project Management"

ASTAD Project Management was founded in 2008 as an equal partnership between Qatar Petroleum and the Qatar Foundation for Education, Science and Community Development to establish a company or institution to undertake the management of Qatar's major infrastructure projects. A unique local entity specialized in the field of project management, ASTAD has been delivering prominent high-profile buildings and facilities in Qatar, and has succeeded throughout its five years of operation to manage major projects which exceed a total value of QAR 100 Billion. These include 48 continuing and finished infrastructure projects in the areas of health and safety, education, arts and culture, public utility buildings and facilities, and two Master Planning Projects, the Education City (EC) and Qatar Economic Zone (QEZ). ASTAD manages all project aspects such as design, construction, cost and planning, in accordance with the highest standards and green building regulations.

Case Study: EDUCATION CITY (EC) Master Planning

Located on the outskirts of Doha, Education City covers 14 square kilometres and houses educational facilities. It is an initiative by the Qatar Foundation for Education, Science and Community Development, and comprises elite universities, several academic and training programmes and the Qatar Science and Technology Park which boasts more than 21 world class companies involved in scientific research and development.

The master plan includes: educational facilities, residential, health facilities, sports facilities, a FIFA World Cup 2022 stadium, hospitality facilities, waste management facilities, commercial zone, car parks, landscape nurseries, conference facilities, a golf course, heritage sites and parks.

Community Investment

In 2012, a total of 21 companies reported their community investment expenditure, compared to 17 companies in 2011. They represent 60% of the companies invited to report on this indicator in 2012. In total, the companies reported combined contributions worth more than USD 62 million.

The 17 companies that provided data in 2011 and 2012 showed a 60% increase in their total contribution, investing approximately USD 11 million more in 2012. The support services and oil and gas (E&P) subsectors achieved the largest percentage growth in contributions, with the support services subsector currently registering the largest amount invested.

2012 showed a 30% increase in their total contribution, investing approximately USD 11 million more in 2012.

Community Investment Contributions	2010	2011	2012
Number of companies reporting	15	17	21
Percentage of companies reporting*	43%	49%	60%
Total community investment (Million USD)	13.1	19.1	61.8
Total community investment for 17 comparable companies (Million USD)	-	19.1	30.6
Percentage change for 18 comparable companies	-	-	+60%

**35 companies were invited to report on this indicator*

Community Investment Contributions by Subsector

Subsector	Companies Reporting		Community Investment (USD)			% Change for Comparable Companies
	2011	2012	2011	2012	2012 (Comparable Companies)	
LNG/NG	3	3	3,067,800	4,287,350	4,287,350	+40%
Mining, minerals and others	2	2	53,877	80,387	80,387	+49%
Power and utilities	1	1	13,584	7,453	7,453	-45%
Petrochemicals	6	7	4,321,856	6,872,786	5,835,912	+35%
Oil and gas (E&P)	3	5	-	9,653,598	5,767,682	+162%
Refining	0	1	-	26,331,366	-	-
Transport, storage and distribution	1	1	5,720,093	5,263,563	5,263,563	-8%
Support services	1	1	2,896,215	3,745,949	9,313,006	+149%
TOTAL	**17**	**21**	**13,123,759**	**19,124,253**	**30,558,270**	**+60%**

Areas of impact

To date, community investment initiatives sponsored by the companies within the sector have been focused on health and safety, education and training, sports, environment, science and technology, arts and culture. These include voluntary contributions and donations to charities, NGOs, research institutes and specific social programmes. The tables below are a summary of some of the initiatives run by companies in 2012.

Health and Safety	
ConocoPhillips	Think Pink - breast cancer prevention campaign
Dolphin Energy	Hamad Medical Corporation – Blood donation
	Arab Union for the Blind
	Qatar Society for the Rehabilitation of Special Needs
	Qatar Red Crescent
GDI	Process Safety Awareness Symposium
	Symposium on “Process Safety” with Qatar Shell
	MOQ – QP Challenge – Qatar Diabetes Association
Oxy Qatar	Qatar Diabetes Association (QDA) “Challenge Diabetes Youth Camp”
QAFAC	Donation to Qatar Society for the Rehabilitation and Special needs
QAFCO	Blood Donation Unit of Hamad Medical Corporation
	Sponsors the 5th Rehabilitation Conference
QAPCO and Qatofin	Sheikh Al Thani Charitable Foundation - Foundation’s Ramadan activities
	Qatar Red Crescent
Qatar Petroleum	World Heart Day 2012
Qatargas	Syria Relief Campaign

Education and Training	
Dolphin Energy	Qatar Al Tamakon for Comprehensive Education
ExxonMobil	Al Fikra Business Plan Competition
	Women Empowerment in the Remote Areas of Qatar - “Empowering Young Girls”
	2012 Qatar Business Women Forum
GDI	Dukhan Women’s Association
	Qatar American Woman Association Sponsorship
Maersk Oil	Qatar International Businesswomen Forum in 2012
	Summer school for 25 young Qatari students at Qatar Academy in Al Khor
Whole sector	Qatar Career Fair 2012
QAPCO and Qatofin	Qatar International Bureau for NGOs – Barzan Youth Center
	Delny Campaign - “Accountability and Awareness Among the Youth”
	Al Tamakon Institute
Qatar Petroleum	2012 Summer Internship Program
	Hana-IKU Kids Program
	Sponsorship with Qatar University (QU)
	Sponsorship Qatar Independent Technical School (QITS)
Qatar Shell	Qatari Businesswomen Association and Interactive Business Network
QVC	Stenden University - University award ceremony
RasGas	Qatar University - Al-Bairaq programme

Sports	
Dolphin Energy	Qatar National Sport Day
ExxonMobil	Qatar Masters European Tour
	Qatar Paralympics Committee's Athletics Team
	His Highness the Heir Apparent Sword Race
	Qatar Cycling Federation - Gold Jersey sponsorships of the Tour of Qatar and Ladies Tour of Qatar events
Maersk Oil	12-day expedition in the Al Shaheen field
Oxy Qatar	Principal sponsor of Evolution Sports Academy in 2012
QAFAC	Sponsor Abdullah Al-Kuwari Team Qatar Rally Team
	National Sports day
QAFCO	QAFCO Open Tennis Tournament
	Open Tennis Championship.
QAPCO and Qatofin	Qatar Racing and Equestrian Club
	Qatar Volleyball Association
	Qatar Hejen Racing
Qatar Shell	L'Batak, a high-tech football themed Fan Zone
	Principal sponsor of 'HH The Emir's Cup'
Qatargas	Sony Ericsson Tennis Championship
	The American Chamber of Commerce Golf Tournament
	The Doha Oilmen's Golf Tournament;
	The Ministry of Interior Internal Football Championship
	The Junior Golf Programme.
Total Qatar	Qatar Racing and Equestrian Club

Science and Technology	
ConocoPhillips	Ladies Scientific Club in Qatar
Dolphin Energy	Qatar University - Life Is Engineering Initiative
	Student Engineers Council Texas A&M Doha, Qatar
	Qatar Engineer 2030
	5th World Future Energy Summit
ExxonMobil	World Innovation Summit for Education (WISE)
	6th Annual INJAZ Al-Arab Young Arab Entrepreneurs Competition
	2012's Society of Petroleum Engineers (SPE) International Production and Operations Conference and Exhibition.
GDI	Middle East Drops Forum meeting in Doha
Maersk Oil	World Congress on Engineering Education
	Society of Petroleum Engineering (SPE) events and workshops
QAFAC	Sponsorship (Contribution to 20th World Petroleum Congress
QAFCO	Texas A&M University at Qatar (TAMUQ) Chemistry Conference
QAPCO and Qatofin	Gulf Development Center
Qatar Petroleum	8th Annual HSE Forum in Energy
	Global Atlas for Solar and Wind Energy Project
	United Nations Conference on Trade and Development (UNCTAD XIII)

Arts and Culture	
ConocoPhillips	"Colored Tales" exhibition, hosted by the Girls Creativity Center
Oxy Qatar	Exclusive sponsor of the "Qatar Nature Explorer" book set
	Mal Lawal Exhibition
QAFAC	Qatar National day
QAFCO	40th Independence & National Day celebration of Bangladesh
	Celebration of 63rd Republic Day of India
	Flower and Vegetable Show
Qatalum	"Made in Qatar" exhibition
Qatar Petroleum	Qatar Week: Ferjaan in Tokyo
Qatargas	"Made in Qatar" exhibition
Q-Chem	"Made in Qatar" exhibition

Environment	
ConocoPhillips	Friends of the Environment Center
	Global Water Sustainability Center
Dolphin Energy	Carbon Capture Workshop at Texas A&M Doha, Qatar
Whole Sector	2012 Qatar Petroleum Environment Fair
ExxonMobil	Carbon capture workshop hosted by Texas A&M University at Qatar
QAPCO and Qatofin	Friends of the Environment Center - National Sports Day
Qatar Petroleum	Eco-Film Competition at the Energy and Industry Pavilion of the
	Qatar Sustainability Expo
WOQOD	Friends of the Environment initiative

The Qatar Sustainability Expo was held during COP18/CMP8 in Doha in November 2012. The Qatar energy and industry sector had a central pavilion with space for each company to showcase their sustainability achievements and engage with the public.

Case Study: The Ras Laffan Community Outreach Programme (RLIC-COP)

The RLIC-COP is an initiative of the seven energy companies operating in Ras Laffan Industrial City (Qatar Petroleum, Qatargas, RasGas, Qatar Shell, Dolphin Energy Limited, Oryx GTL, and Al Khaleej Gas), seeking to create a common strategy that contributes to the local community. The RLIC-COP office, established in Al Khor in late 2011, serves as a base to build closer relationships with the local community and to establish an open dialogue to build meaningful partnerships that meet community needs.

