

**Adding Value Beyond Expectations**



شركة قطر للاضافات البترولية المحدودة  
Qatar Fuel Additives Company Limited

# 2014 SUSTAINABILITY REPORT

[www.qafac.com.qa](http://www.qafac.com.qa)



His Highness  
**Sheikh Hamad Bin Khalifa Al-Thani**  
The Father Emir



His Highness  
**Sheikh Tamim Bin Hamad Al-Thani**  
The Emir of State of Qatar

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## About This Report

This is QAFAC's fourth annual Sustainability Report. It focuses on identifying, understanding and addressing the most important issues to our stakeholders, while highlighting our sustainability commitments, strategies and insights.

This report is 'In Accordance' with the GRI G4 Guidelines - Core option. The GRI is a multi-stakeholder initiative with widespread credibility that provides a framework for companies to report on their sustainability performance. QAFAC has successfully gone through the Materiality Disclosures Service from GRI as part of our commitment to reporting excellence.

Based on the experience of receiving third party assurance for the Sustainability Report 2013, QAFAC does not find considerable additional value based on the assurance process that has been performed. In the future, however, the company will be keen to reconsider a possibility of engaging third party assurance depending on the methodology that will be offered for the assurance process.

We look forward to your feedback on the information and insights presented in this report. Please contact us via:

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# 2014 Success Stories

- Successful, on budget, and ahead of time completion of the 2014 turnaround while achieving new sustainability records



Completion and successful operation of the **Carbon Dioxide Recovery (CDR) Plant** - one of the world's largest commercial-scale carbon dioxide capture facilities. CDR Plant will absorb

**500 tonnes of carbon dioxide per day**, which will result not only in CO<sub>2</sub> emission reduction into the atmosphere, but will increase production of methanol by

**300 tonnes per day.**



Completion of **6.5 million man-hours** without any lost time accidents (LTA) for employees and contractors.



Use of an **Isothermal Methanol Convertor (IMC)** that brings several benefits to QAFAC operations including increasing production capacity by an additional

**92 tonnes per day.**

- Efficient and reliable migration of Distributed Control Systems (DCS) which helps QAFAC to:



Improve automation across the plant,



Increase cyber security,



Enhance operator effectiveness.

- Good financial results: 34% profit increase after tax relative to the budget.
- The first year of QAFAC's Operational Excellence Program helped us to achieve immediate efficiency gains:

- A focus on workforce and social responsibility:



**10%** reduction in total energy consumption



**2%** reduction in GHG emissions



**1%** reduction in flaring despite 60 day shut-down - this was achieved mainly because of the successful start-up of plants after the shut-down



**19%** reduction in water discharge to the sea



**44%** reduction in water discharge other than sea



**9%** reduction in SOx emissions

**8%** reduction in NOx emissions



**124%** increase in social investment spending



**27%** Qatarization  
an increase of **20%**



**7%** increase in total hours of training



The establishment of a **talent management section**

to address how to attract, retain and develop talent as well as the important issue of succession planning.



## Chairman's Foreword

■ **With this fourth Sustainability Report, QAFAC is proud to share the latest milestones on its sustainability journey.**

With this fourth Sustainability Report, QAFAC is proud to share the latest milestone on its sustainability journey.

Our stated ambition is to become one of the world's top five producers of methanol and its high value derivatives by 2020, but not at any cost. We are committed to an approach that will allow us to maintain production growth and operational excellence while continually making our operations safer and more resource efficient. Successful installation of the world's largest commercial-scale Carbon Dioxide Recovery plant has allowed recovery of the greenhouse gas CO<sub>2</sub> and its utilization in our methanol production process. Replacing the Axial Radial Converter with an Isothermal Methanol Converter has also increased production and significantly reduced environmental impact. The Operational Excellence Management System has shown a substantial increase in production efficiency while minimizing environmental impact during its first year of implementation.

Succeeding in Sustainability Leadership is an underlying goal of our vision. Consequently, QAFAC's activities are focused on maximizing the value of its products, implementing primary reliability and safety of its operations, providing exemplary care for the environment, taking care of its workforce's development and satisfaction, and playing a noticeable role in the development of Qatari society. All these areas are important for us; however the current level of effort assigned to each area depends on the urgency or relative weakness of a given area.

2014 has marked particular accomplishments in operational, environmental and workforce development areas. Our personnel safety performance has achieved yet another record of zero Loss Time Accidents for the past 6.5 million man-hours. This is despite the challenges presented by the very complex maintenance process at our operational facilities, as well as our business going through the final stage of several large-scale projects.

QAFAC continues to follow the Sustainability Strategy adopted in 2013, in line with Qatar's National Vision 2030 and Qatar's National Development Strategy 2011-2016. With this report, we present milestones reached on the way to Sustainability Leadership, the challenges that QAFAC has faced in 2014, and the solutions we have undertaken to overcome those difficulties.

We are pleased to demonstrate accountability of our operations and activities to our stakeholders and the general public. We are proud to show how our continuous improvement process is adding sustainable value beyond expectations. ■

My sincerest regards,  
**Hamad Rashid Al-Mohannadi**  
 Board of Directors' Chairman

## Chief Executive Officer's (CEO) Foreword

2014 has been a challenging year for QAFAC, both in economic and operational terms. The sudden drop in oil prices on the international market affected all players in industries directly and indirectly related to oil production and use. However, we decided to view this as an opportunity to increase operational efficiency by reducing costs, saving energy and reducing greenhouse gas (GHG) emissions into the atmosphere. Such hurdles in international economic affairs encourage us to enhance our business management practices in order to ensure solid business performance under any circumstances. With this aim, we worked closely with our partners and technology providers and, in the spirit of sharing knowledge, we maintained close dialogue with forums and associations within our sector.

Adaptability to external impacts has been accompanied by the development of a system of preventive measures and responses to operational risks inside the company. In order to ensure reliable and safe operations, QAFAC follows best practices recommended by the International Organization for Standardization (ISO). This helps in safeguarding business continuity processes in case of operational interruptions, and establishing Enterprise Risk Management to monitor and mitigate potential risks. This way we maintain adherence to the Operational Excellence principle of optimized use of resources, while

enhancing safety practices – the cornerstone of our Sustainability Framework. In 2014, we reached over 6.5 million man-hours without a Lost Time Accident affecting either employees or contractors, despite going through a very complex turnaround process that affected thousands of additional personnel.

The internal system of risk prevention and response to all components of our Sustainability Framework is automatically managed via the most up-to-date IT practices. We implemented 17 SAP modules to give us more tools, operate more efficiently, and be more organized and more accurate. QAFAC is the only energy and industry company in Qatar to adopt some parts of this system, such as the SAP EHS Module with Environmental Compliance.

At QAFAC, we accept the challenges inherent in our efforts towards Sustainability Leadership and this goal is critical in guiding the development of major projects. 2014 has been exceptional in terms of technological achievements – the largest shut-down for maintenance since the start of QAFAC operations 16 years ago was achieved ahead of time. At the same time, we achieved the tie-in of the Carbon Dioxide Recovery plant and the revamp of the Isothermal Methanol Converter. Together, these developments will reduce energy intensity by one GJ/tonne of

methanol and CO<sub>2</sub> emissions by 500 tonnes per day. Other large-scale projects, such as the replacement of distributed control systems, revamp of the entire fire and gas system, and revamp of the control room seating area have further improved the safety of our operational processes.

Due to QAFAC's considerable operational history and low turnover rate, we need to address the challenge of an aging workforce. Consequently, we have established a talent management department that launched a new initiative called "Gadan" or "Tomorrow". This will help us to achieve better succession planning and knowledge transfer through a two-year program.

With this fourth Sustainability Report in our history, we are glad to share all the achievements and challenges faced by QAFAC in 2014 on our way to reaching our Sustainability Leadership goal with our stakeholders. ■

My sincerest regards,  
**Nasser Jeham Al-Kuwari**  
 Chief Executive Officer

# About QAFAC

## Vision

To be amongst the top five producers of methanol, its high value derivatives and butane sub-products by 2020.

## Mission

To be an international producer of methanol, its high value derivatives, and butane sub-products in a safe, sustainable and environmentally friendly manner, thereby contributing to the economic development of Qatar and maximizing shareholders' value.

## Corporate Profile

Qatar Fuel Additives Company (QAFAC) was established as a joint venture between Industries Qatar, OPIC Middle East Corporation, International Octane LLC and LCY Middle East Corp. in 1991. [G4-17] The company commenced operations in 1999.

QAFAC was established because of Qatar's strategic plan to diversify its economy by laying the foundation for the production of hydrocarbon based value added products.

### QAFAC produces two main products:

- Methanol from natural gas supplied by Qatar Petroleum (QP).
- MTBE (methyl tertiary-butyl ether) by processing butane, also provided by QP, and methanol produced by the on-site plant.

## Our Shareholders



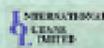
### Industries Qatar (IQ)

IQ is a limited liability company registered and incorporated in the State of Qatar as a Qatari Shareholding Company (Q.S.C). Qatar Petroleum (QP) transferred all its shares in QAFAC to IQ in 2003.



### OPIC Middle East Corporation (OPEC)

OPEC is a wholly owned subsidiary of the Overseas Petroleum and Investment Corporation (OPIC), which in turn is beneficially owned by the Chinese Petroleum Corporation (CPC) of Taiwan.



### International Octane LLC (IO LLC)

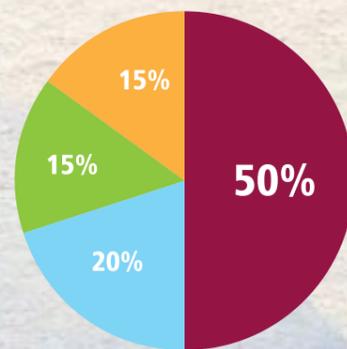
IO LLC is part of the DUTCO Group of Companies that has interests in civil engineering, manufacturing, hotels, real estate and other fields both within the UAE and globally.



### LCY Middle East Corp. (LCYMEC)

LCYMEC is the wholly owned subsidiary of LCY Investments Corp. (LCY) that in turn is the wholly owned subsidiary of the Lee Chang Yung Group of Taiwan, one of the major suppliers of petrochemical products.

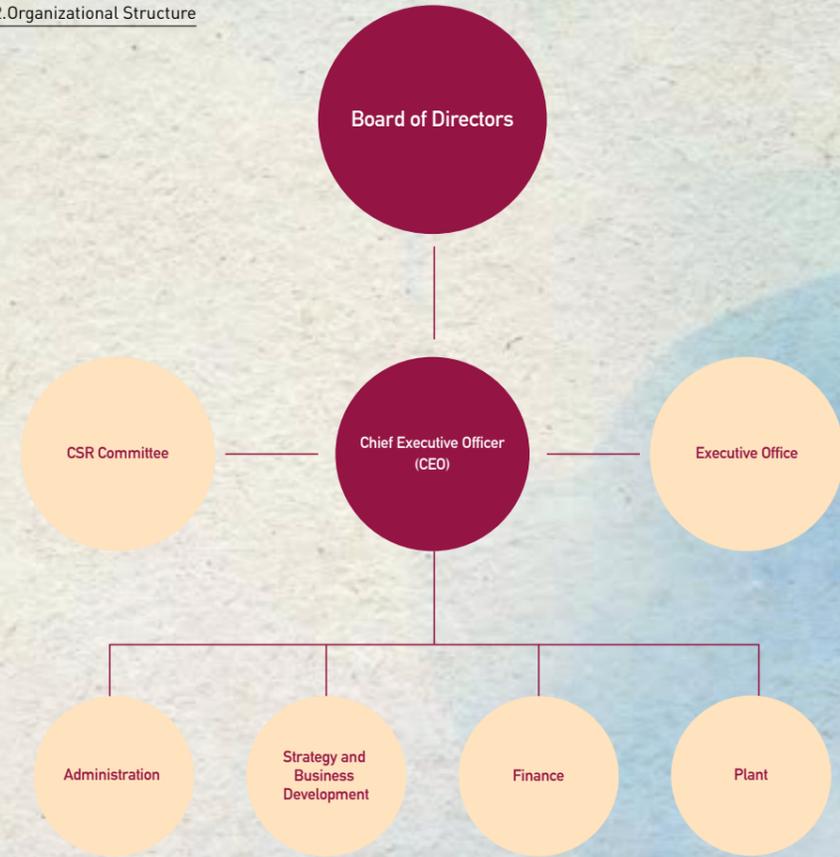
Figure 1. Shareholders' structure



- Industries Qatar 50%
- International Octane LLC 15%
- LCY Investments Corp. 15%
- Chinese Petroleum Corp 20%