In line with Qatar National Vision 2030 and the National Development Strategy 2011-2016, the RLIC-COP has identified three strategic areas where its contribution can have a maximum impact:

- Education and Capacity building
- Health, environment and safety awareness
- Cultural Heritage

Case Study: The Northern Community Skills Development Project

In order to support the QNV 2030 and NDS 2011-2016, RasGas (on behalf of the Ras Laffan Community Outreach Programme) established the Northern Community Skill Development Programme in Al Khor. The project caters to the training and development needs of the communities of the northern region of the country including the cities of Al Khor, Al Dhakira, Um Qarn and Al Shamal. RasGas conducted a community skills development needs assessment in 2011 and 2012. From this assessment and subsequent analysis, it was established that four core areas of development were required within the community, with additional areas to be identified for later expansion. Initially, the course focused on computer skills and developing proficiency in the English language.

Qatar Sustainability Expo 2012

Opened by the Chairman of the Administrative Control and Transparency Authority and President of COP18/CMP8, the Executive Secretary of the UNFCCC, and the Minister for Energy and Industry, the Qatar Sustainability Expo was held during COP18/CMP8 in Doha in November 2012. Held over two weeks, the Expo was a chance for the government and the private sector to showcase their sustainability efforts and interact with the public, press, NGOs and visitors.

The Qatar energy and industry sector had a central pavilion with space for each company to showcase their sustainability achievements and engage with the public. Daily technical presentations were delivered by national and international experts on the sector's performance, while activities for school children were also held. The 2012 sector sustainability report was launched on the opening night and presented to the Chairman of the Administrative Control and Transparency Authority and President of COP18/CMP8.

Business Ethics

"The State shall maintain the pillars of the society and ensure security, stability, and equal opportunities for all citizens."

Permanent Constitution

Maintaining good business performance, while meeting high ethical standards of conduct is an important aspect of business operations in an environment that values transparency. In addition to market pressures to behave responsibly, companies are encouraged to comply with national laws and regulations in areas such as bribery and corruption, good working conditions (for both local and migrant workers), diversity and equal opportunity.

Codes of Ethics and Conduct

In 2012, 10 companies reported that they had a Code of Ethics and / or Code of Conduct in place. Among the companies with newly implemented initiatives, Dolphin Energy created an online e-learning module to support its annual employee training on its Code of Business; while QAFCO implemented an Ethics and Whistle-Blowing Complaints Procedure and established a Fraud Awareness Framework.

Qatar Petroleum conducts all its business in line with the strictest Code of Ethics and Conflict of Interest policy. Any vendor wishing to conduct business with Qatar Petroleum must abide by a similar ethics regime as practiced by Qatar Petroleum.

The Qatar Petroleum Code of Ethics document outlines its position on compliance with laws and regulations, confidentiality, discrimination, preferential treatment and sexual harassment. The Corporation's Disciplinary Committee reviews all reported violations of this policy deciding appropriate disciplinary action in accordance with the Corporation's established disciplinary procedures.

The public Conflict of Interest policy covers in detail the duty of all employees, prohibited deeds, employee declarations and disciplinary accountability.

Human Rights and Labour Practices

The energy and industry sector safeguards the rights of workers it directly employs as well as those of contractors working on its behalf, who are typically migrant workers. National worker protection laws include provisions relevant to all workers that limit working hours, set working age requirements, require paid annual leave, set requirements for health and safety, and require on-time payment of wages each month. The Ministry of Labour regularly conducts worksite inspections to check compliance with worker protection laws. Companies within the energy and industry sector often conduct awareness sessions and distribute printed materials explaining workers' rights and obligations under the labour and sponsorship laws. Companies continue to work with their contractors to ensure compliance with the requirements.

Since 2010, the sector has seen a higher number of companies reporting on their approach to the management of workers and human rights, and on related indicators. As of 2012,

"Employees shall treat all persons fairly regardless of such factors such as race, color, national origin, sex, marital status, age, religion, creed or political belief, physical handicap or disability, or status."

QP Code of Conduct

Law 14 of 2004 – Governs labour in the private sector and is the reference point for companies within the sector for ensuring appropriate standards of labour practices.

28 companies reported their performance on human rights, corresponding to 80% of the 35 companies invited to report. Zero incidents of human rights violations have been reported by the companies participating in the SDIR programme since 2010.

Highlights of specific actions taken by companies within the sector include:

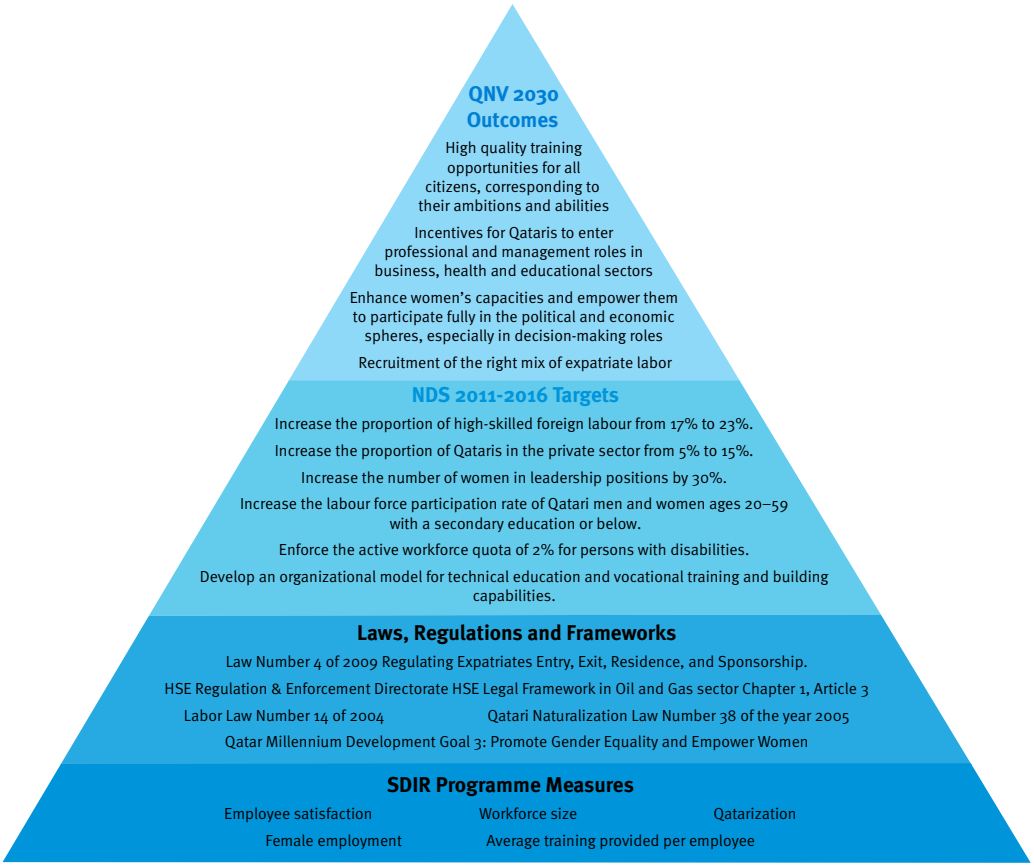
- In 2012, ConocoPhillips Ltd revised its human rights position in relation to indigenous communities in Qatar to include specific references to widely accepted international frameworks.
- Oxy Qatar updated its Human Rights training modules for employees, contractors and private security personnel in 2012. Training sessions addressed details of the Human Rights Policy, local laws and culture, and relevant case studies. Oxy Qatar has also made cultural awareness training available to employees, and made web-based modules available in Arabic and English to complement in-person activities. As of year-end 2012, 100 percent of Oxy Qatar's employees, private security personnel and other designated contractors had received their required human rights training.
- Maersk is an active participant in the oil and gas industry organisation IPIECA's Social Responsibility Working Group (SRWG). Based on a detailed risk and exposure assessment carried out in 2012, Maersk is developing a standard Working Conditions Policy, reflecting Maersk Group and UN Global Compact requirements, in compliance with local regulations.
- MPower put in place a grievance system for its employees, through which the company encourages all employees to report human rights issues of any kind, in strict confidence.

Human Rights Incidents Reported	2010	2011	2012
Number of companies reporting	23	27	28
Percentage of companies reporting	66%	77%	80%
Number of reported incidents of human rights violations	0	0	0

**35 companies were invited to report on this indicator*

Workforce

Workforce Overview
Qatarization
Diversity and Inclusion
Training and Development
Welfare and Engagement



2012 Achievements

24.6%
Qatarization rate in 2012, an 8.2% increase over 2011

113
more women employed in 2012. Women currently represent 9.5% of the workforce

2%
increase in workforce for comparable companies in 2012

A National Workforce

"Qatar National Vision 2030 has laid emphasis on the four pillars that address all of the Millennium Development Goals, the first is human development, which includes establishing sophisticated... education systems to provide the best services and workforce development."

- H.H. The Father Emir Sheikh Hamad bin Khalifa Al Thani

Qatar's significant economic growth has played an important role in shaping the composition of the workforce. Rapid growth has necessitated maintaining a large expatriate workforce and it is recognized that a skilled expatriate workforce will continue to be an integral part of the country's growth plan.

In addition, the drive to cultivate stronger Qatari human resources represents an essential part of ensuring that the workforce continues to meet the future needs of the economy. At the centre of this is the process of Qatarization.