## Organizational Structure

Figure 2. Organizational Structure



## Governance

QAFAC fosters an open corporate climate to ensure that the relationships between the Board of Directors, Management Team, shareholders and stakeholders are transparent and accountable. This is achieved through QAFAC's strong ethics base, Board of Directors and the integrated and advanced management systems.

QAFAC's Board of Directors is the highest governance body at QAFAC and consists of 8 members. QAFAC's shareholders nominate board members, and QAFAC has no direct involvement in the vetting or selection of Board members. QAFAC does not evaluate the Board on their performance.

At QAFAC, sustainability is the overarching umbrella and strategic approach as it manages the environmental, economic and social performance of the company. Therefore, sustainability is being managed at the highest governance level at QAFAC, via the Board and its committees. Our Chief Executive Officer (CEO) has direct oversight of the CSR Committee and the Executive Office.

### Ethics, compliance and anti-corruption

QAFAC has a strong code of ethics that shapes the way the company does business and ensures that the highest ethical values are upheld. QAFAC requires that all employees act in accordance with the guidelines on professional behaviour contained in the Code of Ethical Conduct.

This Code helps to eliminate the incidence of corruption, bribery or other misconduct, which are strictly prohibited by the company. QAFAC also recognises that ethical conduct and auditing of business operations are necessary to reduce our incidence of risk and make business more sustainable. QAFAC's Internal Audit Division is responsible for ensuring that QAFAC is in compliance with all laws and regulations. In 2014, QAFAC experienced zero (0) incidents of corruption or ethical misconduct.

In addition, QAFAC has a Conflict of Interest Policy in place to avoid conflicts between personal interests and those of the company. Each member of the Board files a Conflict-of-Interest Statement annually and, as with all employees, must declare any conflicts of interest as they arise.

# Toward Sustainability Leadership

One of the basic premises of leadership is to have a purpose and create the necessary structures to achieve that purpose. To become leaders in sustainability, we have worked hard to develop clear directional tools to know where we are going and identify how we can get there. These tools include our Corporate Strategy and Strategy Map, our Sustainability Framework and Policy, as well as our ongoing stakeholder and materiality analysis.

We are especially proud that our initiative in reporting our achievements and challenges on the way to sustainability has been recognized on a national level. In 2014 QAFAC received an award for its 2013 Sustainability Report in the category of "Excellence in Socio-Economic Contribution & CSR Activity", performed in the framework of the QEISS initiative. The award was given by H.E. Dr. Mohammed Bin Saleh Al-Sada, the Minister of Energy & Industry and Chairman of Qatar Petroleum.

## QAFAC's Corporate Strategy

Our approach to Sustainability Leadership needs to start with our Corporate Strategy and we are proud that sustainability is already at the core of our ambitions and strategies. QAFAC doesn't only want to become one of the top five methanol producers in the world, we want to do it while carrying out operations that are safe, sustainable and environmentally friendly, and that contribute to the economic development of the State of Qatar.

### Strategy Map

The Strategy Map, which we originally launched in 2012 and subsequently updated, helps us to navigate toward achieving our ambition. The Strategy Map identifies three pillars for QAFAC to realize its vision and mission. These pillars aim to balance the economic, social and environmental goals of an organization aiming for Sustainability Leadership:

- **Operational Excellence:** Increase profitability through excelling at current operational processes,
- **Growth:** Generate production growth by expanding the current operational capacity,
- **Value For All Our Stakeholders:** Contribute to the interests of social stakeholders and the environment.

For each pillar we identified our organizational strengths or 'enablers' which, together with the implementation of key internal processes and stakeholder interactions, will produce outcomes that take us in the direction of our strategic goals.

The Strategy will be implemented with the aid of a proactive enterprise risk management system that will keep us on track to achieve our goals.