Qatarization includes providing incentives for local people to benefit from education and training, and encouraging Qataris to participate in the private sector. The Qatar National Vision (QNV) for 2030 specifically aims to develop Qatar's workforce by investing in education and health. This vision includes the development of an excellent education system that supports training and learning opportunities. Qatar's National Development Strategy calls for an increase in Qatarization through actions including creating an entrepreneurship initiative that encourages women and youth involvement in the private sector. This advocates incentives for employers in sectors preferred by Qatari women, improving employment and career counselling services, and decreasing the disparity between public and private sector benefits and compensation. Other initiatives include implementing a minimum wage and compulsory health care, which will help Qatar's workforce move from low-skilled, low-paid work, to high-skilled and high-paid workforce.

The General Secretariat for Development Planning for Qatar has called for a programme to stimulate greater Qatari participation in the private sector with a special focus on engaging women and youth. The Qatar Labour Force Survey shows that female participation in Qatar was as high as 37% in 2008, and has remained at around 35% since 2006.

In conjunction with these efforts, new incentives are being created to attract and retain qualified expatriates including recruitment and retention programmes and measures to improve working and living conditions, and to provide competitive compensation packages.

Sector Context

Qatar's Energy and Industry directly employs nearly 35,000 people and many more in the sector's extensive supply chain. The workforce is diverse, made up of nationalities from across the globe.

In alignment with the QNV and NDS, the sector is focusing on developing its workforce through Qatarization, diversity, training

Participants at the IHAF Workshop

Qatar's Energy and Industry directly employs nearly 35,000 people and many more in the sector's extensive supply chain. The workforce is diverse, made up of nationalities from across the globe.

The Reported Workforce in 2012:

Size - 34,710

Qatarization - 24.6%

Female participation rate - 9.5%

Average hours of training per employee per year - 35.17 hours

and workforce engagement and welfare.

The sector's ambitious growth projections for the future mean that expatriate labour will be required to meet demand. While continuing to recruit highly qualified expatriate workers, companies are balancing these efforts by developing the pool of Qatar's own human resources.

The Strategic Qatarization Plan sets the goal of 50% Qatarization and focuses on building a capable Qatari workforce to support the sector. In 2012, companies supported a number of training programmes, internships, recruitment fairs, and professional development initiatives to increase the percentage of Qataris involved in the industry. In 2012, Qataris accounted for 23% of the sector's workforce.

Diversity is also an important characteristic of a strong workforce. The National Development Strategy pillar on Human Development recognizes that the optimal workforce will have a balanced percentage of internationals and Qatari employees, as well as a greater percentage of female employees.

Maintaining a highly qualified workforce requires the continuous development of skills through training and development. Companies in the sector provide a wide range of training programmes covering hard and soft skills and in 2012 continued to invest time and resources into training and development.

Maintaining an optimal workforce also requires cultivating positive levels of employee satisfaction. To achieve this, companies offer working environments that appeal to employees by providing satisfying careers and learning and development opportunities. They also make provision for employee welfare outside the workplace, by offering support services for families, opportunities for recreational activities, and other benefits.

As part of the SDIR programme, all companies were requested to submit information on the size and composition of their workforce. This chapter provides details about the progress made and emerging trends in workforce composition and its contribution to the country's development.

Workforce Overview

Unique workforce

In 2012, the sector made steady progress towards its goal of developing a growing workforce with highly skilled, committed and diverse individuals.

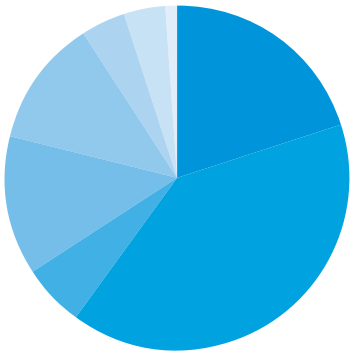
Workforce Profile

This year, 34 companies reported data on their workforce size and composition, with 31 providing comparable data for 2011 and 2012. In total, the sector employed 34,710 full time employees in 2012. The 31 companies with comparable data showed an increase in workforce of 596 employees or 1.9%. The workforce includes individuals from more than 30 countries.

The oil and gas (E&P) subsector accounts for the largest portion of the sector's workforce, representing nearly 40% of full time employees in 2012. If employees in the LNG and natural gas operations are included, then that percentage rises to 60%. Employees in petrochemicals and mining, minerals and other make up 25% of the total workforce, with refining, the power and utilities, the transport, storage and distribution and the support services subsector making up the final 15%.

Among the 31 companies with comparable data, full-time employees increased by 2%, with significant absolute increases in the oil and gas (E&P) subsector, which added 449 employees, and in percentage terms from the refining subsector which increased by 6%. Power and utilities, LNG/NG, and petrochemicals also increased their workforce size on a percentage basis, while support services showed a significant percentage reduction due to the completion of several large expansion projects in 2012. The one non-reporting company was in the transport, storage and distribution subsector.

Workforce by Subsector - 2012



- LNG **20%**
- Oil & Gas **40%**
- Refining **6%**
- Petrochemicals **13%**
- Mining **12%**
- Power & Utilities **4%**
- Transport **4%**
- Support Services **1%**

Workforce Size	2010	2011	2012
Number of companies reporting	25	31	34
Percentage of companies reporting*	74%	91%	97%
Total workforce size	19,625	31,978	34,710
Workforce size for 31 comparable companies	-	31,978	32,574
Percentage change for 31 comparable companies	-	-	+1.86%

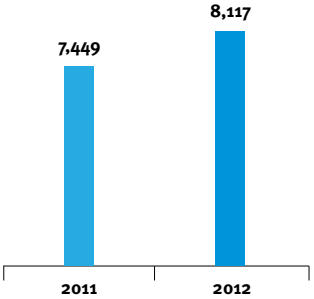
**35 companies were invited to report on this indicator*

Workforce Size by Subsector

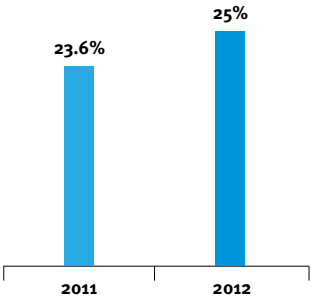
Subsector	Companies Reporting			Workforce Size				% Change for Comparable Companies
	2010	2011	2012	2010	2011	2012	2012 for Comparable Companies	
LNG/NG	3	3	3	6,648	6,607	6,808	6,808	+3%
Oil and gas (E&P)	5	7	7	2,008	13,591	14,040	14,040	+3%
Refining	2	2	2	1,927	2,048	2,094	2,094	+6%
Petrochemicals	8	8	9	4,313	4,427	4,680	4,458	+1%
Mining, minerals and other	3	3	3	4,246	4,299	4,312	4,312	0.3%
Power and utilities	2	4	5	158	388	1,270	400	+3%
Transport, storage and distribution	0	1	2	-	240	1,291	247	+3%
Support services	2	3	3	6,648	378	215	215	-43%
TOTAL	**25**	**31**	**34**	**19,625**	**31,978**	**34,710**	**32,574**	**+2%**

Qatarization

Qatarization Rate (in Numbers)



Qatarization Rate (%)



Qatarization focuses on building a strong pipeline of Qatari talent with the necessary skills and education to add value, increasing the proportion of Qatari people employed, and continually developing and retaining Qataris already employed. The commitment to these goals by the energy and industry sector brings benefits to broader Qatar society by providing opportunities for learning and training, quality job prospects, and a highly skilled pool of local talent which is increasing in size.

Both the QNV and NDS highlight Qatarization as a key area that needs to be further developed to build a workforce that meets the country's long-term needs. The national plans include the following areas where action is needed:

- Developing Qataris' professional and technical skills.
- Making the industry a desirable field to work in.
- Increasing the percentage of Qatari women in the workforce.

The NDS sets a goal to increase labour force participation rates of Qatari men and women aged 20-59 with a secondary education or below. It also aims to increase the Qatarization rate of the private sector from five percent up to 15 percent. The QNV supports Qatarization by promoting incentives for Qataris to take professional and management roles in business, health, and education.

Sector Performance

In 2012, 32 companies reported on their Qatarization rate – in this case, the number of full time Qataris holding actual positions as a percentage of the total workforce. The 32 companies that reported this data employed a total of 8,480 Qataris in 2012, giving a Qatarization rate of 24.6%.

In total, 30 companies provided sufficient data to enable comparison of their 2011 and 2012 performance. This comparison shows an overall increase in Qatari full time employees of 668, or 8.2%, and an increase in the Qatarization rate from 23.6% to 25%. This is a clear sign that the effort and investment being made by the sector is moving it closer to its goal of 50% Qatarization.

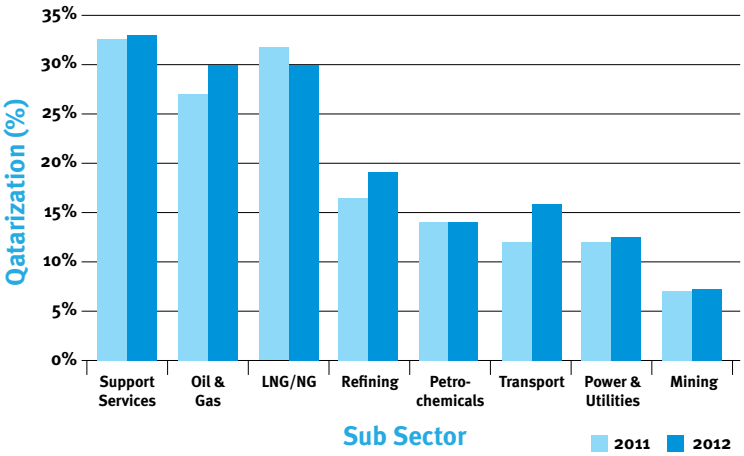
When assessing the Qatarization rate of the subsectors in 2012, support services and oil and gas (E&P) both exceed 30%, while LNG/NG, refining and power and utilities are between 20 and 30%. Mining, minerals and other remained the subsector with the lowest Qatarization rate, achieving 7.2%. Looking at individual companies, Qatarization rates ranged from 4 to 35%.