## QAFAC Strategy Map

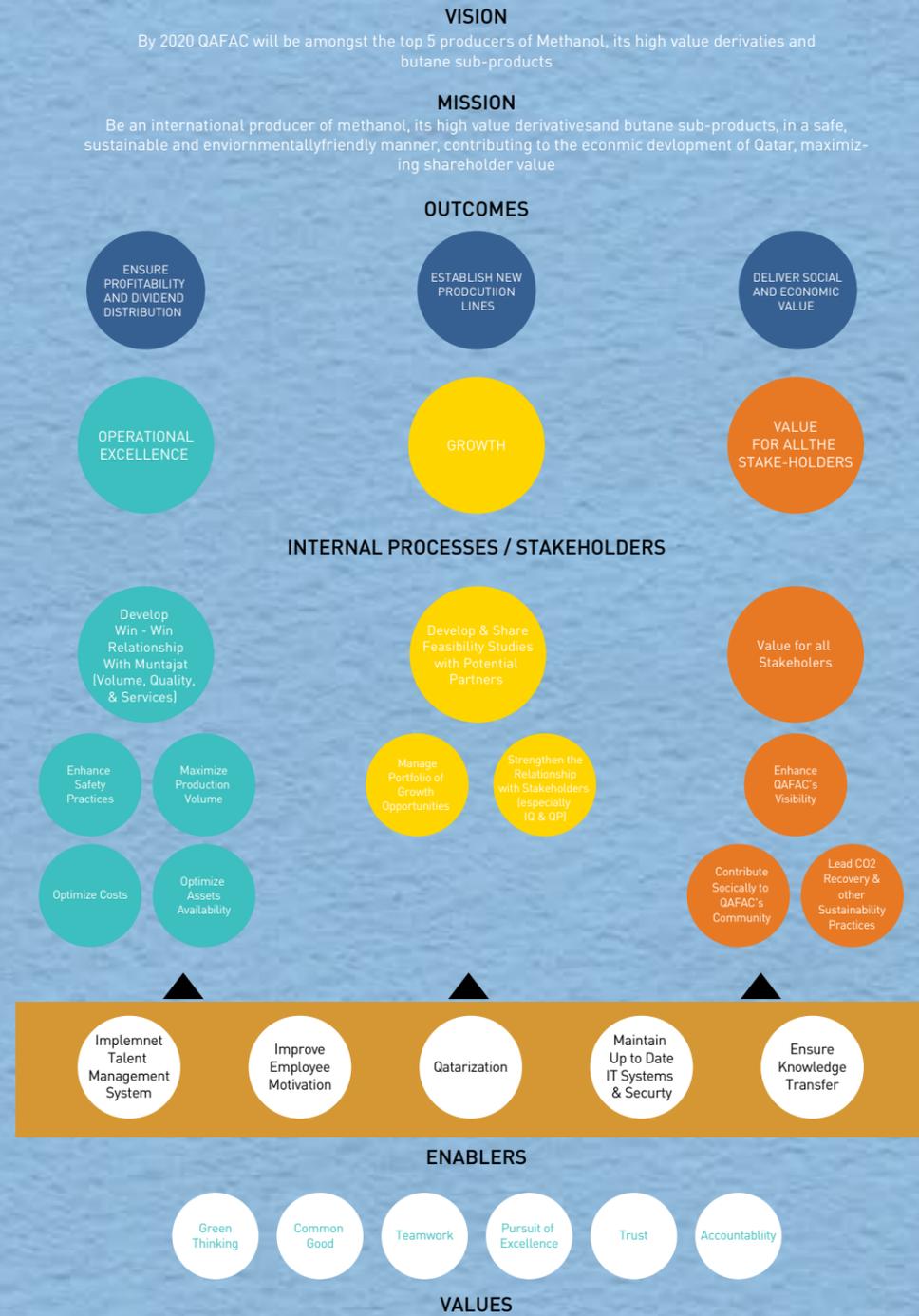


Figure 3. QAFAC Strategy Map

Our Strategy Map reminds us of the economic, social and environmental balance we want to achieve in our pursuit of excellence, growth and value for all our stakeholders.

Development of the strategy is based on the interests of all stakeholders involved in the sustainable performance of the company, and identified in the Stakeholder's Map. The Strategy is implemented with the aid of a proactive risk management system executed through an enterprise risk management initiative that serves the goal of achieving operational excellence.

## Tracking Progress on our Main Targets

SD Elements and Issues	2013-2017 Targets	2014 Targets	Progress during 2014	2015 Targets
<b>Toward Sustainability Leadership</b>				
Sustainability Management	Improve management of QAFAC's sustainability-related material aspects through our Sustainability Policy and Sustainability Committee.	5-Year Strategy and Sustainability Policy implementation by the Sustainability Committee.	<b>Target achieved:</b> QAFAC's Sustainability Committee continued meetings during 2014 following the plant shut-down and turn around.	The committee will continue to meet and oversee the refinement of strategic goals and implementation of the Sustainability Policy.
<b>High Value Products</b>				
Maintaining Product Quality and Improving Sales	To become one of the top 5 producers of methanol and MTBE in the world.	95% of deliveries in full, on time, and within specifications.	<b>Target achieved:</b> Target achieved: Achieved actual production higher than targeted quantities with MTBE at 106.79% and methanol at 107.4% of target. Similar progress was achieved with sales.	Continue the upward trend in production and sales.
<b>Caring for the Environment</b>				
CDR Plant	Operate CDR plant to reduce total emissions.	Capture 100% of the budgeted amount of CO <sub>2</sub> from the plant.	<b>Target achieved:</b> 100% of the budgeted amount of CO <sub>2</sub> was captured by the plant.  CDR plant has been successfully tied up to the production process during the turnaround in April - May 2014. Commissioning started in July 2014.	Capture 100% of the budgeted amount of CO <sub>2</sub> from the plant and maximize the capturing using the full capacity of the CDR plant.
GHG Emissions	Formalize GHG emissions measurement.	Track and report on avoided emissions.	<b>Target achieved:</b> QAFAC formalized its GHG emissions measurement process.	QAFAC will continue to track progress in its CO <sub>2</sub> emissions and aim to reduce them by maximizing the capture by the CDR plant to 500 tonnes per day 365 days per year or 182,500 tonnes per year.
<b>Developing Our Workforce</b>				
Human Rights	Protect and uphold all employees' human rights.	0 human rights violations reported.	Human Rights Policy created in 2013 is being implemented.	Reassess the Human Rights Policy implementation.
<b>Strengthening Our Society</b>				
Community Investment	Strategically invest in the development of Qatar society. QAFAC aims to almost double its investment budget in 2014.	Meet the community investment goals set by the CSR Committee.	QAFAC began the process to create a strategic plan and strategy for community investment. The CSR Committee will support the strategy and plan.	Have defined the priority areas for investment and 2015 looking at achieving the plan; education, health, sports and sponsorships.
Local Procurement	Continue to prioritize sourcing goods and services from locally based suppliers.	At least 60% spending on local suppliers and services.	In 2014, 71% of spending was directed on local suppliers.	At least 60% spending on local suppliers and services.
<b>Operating Reliably and Safely</b>				
Employee Health and Safety	Maintain a high level of safety and health for all employees.	100% of employees attend QAFAC's general HSE training.	<b>Target partially achieved:</b> 81% of employees attended QAFAC's general HSE training.  For 2014 we realized that is not feasible to achieve 100% of employees attending HSE training on a yearly basis and we have achieved our target for the employees that needed to attend the training.  In addition, 3 million man-hours completed with zero LTA in 2014, reaching all together 6.5 million man-hours since June 2011. This was particularly challenging given the turnaround process.	For 2015 we will commit to achieve our target of employees attending QAFAC's general HSE training. We will also aim to maintain our zero harm record.



### Sustainability Framework and Policy

QAFAC has developed a sustainability framework based on the company’s Strategy Map and our commitment to support sustainable development at corporate, industrial, national and international levels. The framework, represented schematically in Figure 4 focuses on areas that we should manage, invest in, improve and communicate about in order to deliver better value to all our stakeholders.

The center of our sustainability framework demonstrates our overarching sustainability objective of achieving “Operational Excellence”. The meaning of Operational Excellence for QAFAC includes improving product and service values, maximizing production volume while optimizing costs, enhancing safety practices, and improving asset efficiency and availability.

For QAFAC, Operational Excellence can only be achieved through “Sustainability Leadership”.



Figure 4. QAFAC Sustainability Framework

## Relationship with our Corporate Strategy

QAFAC's Corporate Strategy identifies directions and the process for reaching the goal of becoming one of the top market leaders based on sustainable operations. The core focus of the Sustainability Framework: Toward Sustainability Leadership is an overarching principle and ultimate goal of QAFAC's Corporate Strategy. The three pillars of the Corporate Strategy and its enablers, represented in the Strategy Map in Figure 3, are related to each pillar of the Sustainability Framework in Figure 4, thus interlinking both and reflecting the structure of QAFAC's Corporate Strategy within the Sustainability Framework. Table 1 shows the relationship between QAFAC Corporate Strategy pillars and enablers and Sustainability Framework pillars. Particular emphasis is placed upon the development of QAFAC's workforce as the main asset and basis for successful operation of the company. Thus, the workforce encompasses a major part of Corporate Strategy enablers.

Table 1. Relationship between Sustainability Framework and Corporate Strategy

	Pillars of Sustainability Framework	Pillars of Corporate Strategy	Enablers
Toward Sustainability Leadership	High Value Products and Production Growth	Growth; Operational Excellence: Maximize Production Volume; Optimize Costs.	Implement Knowledge Management System; Ensure Knowledge Transfer.
	Caring for the Environment	Value for All the Stakeholders: Lead CO <sub>2</sub> Recovery and Other Sustainability Practices.	Implement Knowledge Management System; Ensure Knowledge Transfer; Maintain Up-to-Date IT System and Security.
	Strengthening Our Society	Value for All the Stakeholders: Contribute Socially to Qatar's Community.	Qatarization;
	Developing Our Workforce	Operational Excellence: Optimize Assets Availability.	Implement Knowledge Management System; Improve Employee Motivation; Qatarization; Ensure Knowledge Transfer.
	Operating Reliably and Safely	Operational Excellence: Optimize Assets Availability; Optimize Costs; Enhance Safety Practices.	Maintain Up-to-Date IT System and Security.

## Relationship with the QEISS and QNV Programs

QAFAC's sustainability focus areas are aligned with the Qatar Energy and Industry Sector Sustainability (QEISS) program and Qatar National Vision 2030 strategic goals.

Figure 5. Relationship between QAFAC Sustainability Framework, QEISS Program and QNV2030



## Sustainability Policy

Our Sustainability Policy (see box below) expands on our Sustainability Framework and describes our high level approach to addressing, implementing and evaluating our progress across the pillars of the Framework.

### QAFAC Sustainability Policy

This policy outlines QAFAC's main principles and targets on its journey Toward Sustainability Leadership, fulfilling its commitment to adopt sustainability management practices up to the best national and international standards, and developing internal management systems, policies, procedures and tools that support the company in achieving its objective of Operational Excellence. Below are the main components of the sustainability focus areas:

#### High Value Products and Production Growth

- Expanding its market presence and operations, and improving its economic performance while contributing to Qatar's economic diversification;
- Building strong relationships with both suppliers and customers in order to reach new levels of quality through process and product innovation.

#### Operating Reliably and Safely

- Continually fine-tuning operations and investing in efficient advanced technologies;
- Continually improving our health and safety management systems, while focusing on process safety and personnel safety of our employees and contractors.

#### Caring for the Environment

- Producing cleaner fuel and fuel derivative products, which will generate a reduced amount of emissions;
- Managing the environmental impact of its operations through a world-class Environmental Management System (EMS) that addresses environmental issues such as energy consumption, fugitive emissions and flaring, water management, and waste management effectively.

#### Developing Our Workforce

QAFAC is committed to invest in its employees' development and wellbeing while maintaining equal opportunities for all.

#### Strengthening Our Society

- Promoting Qatarization;
- Developing a responsible supply chain with a focus on the local supply chain;
- Investing in the community and promoting various sponsorship initiatives.

#### Implementation

QAFAC management will provide the resources required to implement the Sustainability Policy. The Sustainability Team will take a leadership role in ensuring the implementation of this policy. QAFAC will also make sure that this policy is communicated to all stakeholders including employees, contractors, suppliers and other third parties. Training to aid implementation of these policies may be provided for relevant employees where necessary.

#### Evaluation

QAFAC will subject its operations and processes to regular assessment and evaluation to ensure that they are in compliance with QAFAC's Sustainability Policy. QAFAC will continue to evaluate its sustainability performance by publishing annual reports on its sustainability activities. The QAFAC Sustainability Team shall be responsible for providing an annual evaluation of sustainability performance based on the reporting process.