When assessing the Qatarization rate of companies that have provided comparable data for 2011 and 2012, three subsectors, oil and gas (E&P), refining and the transport, storage and distribution achieved the highest growth in the number of Qataris employed, increasing by 17%,

Qatarization	2010*	2011*	2012
Number of companies reporting	25	32	32
Percentage of companies reporting*	71%	91%	91%
Total number of Qatari employees	2,936	7,518	8,480
Sector Qatarization rate (%)	17.7%	23.7%	24.6%
Number of Qatari employees in 30 comparable companies	-	7,449	8,117
Qatarization rate for 30 comparable companies (%)	-	23.6%	25.0%
Change in Qatari employees in 30 comparable reporting companies	-	-	+668

**35 companies were invited to report on this indicator*

Qatarization Rate by Subsector for Comparable Companies



Qatarization Rate by Subsector								
Subsector	Companies Reporting			Qatarization (%)				Actual change for comparable companies
	2010	2011	2012	2010	2011	2012	2012 for Comparable Companies	
LNG/NG	2	3	3	29.7%	31.9%	29.9%	29.9%	-74 (-4%)
Oil and gas (E&P)	5	7	6	17.0%	27.3%	30.7%	30.7%	602 (+17%)
Refining	2	2	2	17.2%	21.5%	24.2%	24.2%	66 (+15%)
Petrochemicals	9	9	9	17.7%	18.9%	18.8%	18.8%	44 (+5%)
Mining, minerals and other	3	3	3	7.7%	7.0%	7.2%	7.2%	11 (+4%)
Power and utilities	2	4	5	11.4%	12.3%	20.4%	13.1%	5 (+9%)
Transport, storage and distribution	0	1	2	-	12.3%	15.5%	17.5%	14 (+47%)
Support services	1	2	2	11%	32.2%	32.3%	32.3%	0 (0%)
TOTAL	**24**	**31**	**32**	**17.7%**	**23.7%**	**24.6%**	**25.0%**	**668 (8.2%)**

Many companies have specific initiatives that focus on outreach and training for youth and young employees.

15% and 47% respectively. The oil and gas (E&P) subsector hired an additional 602 Qatari individuals in 2012, driving the majority of the growth. LNG/NG was the only subsector to see a drop in the number and percentage of Qataris employed, falling by 74 (4%).

Case Studies

There are many different methods employed by companies to engage Qatari citizens and increase their Qatarization rates. Qatarization has become a part of every company's focus with set goals as part of internal business priorities. In 2012, the sector held its 12th Annual Qatarization Review Meeting to recognize advances towards the goal of 50% Qatarization. Awards were given to leaders in the industry who have demonstrated significant commitment to the country's Qatarization aims.

Career Fairs

All companies in the sector participated in the Qatar Career Fair, a five-day recruitment event for Qatari nationals. For many companies, this represents an important outreach and recruitment opportunity. Maersk Oil Qatar, for example, received 800 job applications during the fair. The fair provides a significant source of new Qatari recruits every year.

Education and Youth Development

Many companies have specific initiatives that focus on outreach and training for youth and young employees. Maersk Oil Qatar participated in the Committee on Education and Attraction, formed by the Qatarization Unit of the energy and industry sector. The committee explores ways to engage young people by educating them and their parents on job opportunities in the sector. Maersk also supported students taking courses in the Qatar Academy to improve their mathematics and English language skills.

Qatar Vinyl Company (QVC) aims to achieve "Quality in Qatarization" by sponsoring university students, providing internships, and offering a range of training opportunities including tailor-made programmes and continued professional development.

High school students are engaged through a scholarship programme that provides financial assistance for students to pursue a degree that would prepare them for a career with Qatar Petroleum. Qatar Petroleum also sponsored seven students from Qatar University to attend the 8th Middle East Refining and Petrochemicals Conference and Exhibition, Petrotech 2012.

RasGas ran its annual Summer Internship Programme, involving 59 students. The programme offers students an opportunity to gain first-hand experience and practice project management and public presentation skills. The Qatargas Internship Programme included a career fair and internship events at local high schools. A number of Qatari students participated in short-term work experience with Qatargas.

Dolphin Energy hosts the Young Future Energy Leaders Programme that challenges young people to consider the future of energy and the challenges and changes that the energy industry may face, and to explore how they might be involved.

QAPCO's LEAD Development Programme helps prepare Qataris, through skills development and specialized training, for key positions within the company.

Winners of Qatarization Crystal Award & Recipients of Qatarization Certificates

In 2012, the sector held its 12th Annual Qatarization Review Meeting to recognize advances towards the goal of 50% Qatarization.

Training and Education

Oxy promotes skills and knowledge sharing among employees through its mentoring programme which matches recent graduates and young professionals with senior-level mentors who provide advice and support. Oxy also uses an in-house Qatari Development Counsellor to meet recent graduates and early career Qatari employees to provide support with their Individual Development Plans.

Nakilat invested in 26 external training programmes for their Qatari staff that included English language skills, technical competencies, and professional development. Nakilat also recently launched a Marine Cadet initiative, which provides scholarships for Qatari nationals in enrolling in Maritime studies. Qatalum's Professional Development Programme selects professionals with relevant academic backgrounds but minimal or no industrial exposure, and gives them the chance to gain hands-on experience directly from Qatalum employees.

Qatar Petroleum implements strategic recruitment, training and development, and retention activities with the aim of reaching 50% Qatarization. Most incoming Qatari hires are directed to Qatar Petroleum's Corporate Training Center where they receive core training. This could include Technician Preparation, Fireman Preparation, Security Preparation, Clerical Preparation, and a Tailor-Made Programme. Dolphin Energy, RasGas and Maersk support the Qatar University project, 'Life is Engineering', which helps skilled nationals become leaders in engineering and science through practical hands-on management training.

4th Annual Qatarization Awards

His Excellency, Dr. Mohammed Bin Saleh Al-Sada presented several companies in the energy and industry sector with awards and certificates celebrating their success in Qatarization excellence in 2012. The winners of the Qatarization Crystal Award were:

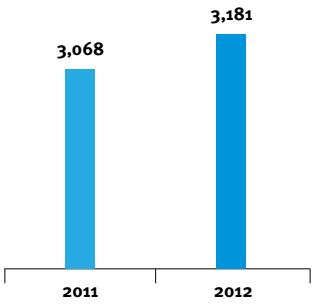
- RasGas Company Limited for Support and Liaison with the Education Sector.
- Qatar Petrochemical Company Ltd. for Supporting Qatarization.
- Qatar General Electricity & Water Corporation for Support for Training and Development.

The following companies received Qatarization Certificates:

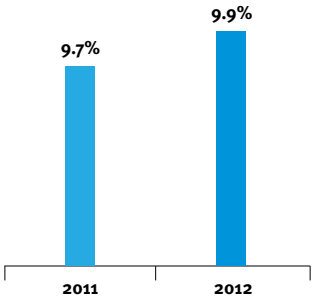
- Qatargas Operating Company Limited for Support and Liaison with the Education Sector.
- ExxonMobil Qatar Inc. for Supporting Qatarization.
- Dolphin Energy Limited for Support for Training and Development.

Diversity and Inclusion

Female Participation (in Numbers)



Female Participation (%)



The industry is committed to cultivating a diverse and inclusive workforce. Diversity helps to foster a creative environment that can contribute to innovation. Within a diverse workforce, opportunities for knowledge and skills sharing are often greater.

Building a diverse labour market requires increasing the number of women in the workforce, maintaining a strong expatriate workforce to meet growing demand, engaging new and young professionals, and providing opportunities for less able persons.

The QNV and NDS both support increased youth engagement through training and education.

The NDS sets a target for increasing diversity as well as enforcing a required quota of 2% employment of people with disabilities

In 2012, Qatari women made up 33% of employed nationals. Women (both Qatari and expatriate) made up 12% of the total workforce, similar to the 10.4% female employment rate in the sector. The NDS sets a target to increase the number of women in leadership positions by 30%. To help increase female participation rates, a number of companies in the sector make particular provision to support female employees, such as paid and unpaid maternity leave, flexible working arrangements, and a focus on safe working conditions for women.

Sector Performance

In 2012, 33 companies reported on their female participation rate-defined as the number of full time female employees as a percentage of total full time employees within the company. In total, these companies employed a total of 3,261 women, equating to 9.5% female participation in the workforce.

Female Participation	2010	2011	2012
Number of companies reporting	23	30	33
Percentage of companies reporting*	67%	86%	94%
Total number of females employed	1,406	3,092	3,261
Female participation rate (%)	7.7%	9.7%	9.5%
Number of females employed across 29 comparable companies	-	3,068	3,181
Female participation rate for 29 comparable companies (%)	-	9.7%	9.9%
Change in female participation rate for 29 comparable reporting companies	-	-	+113

**35 companies were invited to report on this indicator*

In 2012, 113 more females were employed by the sector, bringing the overall female participation rate to 9.9%, an increase from 9.7% in 2011

For the 29 companies that provided comparable female participation data for 2011 and 2012, 113 more females were employed, bringing the overall female participation rate to 9.9%. This was a slight increase from the rate of 9.7% in 2011.