## Stakeholder Engagement

There are five groups of stakeholders affected by QAFAC's activities within the boundaries of its Sustainability Framework. Their interests provide the foundation for defining QAFAC's Materiality Matrix and Sustainability Framework. Table 2 below summarizes methods of engagement, needs of the stakeholders and the ways in which QAFAC responds to stakeholders' needs. [G4-24, G4-25, G4-26, G4-27]

Table 2. Stakeholder Engagement

MAIN STAKEHOLDERS	METHODS OF ENGAGEMENT	STAKEHOLDER NEEDS	HOW WE RESPOND TO THEM
Our Shareholders & Investors	<ul style="list-style-type: none"> <li>Quarterly board meetings.</li> <li>Active participation in QAFAC's Management Team.</li> <li>Annual and sustainability reporting.</li> </ul>	<ul style="list-style-type: none"> <li>Financial targets and economic growth.</li> <li>Legal compliance.</li> <li>Governance.</li> <li>Transparency and accountability.</li> <li>Shareholders' sustainability mandate.</li> <li>Ethics.</li> <li>Operational innovation and efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>Board committees.</li> <li>Monitoring of and ensuring compliance through Internal Audit Department and Ethics Committee.</li> <li>Initiation of sustainability management policies and guidelines.</li> <li>Participation in the SDIR Program.</li> </ul>
Our Customers & Muntajat	<ul style="list-style-type: none"> <li>Participation in conferences and exhibitions.</li> <li>Open communication and dialogue. Monthly meetings with Muntajat.</li> </ul>	<ul style="list-style-type: none"> <li>Production and business continuity.</li> <li>Product responsibility.</li> <li>Mutual aid and collaboration.</li> <li>Supply chain management.</li> <li>Service excellence.</li> <li>Open and effective communication.</li> </ul>	<ul style="list-style-type: none"> <li>Regular dialogue with Muntajat and partners.</li> <li>Membership of industry associations.</li> </ul>
The Environment	<ul style="list-style-type: none"> <li>Open and full communication with the Ministry of Environment.</li> <li>Continual monitoring and assessment of our impact on the environment.</li> <li>Sustainability reporting.</li> </ul>	<ul style="list-style-type: none"> <li>Climate change mitigation.</li> <li>Efficient water consumption.</li> <li>Resource management and optimization.</li> <li>Efficient energy consumption.</li> <li>Waste management.</li> <li>Compliance with environmental regulations.</li> <li>Product impact and responsibility.</li> <li>Supply chain impact.</li> <li>Biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>Investment in the CDR (Carbon Dioxide Recovery) Program.</li> <li>Implement Flare Loss Monitoring Program.</li> <li>Implement waste and environmental management systems.</li> <li>Regular reporting of environmental performance.</li> </ul>
Qatari Society	<ul style="list-style-type: none"> <li>Open dialogue and collaboration with government agencies.</li> <li>Career fairs.</li> <li>Interaction with families of employees.</li> <li>Participation in exhibitions and conferences.</li> <li>Educational/HSE awareness sessions.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with all regulations.</li> <li>Recruitment and development of local talent.</li> <li>Preparation of local community for the job market.</li> <li>Job opportunities.</li> <li>Community engagement.</li> <li>Community contribution.</li> <li>Awareness of our products' significance and impact.</li> <li>Local sourcing.</li> </ul>	<ul style="list-style-type: none"> <li>Development of community engagement strategy.</li> <li>Contribution to community needs.</li> <li>Improvement of Qatarization rates.</li> </ul>
Our Employees	<ul style="list-style-type: none"> <li>Employee satisfaction surveys (every four years).</li> <li>"Town Hall" style meetings with the CEO.</li> <li>Informal career planning.</li> <li>Intranet.</li> <li>Email communications.</li> <li>Training.</li> <li>Educational/HSE awareness sessions.</li> </ul>	<ul style="list-style-type: none"> <li>Workforce capacity and training.</li> <li>Engagement and open communication.</li> <li>Transfer of knowledge and succession planning.</li> <li>Employee satisfaction.</li> <li>Safety in all operations.</li> <li>Career and personal development planning.</li> <li>Employee wellbeing.</li> <li>Occupational health and fitness.</li> <li>Rewards and recognition.</li> <li>Emergency preparedness and trained safety staff.</li> <li>Diverse and inclusive work atmosphere.</li> </ul>	<ul style="list-style-type: none"> <li>Recognition and awards.</li> <li>Employee/community activities.</li> <li>Development and training.</li> <li>Heat stress campaigns.</li> <li>Periodic baseline medical examinations.</li> <li>Strong emergency preparedness measures.</li> <li>Achievement of OSHAS 18001 certificate.</li> <li>Adoption of international safety standards and best practices (e.g. RoSPA).</li> </ul>

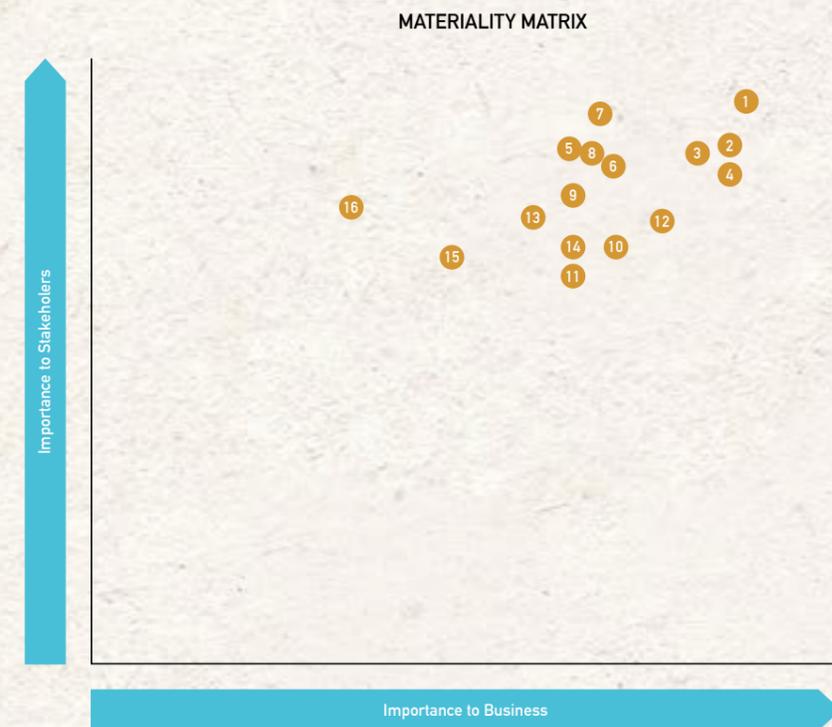
## Materiality Assessment

This year our materiality assessment has been based on data provided by QAFAC's risk register, reflecting the company's management perspective on various risks: Strategic, Operational, Health, Safety and Environment (HSE), Financial, Information Technology (IT), Legal, and Human Resources. Accordingly, we have updated our Materiality Matrix for this report. The Materiality Matrix presented below includes our top 16 materiality aspects of

high importance for our stakeholders and our business. [G4-18]