At a subsector level, the female workforce in the support services subsector is 41%. It is the only subsector to include an individual company with a female participation rate of more than 50%. These high rates reflect the relatively small size of these companies and the nature of the work they undertake. The actual number and percentage of females in this subsector reduced in 2012 as a result of one company completing a project and reducing its operations.

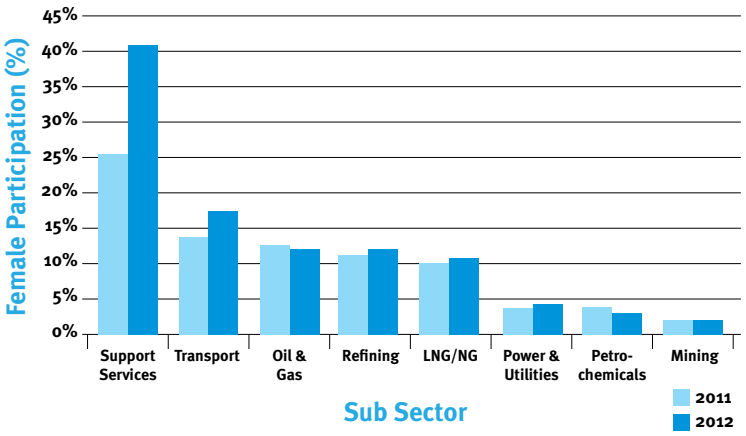
The other subsectors can be split into two groups, those with female participation rates above 10% (LNG/NG, oil and gas (E&P), refining and the transport, storage and distribution) in which rates range from 3.4% to 25%, and those with female participation rates of less than 5%. These cover a large number of industrial companies that are purely plant based and outside Doha, factors which have traditionally a barrier to female employment, but which are slowly changing. Female participation rates in these companies vary from 0.6% to 16.6%.

The LNG/NG subsector added the largest number of female employees in 2012, increasing the female participation rate to 11.3% from 10.5% in 2011. Despite adding an additional 26 female employees in 2012, the oil and gas (E&P) subsector was one of only two subsectors to see a reduction in female participation from 13.2% to 12.8% in 2012. Petrochemicals also saw a reduction, recording five fewer female employees in 2012 and a 0.1% drop in female participation.

Female Participation by Subsector

Subsector	Companies Reporting			Female Participation (%)				Actual change for comparable companies
	2010	2011	2012	2010	2011	2012	2012 for Comparable Companies	
LNG/NG	3	3	3	10.4%	10.5%	11.3%	11.3%	73 (+11%)
Oil and gas (E&P)	5	7	7	13.3%	13.2%	12.8%	12.8%	26 (+1%)
Refining	2	2	2	10.6%	11.4%	11.8%	11.8%	13 (+6%)
Petrochemicals	6	7	8	3.6%	3.7%	3.6%	3.6%	-5 (-3%)
Mining, minerals and other	3	3	3	2.4%	2.1%	2.2%	2.2%	4 (+5%)
Power and utilities	2	4	5	2.4%	3.5%	4.5%	4.0%	2 (+18%)
Transport, storage and distribution	0	1	2	-	14.0%	5.8%	17.4%	9 (+28%)
Support services	2	3	3	8.8%	26.1%	41.1%	41.1%	-10 (-10%)
TOTAL	**23**	**30**	**33**	**7.7%**	**9.8%**	**9.5%**	**9.9%**	**113 (+4%)**

Female Participation by Subsector for Comparable Companies



Case Studies

ExxonMobil Qatar's professional women's network provides a good example of an initiative to improve female participation. Women Empowerment in the Remote Areas of Qatar involves more than 100 employees from a range of positions and experience levels. It offers professional development opportunities through training, networking, and mentoring. ExxonMobil also uses web-based training to educate staff about cross-cultural communication and cultural sensitivities. Two other programmes, the "Women Empowerment in the Remote Areas of Qatar" initiative and "Empowering Young Girls," aim to help more women enter the sector's workforce. In addition, ExxonMobil was a diamond sponsor for the 2012 Qatar Business Women Forum, an event that aims to foster better communication among business women.

ORYX GTL partnered with Microsoft and the Qatar Independent Technical School (QITS) to start a computer literacy programme for women which provides them with important skills and competencies in Microsoft programmes and computer security.

SEEF offers a number of training opportunities for young Qatari female graduates including a personal career programme, on the job training, and technical preparation courses.

Training and Development

This year, 26 companies reported a total of 1,087,027 hours of employee training and an average of 35.17 hours of training per year per full time employee.

Both the QNV and NDS highlight training and development as being central to the development of a workforce that can support a growing economy. The QNV aims to establish high quality training opportunities that meet the interests and needs of all Qataris. The NDS sets a specific goal of creating an organizational model for developing Qatar's technical education and vocational training and building capacities.

The Qatar energy and industry sector devotes significant time and resources towards the QNV and NDS goals and to maintaining a highly skilled and well trained workforce. Investing in training can lead to improved productivity, greater efficiency, and innovation. It is also a central component in ensuring high standards of safety are maintained.

Sector Performance

This year, 26 companies reported a total of 1,087,027 hours of employee training and an average of 35.17 hours of training per full-time employee. Although training rates vary according to levels of employment, role, need and nationality, this equates to an average of approximately one full week of training per employee per year.

Of the 24 companies that provided comparable data on training hours per employee for 2011 and 2012, 15 reported an increase, which is six more companies than in 2011. The total number of training hours delivered in 2012 declined by 14,856, representing an average of 1 hour less per employee.

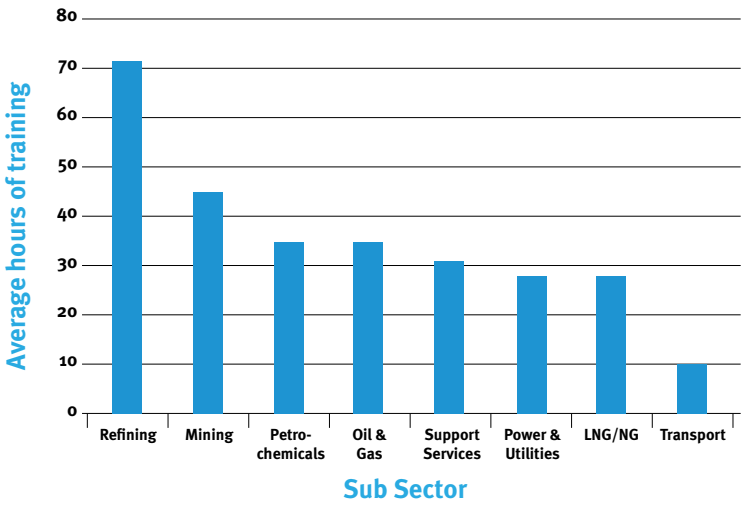
Average hours of training per employee by subsector ranges from 9 hours to 72 hours. Standardisation of measurement is a concern that will be addressed in future years of reporting.

Employee Training Hours	2010	2011	2012
Number of companies reporting	18	25	26
Percentage of companies reporting (%)*	51%	71%	74%
Total number of training hours provided	670,667	1,099,505	1,087,027
Hours of training per employee	41.21	37.27	35.17
Total number of training hours provided for 24 comparable companies	-	1,092,602	1,077,746
Hours of training per employee for 24 comparable companies		37.28	36.20
Percentage change for 24 comparable companies			-2.9%

**35 companies were invited to report on this indicator*

"Companies offers online training in technical and soft skills. The courses give employees the flexibility to set the pace of their development and learn valuable professional skills."

Average hours of training per employee per year by subsector in 2012



Case Studies

QAFCO implements a Succession Plan, Training and Development policies, and offers an attractive assortment of benefits to staff. QAFCO increased their employee training budget by %46 in 2012.

Several companies focus on helping employees develop soft skills. Qatargas' Soft Skill programme offers online training in technical and soft skills. The courses give employees the flexibility to set the pace of their development and learn valuable professional skills.

Ras Laffan Power Company facilitates informal knowledge and technical skill sharing among staff during night shifts.

"Companies use a combination of skills assessment courses, supported by training and development opportunities that address skills needs."

QP and the College of North Atlantic-Qatar (CNA-Q) continue to work together to provide QP staff with training opportunities.

Through this partnership, CNA-Q provides training and development to 916 trainees and employees from QP and its affiliates through programmes in fields such as Clerical Preparation, Engineering Technology, Business Administration, Information Technology and Lab Technician and other technical disciplines.

Oxy Qatar's training methods include self-directed online courses, a lending library, team-building sessions, open-enrolment and targeted workshops, trade conference participation, professional certifications and memberships, specialized technical training, tuition assistance, mentorships and leadership development.

Other companies use a combination of skills assessment courses, supported by training and development opportunities that address skills needs. Total Qatar hosted training for staff in 2012 with an expert scientist at the Total Research Center, Qatar. Dolphin Energy created the Professional Competencies Programme that identifies staff training needs and creates a plan for each employee to gain the skills or knowledge needed.

Through a partnership with Texas A&M, Qatar QAPCO has significantly expanded its professional development and training options. Eight staff have been able to pursue a Masters degree through this partnership. RasGas has developed a company-wide framework of Job Families and Group Development Councils which bring together groups of employees with similar job positions, requiring similar competencies. These groups help to define job specific skills and capabilities and provide a framework for sharing experience, and appraisal and development.

Welfare and Engagement

In 2012 QP recognized 1,207 employees for reaching between 10 and 35 years of service

The sector offers competitive compensation packages to attract and retain the best quality employees. Beyond financial compensation, initiatives to build employee satisfaction include recreational activities and other mechanisms to engage with employees and their dependents.

Sector Performance

One indicator for assessing employee welfare is the rate of employee satisfaction. Thirteen companies, or 37% of the total, provided information on employee satisfaction in 2012. While this shows an improvement from 2011, when only nine companies reported this information, this is still only a small percentage of all reporting companies. Of the nine companies that reported in 2012, 2011, eight reported satisfaction rates of more than 70%. The range of satisfaction rates is between 65% and 100%. Dolphin Energy, RasGas, and Maersk are among the companies that conduct an employee satisfaction survey (either annually, or every two years) in order to gauge how well they are meeting employee needs and to identify any concerns.

Companies use a number of methods to engage with their employees. QAFCO hosts an annual QAFCO Day to build staff cohesion and recognize employees' achievements. QAFAC recognizes staff who have worked with the company for five or 10 years with Long Service Awards. QP has a similar programme in which employees are recognized for having reached between 10 and 35 years of service with the company. In 2012 QP recognized 1,207 employees.

Dolphin Energy participates in an annual compensation and benefits survey that allows them to compare their total remuneration package with those of other companies in the region, to ensure they remain competitive. Dolphin also facilitates open communication with its employees through a new employee handbook and provides an E-performance appraisal system. Maersk hosts regular town hall meetings to provide an opportunity for dialogue between staff and management.

M Power has a Special Rewards for Work Excellence initiative that offers financial rewards to employees who demonstrate exceptional performance. Qatalum seeks to engage employees through their new 'Al2to3gether Magazine' - an in-house publication that provides an open forum for employees to communicate ideas and plans for the company.

Companies also run events that encourage employee engagement. Qatar Petroleum hosted, and many other companies participated in Qatar's first National Sport Day in 2012. QP had organized nearly 50 sports activities at seven locations throughout the country for the occasion. QNCC hosts an annual Ramadan tent where employees and guests can gather to celebrate the holiday. Employees at QNCC also have recreational facilities for sports or entertainment available to them on a regular basis.

Employee turnover rates provide another indicator of workforce welfare. Some companies provided this information voluntarily in 2012. The range of rates for the total workforce was from 6.9% to as low as 3.3%.

Appendix A – Participating Companies

Subsector	Companies	Abbreviated Name	MD/GM/CEO	Start Date	Products	Website
Oil and gas (Exploration and Production)	Qatar Petroleum	QP	 **Dr. Mohammed Bin Saleh Abdulla Al-Sada** Minister of Energy and Industry, Chairman & Managing Director, Qatar Petroleum	1974	Oil and gas exploration and production	www.qp.com.qa
	Gulf Drilling International Ltd	GDI	 **Mr. Ibrahim Jassim Abdulrahman Al-Othman Fakhroo** CEO	2004	Oil and gas exploration and production	www.gdi.com.qa
	Maersk Oil Qatar A/S	Maersk Oil Qatar	 **Mr. Lewis Affleck** Managing Director	1992	Oil exploration and production	www.maersk.com
	Occidental Petroleum of Qatar	OPQL	 **Mr. Stephen Kelly** President and General Manager	1994	Oil and gas exploration and production	www.oxy.com
	Qatar Petroleum Development Co. Ltd (QPD)	QPD	 **Mr. Satoru Nakanishi** General Manager	1997	Oil exploration and production	www.qpd-jp.com
	TOTAL E&P Qatar	TEPQ	 **Mr. Stéphane Michel** Managing Director Group Representative	1936	Oil and gas exploration and production	www.total.com
	Wintershall Holding GmbH Qatar	Wintershall	 **Mr. Juergen Rodefeld** General Manager	1973	Oil exploration	www.wintershall.com
Refining	ORYX GTL Ltd	ORYX GTL	 **Mr. Abdul Rahman M. Al-Suwaidi** CEO	2003	Gas-to-liquids (GTL)	www.oryxgtl.com
	Qatar Shell Service Co. WLL.	Qatar Shell	 **Mr. Wael Sawan** Executive Vice President	2002	Gas-to-liquids (GTL)	www.shell.com.qa

Subsector	Companies	Abbreviated Name	MD/GM/CEO	Start Date	Products	Website
Liquid Natural Gas/ Natural Gas	RasGas Company Limited	RasGas	 **Mr. Hamad Rashid Al-Mohannadi** Managing Director	1993	Liquefied natural gas, pipeline gas, condensate, sulphur, LPG and Helium	www.rasgas.com
	Qatargas Operating Company Ltd	Qatargas	 **Sh. Khalid Khalifa Al-Thani** CEO	1984	Liquefied natural gas, condensate and sulphur; helium and PG	www.qatargas.com
	Dolphin Energy	Dolphin	 **Mr. Adel Ahmad Al-Buainain** General Manager	1999	Natural gas	www.dolphinenergy.com
Power and Utilities	Mesaieed Power Company Ltd	M Power	 **Mr. Abdulmajeed Al-Reyahi** CEO	2007	Power generation	
	Qatar Electricity and Water Company	QEWC	 **Mr. Abdul Sattar Al Rasheed** CEO, Ras Abu Fontas Power Plant	1990	Power generation and water desalination	www.qewc.com
	Qatar Power Company	Q Power	 **Mr. Jamal Ali Al-Khalaf** Executive Managing Director	2002	Power generation	www.qatarpower.net
	Ras Girtas Power Company	RGPC	 **Mr. Faisal Obaid Al-Siddiqi** CEO	2009	Power generation and water desalination	
	Ras Laffan Power Company	RLPC	 **Mr. Mubarak Al-Nasr** Managing Director	2003	Power generation and water desalination	

Subsector	Companies	Abbreviated Name	MD/GM/CEO	Start Date	Products	Website
Petrochem-icals	Qatar Chemicals Company Ltd	Q-Chem	 **Mr. Ahmed Ibrahim Al-Emadi** General Manager	2003	Polyethylene, normal alpha olefins and ethylene	www.qchem.com.qa
	Ras Laffan Olefins Company	RLOC	General Manager	2010	Ethylene	www.rloc.com.qa
	Qatar Fertilizer Company	QAFCO	 **Mr. Khalifa Abdulla Al-Sowaidi** Vice Chairman and CEO	1969	Ammonia and urea	www.qafco.com
	Qatar Fuel Additives Company Ltd (QAFAC)	QAFAC	 **Mr. Nasser Jeham Al-Kuwari** General Manager	1991	Fuel Additives	www.qafac.com.qa
	Qatar Jet Fuel Company	QJet	 **Mr. Mohamed Khalifa Turki Al-Sobai** General Manager	1992	Jet fuel	www.qjetfuel.com
	Qatar Petrochemical Company	QAPCO	 **Dr. Mohd Yousef Al-Mulla** Vice Chairman and CEO Board Member & General Manager	1974	Low Density Polyethylene (LDPE)	www.qapco.com
	Qatofin Company Limited	QATOFIN	Vice Chairman and CEO	2000	Polyethylene	www.qatofin.com.qa
	Qatar Vinyl Company Ltd	QVC	 **Mr. Hamad Rashed Al-Nuaimi** CEO	1997	Vinyl chloride monomer, ethylene dichloride and caustic soda	www.qatarvinyl.com
	SEEF Limited	SEEF	 **Mr. Ahmed Hitmi Al-Hitmi** General Manager & Board Member	2004	Paraffin, benzene and heavy alkylate benzene (HAB)	www.seef.com.qa

Subsector	Companies	Abbreviated Name	MD/GM/CEO	Start Date	Products	Website
Mining, Minerals and Other	Qatar Aluminium Limited	QATALUM	 **Mr. Tom Petter Johansen** CEO	2007	Aluminium products	www.qatalum.com
	Qatar National Cement Company	QNCC	 **Mr. Mohd. Ali Al-Sulaity** General Manager	1965	Cement	www.qatarcement.com
	Qatar Steel Company	Qatar Steel	 **Mr. Ali Bin Hassan Al Muraikhi** Director & General Manager	1974	Steel	www.qatarsteel.com.qa
Transport Storage and Distribution	Qatar Fuel Company	WOQOD	 **Mr. Mohamed Khalifa Turki Al-Sobai** Vice Chairman & Managing Director	2002	Fuel distribution and services stations	www.woqod.com.qa
	Qatar Gas Transport Company Ltd	NAKILAT	 **Mr. Muhammad Ghannam** Managing Director	2004	Transporting liquefied natural gas	www.nakilat.com.qa
	Qatar Shipping Company	Q-Ship	 **Capt. Joseph Coutinho** CEO	1992	Shipping company	www.qship.com
Support Services	ConocoPhillips Ltd	Conoco Phillips Qatar	 **Mr. Gary Sykes** President	2003	Supporting Qatargas3 (Train 6)	www.conocophillips.com
	ExxonMobil Qatar		 **Mr. Barton Cahir** President & General Manager	1992	Supporting RasGas and Qatargas joint ventures	www.exxonmobil.com.qa
	Saipem S.p.A., Qatar	Saipem	 **Mr. Fulvio Illuminati** Saipem Qatar Branch Manager Project Director Qafco 5 & 6	1960	Oil and gas contractor	www.saipem.com