Although, all material issues reflected in the Materiality Matrix are important to QAFAC stakeholders, we ranked the issues by prioritizing those where QAFAC focuses major attention at the moment. QAFAC is committed to demonstrate a leading example in management of the top ranked issues, while managing and advancing its readiness to focus on other issues of lower priority over the coming years. [G4-19]

Figure 6. Materiality Matrix and Material Issues List



### MATERIAL ISSUES LIST

- |  |  |
|--|--|
| 1. Growth (operational and financial)  | 9. Environmental impact (emissions, flaring, waste management)             |
| 2. Feedstock supply  | 10. Strategy implementation  |
| 3. Process safety and asset integrity  | 11. Supply chain (procurement, material management, contract and sourcing) |
| 4. Energy efficiency   | 12. Plant reliability  |
| 5. Corporate Social Responsibility (Qatarization, local procurement, job creation) | 13. Human resources attraction and retention                               |
| 6. Product quality and innovation  | 14. Stakeholder confidence   |
| 7. Water efficiency  | 15. Governance and accountability (including anti-corruption)              |
| 8. Employee learning and development   | 16. Legal and compliance   |

QAFAC's Sustainability Framework is based on materiality issues related to five pillars of the framework. Following systematic prioritization of materiality issues and adjustments in sustainability framework mapping, QAFAC is moving toward the ultimate goal of reaching sustainability leadership through Operational Excellence. Figure 7 demonstrates relationship between the pillars of the Sustainability Framework and materiality issues.

Figure 7. Relationship between Sustainability Framework and Material Issues



Figure 8. IT Strategic Objectives Aligned with QAFAC's Strategic Objectives



### Sustainability in Numbers

QAFAC tracks and monitors the 42 key performance indicators (KPIs) selected by the Qatar Petroleum DG Sustainable Development Industry Reporting (SDIR) program for 2014. These KPIs help the company to assess sustainability performance. The data for the KPIs from 2010-2014 is summarized in Annex 1.

Emergency exercises are carried out regularly at QAFAC



### Support of IT System

The IT vision is for One IT, a complete solution for IT management services within the company, to become the strategic enabler of QAFAC business. Its mission is to deliver effective, efficient, reliable and secure IT services to QAFAC's business operations. The IT strategy is harmonized with QAFAC's corporate strategy, and provides support in accordance with QAFAC's strategic objectives

QAFAC has undertaken very progressive steps for transitioning from Oracle to a SAP IT management system. Some of the 17 SAP modules in use will manage the most critical aspects of company operations in line with the materiality rating of corresponding areas. Consequently, we are the first company ever to introduce an online tendering process with the SAP-SRM module, intended to provide more efficient management of top materiality issues: growth and feedstock supply. Another example is implementation of the EHS module, not commonly used in the industry, which is required to ensure a consistent overview of related principal material issues: process safety, energy and water use efficiency and environmental impact. Greenhouse gases will also be automatically tracked thanks to another SAP module, although this will not happen before 2016.

Efficient company management, which is the foundation for obtaining sustainability leadership, requires effective data access and analysis, and the ability to intervene in order to handle gaps and failures in time. The new IT system has introduced a strategic plan reporting system (SSM) allowing management to review all strategic and operational objectives online, while the business intelligence submodule offers centralized tracking of all financial data on one mobile dashboard. The disaster recovery site will enable access and recovery of data from everywhere from the second quarter of 2015, thereby ensuring business continuity in critical production processes.

Around 40-50% of manual processes are automated with the aid of the new IT system. These innovations not only considerably increase process efficiency but also reduce the amount of paperwork and electricity consumption. Other IT innovations also provide environmental benefits in terms of reducing waste (hazardous and non-hazardous) and saving electricity, such as centralized printer and virtual desktop. More on these innovations are mentioned in the section on Waste Generation and Management.

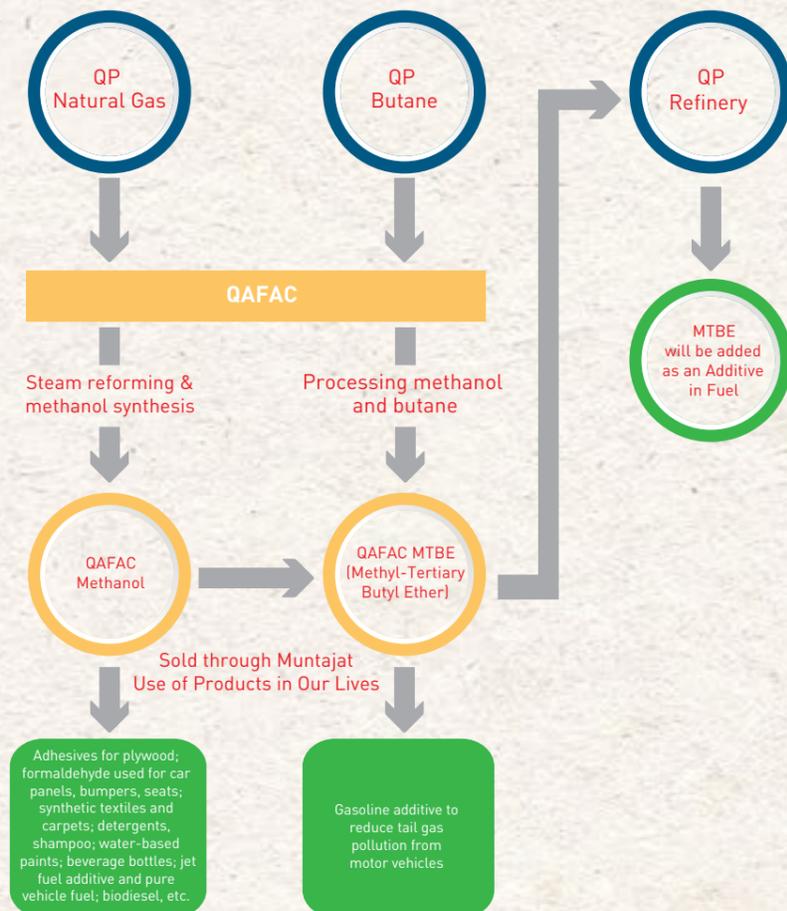
# High Value Products

Changing international oil prices affected the entire energy sector and associated industries in Qatar in 2014. While there are certain things we cannot control, we need to focus on the things we can. In particular, this includes the quality and reliability of our products that are responsible for our customer satisfaction and significantly influence the sustainability and success of our business. We have worked hard to make sure that we follow internationally certified standards for quality management that are aligned with sector developments in terms of product quality and the supply chain. This measure ensures a solid economic performance notwithstanding variations in international economic affairs.