Appendix B – Case Study Reference

Health And Safety

Initiative Name	Company Name
Health	
Ras Girtas Heat Stress Management System	RGPC
Qatargas Medical Department healthy heart campaigns	Qatargas
ExxonMobil Medicine and Occupational Health (MOH)	ExxonMobil
QP Occupational Health Nursing (OHN) Scientific Seminar	QP
Personal Safety	
QP: world-class safety performance at major capital projects	QP
M Power: 'On-the-Spot Reporting'	M Power
HSE Excellence: the Qatargas Jetty Boil Off Gas Project	Qatargas
Process Safety	
Workshop on radiation safety	QP
Qatargas Process Safety Programme (QG-PSP)	Qatargas
Partnership with Texas A&M University at Qatar to established a national platform for	
industrial process safety	ConocoPhillips
Emergency Response Preparedness	
MIC's "Emergency Management System"	MIC
Qatargas: Pre-Incident Plans	Dolphin Energy
Site Emergency Control Centres, Emergency Management Centres, as well as other Emergency Centres	Qatargas
QP Dukhan: emergency response drill	QP
QP's Emergency Preparedness and Disease Control Unit	QP
Workforce engagement on health and safety	
RasGas Safety Leadership Programme	RasGas
Conoco Phillips and HMC awareness campaign	Conoco Phillips
Ras Girtas Power Company: "Fresh Eyes"	RGPC

The Environment

Initiative Name	Company Name
Water	
Application of Membrane Distillation for Desalting Rejected Brines from Thermal Desalination	ConocoPhillips
Multi-effect Distillation (MED) Technologies	RGPC
Water Saving Awareness Program	Saipem
Zero Liquid Discharge Project	Ras Laffan Power Company (RLPC)
Wastewater Treatment and Reuse	Saipem
Wastewater treatment system for its operations in Qatar	Dolphin Energy
Grey water landscaping system	QAPCO
Re-use waste water from the plant: Clean Development Mechanism Project	Ras Laffan Power Company (RLPC)
Water Research Program	ExxonMobil
Use of Membrane Bio Reactor (MBR)	Qatargas
Spills	
Oil Spill Emergency Response Department	
Quality Objectives	QP
Oil Spills Automatic System	OXY

Waste	
Waste Limitation and Segregation Principles	Saipem
Recycling Programme	Qatalum
Online System to Reduce Paper Work	QAFCO
3Rs Programme	QAFCO
Waste Exchange Donation System (WEDS)	QAFCO
Selling Waste of Carbon Powder and Grade-A Scrap as Input Materials for Qatar Steel	Qatalum
Chromium Based Catalyst Recycling	Q-Chem
E –Waste Recycling Project	RLPC
Air Emissions	
Leak Detection & Repair (LDAR)	Qatar Gas
De-NOx Technology	QAFCO
Selective Catalytic Reduction (SCR) Technology	QAFCO
TOTAL Research Centre-Qatar (TRC-Q)	Total E&P Qatar
Fugitive Emissions Monitoring Programme	Dolphin Energy
Sulphur Recovery Unit (SRU)	QAPCO
Biodiversity	
Coral Habitat Conservation and Turtle Protection Programmes	Dolphin Energy
Researching the Marine Environment	Maersk Oil
Preservation/ Conservation – Al Besheriya Island	QAFCO
Coral Relocation Project Monitoring and Assessment Project	Qatargas
Coral Protection	RasGas
Marine mammals and sea turtles Observation Programme	RasGas
Establishing Entomological Inventory of the Insects of Qatar	Total

Climate Change and Energy

Initiative Name	Company Name
GHG Emissions	
Al Shaheen CDM	QP /Maersk
CDR programme	QAFAC
Sahara Forest Project	QAFCO
GHG 5 year Management Strategy	RasGas
GHG Intensity Reduction	QAPCO
Flaring	
Flare reduction award, GGFR	Qatargas
Flaring minimization strategy	RasGas
Zero Flaring Initiative	QPD
Alternative Energy	
Polysilicon production facility for PV solar	QSTec
Nebras Power Energy Venture	QEWC, QPI, Qatar Holding
200 MW Solar Park	Kahramaa
Solar Test Facility	Qatar Science and Technology Park

The Economy

Initiative Name	Company Name
Sector Production and Expansion	
Carbonates Acid Stimulation Project	QP and Total
Laffan Refinery 2 Project	Qatar Petroleum
Economic Diversification	
Ras Laffan Mega-petrochemical Complex	QAPCO and QP
Supporting Local Economic Development	
The e-Registration Program	Dolphin Energy
Preferential terms of evaluation for local vendors	Maersk Oil Qatar
Strategic Procurement Forum Initiative	QAPCO

Society

Initiative Name	Company Name
EDUCATION CITY (EC) Master Planning	Qatar Foundation and QP
The Ras Laffan Community Outreach Programme (RLIC-COP)	Qatar Petroleum, Qatargas, RasGas, Qatar Shell, Dolphin Energy Limited, Oryx GTL, and Al Khaleej Gas
The Northern Community Skills Development Project	RasGas
Qatar Sustainability Expo	Whole sector

Workforce

Initiative Name	Company Name
Qatarization	
Mentor Programme	Oxy
Corporate Training Center	Qatar Petroleum
Quality in Qatarization	QVC
Qatar Career Fair	Whole sector
Committee on Education and Attraction	Maersk Oil Qatar
Petrotech 2012 (sent students to participate)	Qatar Petroleum
Summer Internship Programme	RasGas
Internship Programme	Qatargas
Young Future Energy Leaders Programme	Dolphin Energy
LEAD Development Programme	QAPCO
Qatari Development Counsellor	Oxy
Marine Cadet initiative	Nakilat
Professional Development Programme	Qatalum
Qatar University project, 'Life is Engineering'	Dolphin Energy, RasGas and Maersk

Diversity	
EMRA'A Qatar's' Professional Women's Network	Exxon Mobil
Computer Literacy Program for Women	ORYX GTL
Qatargas Internship Program	Qatargas
Women Empowerment in the Remote Areas of Qatar	Exxon Mobil
Empowering Young Girls	Exxon Mobil
2012 Qatar Business Women Forum	Exxon Mobil
Computer Literacy Programme For Women	ORYX GTL
Training Opportunities For Young Qatari Female Graduates	SEEF
Training and Development	
Soft Skills Programme	Qatar Gas
Training with an Expert	TOTAL
Job Families and Group Development Councils	Ras Gas
Informal Knowledge and Technical Skill Sharing	RLPC
College of North Atlantic-Qatar Partnership	Qatar Petroleum
Professional Competencies Programme	Dolphin Energy
Training Program with Texas A&M	QAPCO
Engagement	
QAFCO Day	QAFCO
Al2to3gether Magazine	Qatalum
Ramadan Tent	QNCC
Long Service Awards	QAFAC
New Employee Handbook	Dolphin Energy
E-Appraisal System	Dolphin Energy
Town Hall Meetings	Maersk
Special Rewards for Work Excellence	M Power
National Sport Day in 2012	Qatar Petroleum

Contribution of Qatar Petroleum to Sustainable Development

Qatar Petroleum (QP) is contributing towards each of the pillars of the Qatar National Vision 2030 by integrating human, economic, environmental and social aspects into the business decision making process. Through implementation of its sustainability strategy, QP aims to apply sustainable development principles to continue economic development while protecting the environment and providing a better quality of life for the people of Qatar.

Human Resources

- Five-year Strategic Qatarization Plan to maximize employment of Qatari nationals, preparing them through training and work experience to expand their skills and optimize their contribution to QP and society at large
- QP provides its employees and their eligible dependants with primary and specialist medical care and sports facilities.

Economy

- Revenues of over UDS 39 billion are driving economic growth
- Developed a mixed land use plan for Ras Laffan Industrial City, with anticipated developments (infrastructure, support and service uses, and other ancillary facilities) over the next 20 years
- Developed Ras Laffan Port with control tower, navigational aids, logistics and berthing facilities

Social pillar

- Renovated Al Afjah Heritage Village by restoring the buildings using traditional construction methods and providing attractive landscaping and lighting.
- Implementing the Mesaieed Industrial City master plan which includes development of a medical center, housing, community park, schools and cultural center.
- Over USD 5 million invested in direct community engagement projects in health, education, sports, science and technology, and the environment.

Environment and nature conservation

- Clear environmental monitoring and reporting procedure (monitoring of ambient air, noise, sea water, ballast water and ground water) to ensure that facilities are operating within the limits set by the Ministry of Environment. Plan in place for waste management, recycling / disposal facility at Mesaieed Industrial City.
- Replaced all existing ground flares with smokeless elevated flares at all degassing stations, and installation of air quality monitoring stations in Dukhan.
- Committed to terrestrial and marine fauna and flora preservation (Al Reem biosphere reserve and the Ostrich, mangrove conservation projects) and the planting of salt tolerant species of flowering plants, trees and shrubs to enhance the habitat for 80 mountain goats and 38 species of birds in Halul area

Appendix C - SDIR Indicators

The SDIR Programme measures are organised around the six main pillars of the SDIR framework. The number of indicators has increased from 31 to 33 in 2012. All participating companies are asked to report back on all of these indicators as a minimum for their sustainability reports.

Elements	Indicator	Unit	Page Number
Health and Safety	Employee fatalities	Number	45
	Contractor fatalities	Number	45
	Employee lost time injury rate	Per 1 Mn m-h	46-47
	Contractor lost time injury rate	Per 1 Mn m-h	47-48
	Employee total reportable injury rate	Per 1 Mn m-h	48-49
	Contractor total reportable injury rate	Per 1 Mn m-h	49-50
	Employee occupational illness rate	Per 1 Mn m-h	40-41
	Loss of containment (LOC) incidents	Number	51-52
	Emergency response drills	Number	56
	Incident investigation completion	%	52-53
The Environment	Total water consumed	Million m3	65-66
	SOx produced	Tonnes	77-78
	NOx produced	Tonnes	75-76
	Significant oil spills (> one barrel)	Number	68-69
	Volume of spills	Litres	68-69
	Total waste generated	Tonnes	71-72
	Waste recycled	%	72-73
Climate Change and Energy	Total GHG emissions (direct and indirect)	Tonnes Co_2e	91-92
	Total energy used (direct and indirect)	GJ	98-100
	Total flaring	MMSCM	95-96
	Total natural gas used	Million m3	101-102
	Companies with active climate change strategies	Number	-
Economic Performance	Revenues	USD	110-111
	Production	Million tonnes	113
	Goods and services sourced locally	%	118
	Number of jobs created	Number	119
Social	Total social investment budget	USD	124
	Corruption or human rights incidents	Number	131
Workforce	Workforce size	Number	136-137
	Qatarization	%	138-139
	Female employment	%	142-143
	Employee satisfaction	%	148
	Average training provided per employee	Hours	144-145

Appendix D - GRI and IPIECA Alignment

The SDIR 2010 Reporting Guidelines also encourage application of the IPIECA Guidance and GRI Guidelines (G4, G3.1 and OGSS). A number of companies have indexed their reports against these international reporting guides. In this table we also show how the sector sustainability report aligns with IPIECA and GRI indicators.

Elements	Topics	Page Number	IPIECA Indicator	GRI
Health and Safety	Health	38 - 44	HS2	LA7, LA8
	Personal safety	45 - 50	HS3	LA7
	Process safety	51 - 53	HS5	SO9, SO10, PR1, OG13
	Emergency response preparedness	54 - 56	EN8	SO9, SO10, PR1
	Product safety	58	HS4	PR1, PR3
	Engagement on health and safety	57 - 58	HS1	LA6, LA8
The Environment	Water management	64 - 67	E6, E9	EN8, EN9, EN10, EN21
	Spills	68 - 69	E8	EN23
	Waste management	70 - 73	E10	EN2, EN22
	Air emissions	74 - 79	E7	EN19, EN20
	Biodiversity	80 - 82	E5	EN12, EN13, EN14
Climate Change and Energy	Sector GHG emissions	89 - 93	E1	EN16, EN17, EN18
	Flaring	94 - 96	E4	EN16, EN18, OG6
	Energy use and efficiency	97 - 100	E2	EN3, EN4, EN5, EN6, EN7
	Natural gas consumption	101 - 102	E2	EN3
	Investment in alternate energy	103 - 104	E3	EC2, EN7, EN6, EN18
Economic Performance	Contribution to national GDP	109 - 111	SE5	EC1, EC9
	Sector production and expansion	112 - 115	-	EC9, OG1
	Economic diversification	116 - 117	-	EC9
	Direct local economic development	118 - 119	SE1, SE7	EC6, EC7, EC9
Social	Direct investment in society	123 - 129	SE1, SE4	SO1, EC8, EC1
	Business ethics	130 - 131	SE8, SE9, SE11, SE12	HR2, HR10, HR11, SO2
Workforce	Workforce overview	136 - 137	SE15	LA1
	Qatarization	138 - 141	SE6	EC7, EC9
	Diversity and inclusion	142 - 144	SE15	LA13
	Training and development	145 - 147	SE17	LA10, LA11
	Welfare and engagement	148	SE16	LA2, LA6, LA9, EC3

GRI Key

EC – Economic
EN – Environment
LA – Labour
HR – Human rights
SO – Society
PR – Product responsibility
OG – Oil and gas specific

IPIECA Key

E – Environmental
HS – Health and Safety
SE – Social and economic

Appendix E - Acronyms, Glossary and References

Acronyms

CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
CDR	Carbon Dioxide Recovery
CEO	Chief Executive Officer
COP	Conference of Parties
CO_2e	Carbon Dioxide Equivalent
CMP	Parties to the Kyoto Protocol
CTO	Consent To Operate
DG	HSE Regulations and Enforcement Directorate
DPSA	Development and Production Sharing Agreements
EIA	Environmental Impact Assessment
EMS	Environmental Management System
EPSA	Exploration and Production Sharing Agreements
E&P	Exploration and Production
GCC	Gulf Cooperation Council
GJ	Gigajoule
GDP	Gross Domestic Product
GGFR	Global Gas Flaring Partnership
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
GSDP	General Secretariat for Development and Planning
GTL	Gas-to-Liquids
HSE	Health, Safety, and Environment
IOC	International Oil Company
IPCC	Intergovernmental Panel on Climate Change
IQ	Industries Qatar
kWh	Kilowatt hour
KPI	Key Performance Indicator
LNG	Liquefied Natural Gas
LOC	Loss of Containment
LTI	Lost Time Injury
LTIR	Lost Time Injury Rate

MAP	Mutual Aid Plan
MDG	Millennium Development Goals
MIC	Mesaieed Industrial City
MMSCM	Million Metric Standard Cubic Meters
MoE	Ministry of Environment
MoL	Ministry of Labour
m^3	Cubic meter
NCCC	National Climate Change Committee
NDS	National Development Strategy
NG	Natural Gas
NOx	Nitrogen Oxides
OECD	Organisation for Economic Co-operation and Development
QAR	Qatari Riyal
QP	Qatar Petroleum
QMS	Quality Management System
QNV	Qatar National Vision
RLIC	Ras Laffan Industrial City
SCH	Supreme Council of Health
SD	Sustainable Development
SDIR	Sustainable Development Industry Reporting Programme
SMS	Sustainability Management Systems
SOx	Sulphur Oxides
TRIR	Total Reportable Injury Rate
UAE	United Arab Emirates
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
VOC	Volatile Organic Compound

Glossary

Climate Change:
A significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years.

Corporate Governance:
The system by which companies are directed and controlled. It involves regulatory and market mechanisms, and the roles and relationships between a company's management, its board, its shareholders and other stakeholders, and the goals for which the corporation is governed.

Global Reporting Initiative (GRI):
A network-based organisation that produces a comprehensive sustainability reporting framework widely used around the world with the aim of the mainstreaming of disclosure on environmental, social and governance performance.

Greenhouse Gas Emissions:
Gas emissions, which contribute to the trapping of heat inside the atmosphere (resulting in the Global Warming phenomenon).

Gulf Cooperation Council (GCC):
A political and economic union of the Arab states bordering the Arabian Gulf and located on or near the Arabian Peninsula, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates.

IPIECA:
IPIECA is the global oil and gas industry association for environmental and social issues.

Qatarization:
An initiative by the government of the Qatar to increase the number of Qatari nationals in all joint venture industries and government departments.

Qatar National Vision 2030:
A long term national vision built on the guiding principles of Qatar's Permanent Constitution. It reflects the aspirations of the Qatari people and the resolve of their political leadership. It envisages a vibrant and prosperous country in which there is economic and social justice for all, and in which nature and man are in harmony.

Sustainability:
A state in which the current generation can meet their needs without comprising the ability of future generations to meet their own.

Sustainability management:
The integrated management of economic, social and environmental issues in a manner that maximizes value for all stakeholders.

Sustainability report:
An organisational report that gives information about economic, environmental, social and governance performance.

References

1. www.oecd.org/daf/ca/oecdprinciplesofcorporategovernance.htm
2. www.oecd.org/daf/ca/oecdguidelinesoncorporategovernanceofstate-ownedenterprises.htm
3. Water Stress Index, Maplecroft, 2011.
4. Qatar, Leaving a Legacy for Future Generation: Progress, Challenges and Responses to Sustainable Development, 2012, Page 32
5. Qatar National Development Strategy 2011-2016, page. 224
6. Qatar National Development Strategy 2011-2016, page. 225
7. Qatar National Development Strategy 2011-2016, page. 225
8. World Bank. "Economics of Adaptation to Climate Change" June 2011. www.worldbank.org/en/news/feature/2011/06/06/economics-adaptation-climate-change
9. World Bank. Ed. Dorte Verner. "MENA Development Report: Adaptation to a Changing Climate in the Arab Countries" December 2012. documents.worldbank.org/curated/en/2012/12/16919380/adaptation-changing-climate-arab-countries-case-adaptation-governance-leadership-building-climate-resilience
10. COP 18: Qatar : A Country at a Crossroad. www.cop18.qa/Portals/0/QATAR_RAND_V5_261112.pdf. Page 14
11. COP 18: Qatar : A Country at a Crossroad. www.cop18.qa/Portals/0/QATAR_RAND_V5_261112.pdf. Page 11, data from the Environment Sector Strategy 2011-2016
12. Qatar Energy and Industry Sector Environmental Initiatives Brochure
13. RasGas 2011 Sustainability Report. www.rasgas.com/Files/RG_SR11.pdf
14. Qatar Leaving a Legacy, page 37
15. U.S. Energy Information Administration (EIA) www.eia.gov/energyexplained/index.cfm?page=natural_gas_environment
16. U.S. Energy Information Administration (EIA), International Energy Outlook 2011 www.eia.gov/forecasts/ieo/more_highlights.cfm#world
17. www.qewc.com/qewc/en/index.php/board-of-directors/77-gulf-times/128-1bn-firm-to-invest-in-energy-ventures
18. www.chevron.com/documents/pdf/STF_Fact_Sheet.pdf
19. www.km.com.qa/en/corporate/mediacenter/news/Pages/QSTECANDKAHRAMAASIGNMOU.aspx
20. Sources: QNV – Qatar Economic Insight 2013
21. QNB – Qatar Economic Insight 2013 Report, page 14
22. Qatar Statistics Authority. www.qix.gov.qa/portal/page/portal/qix/subject_area/Statistics?subject_area=183

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