## Our Products in Daily Life

QAFAC produces methanol from natural gas supplied by QP, and Methyl-Tertiary Butyl Ether (MTBE) by processing generated methanol and butane. Both products generate environmental benefits. Methanol is becoming more widespread as a cleaner alternative to conventional fuel. In addition, it has many uses as a raw material for numerous products in our everyday life. QAFAC is using it for the production of MTBE – the product used as a gasoline additive to provide clean burning fuel with reduced tail gas pollution, and to replace lead in gasoline.

Figure 9. Production Cycle





atmosphere and a spirit of mutual cooperation that makes me stay in QAFAC. It feels like you are part of one big family, well taken care of and where everyone's participation counts.

**What is your view about the importance of sustainability in running QAFAC's business?**

QAFAC contributes to the general sustainable development by providing cleaner fuel products, and thus helping to reduce any negative environmental impact from transportation. With the ever growing demand for environmentally friendly products on the international market, opportunities for our business are very promising. Even in such challenging economic conditions that 2014 presented for the energy sector, QAFAC has a lot of opportunities by extending its access to new markets, in cooperation with its distributing partner Muntajat.

**Position:**  
Strategy Manager, Strategy and Business Development

**Nationality:**  
Jordanian

**Working in QAFAC since 2002**

**What has made you stay in QAFAC for such a long time?**

Besides career development opportunities offered by QAFAC, it is definitely a friendly

Maintaining high quality standards, however, is an important factor that differentiates us from other producers of similar products. In order to maintain the highest standards for our products, we chose Operational Excellence as a guiding principle for all aspects of our operations. One cannot be sustainable in business operations without a continuous process of excelling in all its aspects. And the main channel for embedding excellence in our operations is our workforce, of which QAFAC takes particular care.

## Our Value System

QAFAC's Quality Management System is designed to ensure that our products meet or exceed customers' expectations. QAFAC's ISO 9001:2008 certification requires the company to adhere to quality management principles required by the standard, such as strong customer focus, motivation and commitment from top management, process approach and continual improvement. QAFAC's quality management is a complex system engaging internal stakeholders (management, HSE, Plant Operation, Plant Maintenance, Supply Chain, Finance and Administration departments) and external stakeholders (such as material and equipment suppliers and their appointed agents, service providers, customers, Mesaieed Industrial City infrastructure services, security, logistics, international certifying agencies). The Supply Chain department ensures that products and services meet all of the relevant health, safety and environmental criteria as requested by each department.

We have set up a Quality Management Plan based on the company's long term objectives. It is continually adapted to ensure that objectives are achieved in a sustainable way. We are planning to introduce new innovations in 2015, including accreditation of our laboratory against ISO 17025 which defines general requirements for the competence of testing and calibration laboratories, and the building of a dedicated laboratory building.

From 2013 our products have been marketed by the state-owned company Muntajat, established as a central distributor for all Qatari chemical and petrochemical products intended for export. However, some of the products are supplied directly to several local industrial consumers.

**THE QUALITY MANAGEMENT SYSTEM IS IMPLEMENTED BY THE QUALITY CONTROL, ASSURANCE AND IMPROVEMENT PROGRAM, WHICH INCLUDES THE FOLLOWING FEATURES:**

- Quality Manual: provides information on all the elements of the Quality Management System including the sequences and interactions of the primary processes.
- Document Control: maintains documented track of the policies and procedures necessary for the Quality Management System, including administration, manufacturing, analytical methods, equipment operation and others.
- Training Programs: are focused on enhancing process specific skills and knowledge, and include high quality safety, system and developmental training for core and job specific requirements. The job description for each position includes essential educational and experience qualifications to ensure that only highly qualified specialists will be performing required tasks from the start.
- Corrective and Preventive Action: this procedure is focused on identifying areas for improvement for current products and processes, and to implement actions focused on preventing the same issues happening again.
- Customer Relations: this part of the program is focused on reviewing and investigating customer queries and complaints.
- Internal Audits: to ensure the integrity and continuous improvement of the Quality Management System.
- Input Materials: ensuring quality and timely delivery of materials and services from the supply chain.
- Process Control Procedures: includes Quality Control testing system for every stage of manufacturing, in accordance with work instruction documents. Final product testing is performed in the laboratory in order to meet all customer requirements. An appropriate request for manipulating operational processes can be submitted to the corresponding operational segment if products do not meet quality requirements. The system is controlled electronically and "flags" products that do not conform to product specifications, thereby blocking their shipment.
- Quality Control and Assurance: is performed by the calibration and testing program, with thoroughly documented calibration and maintenance records.
- Quality Records: includes raw material information, in-process manufacturing and testing data, product loading for shipment and final quality analysis. A product numbering system that allows traceability ensures secure shipment.
- Third Party Witnessing: objectively surveys every Quality Certification for a shipment.
- Sample Retention: it is possible to retest quality through the retained sample material, even for products that have been shipped.

**Participation in Product Related Events**

QAFAC actively participates in several initiatives focused on enhancing the quality and sustainability of products and supply chain in the petrochemical industry.

**Middle East Methanol Forum**

Under the Patronage of H.E. Dr. Mohammed bin Saleh Al-Sada, Minister of Energy and Industry, and in partnership with Muntajat, QAFAC organized the first Middle East Methanol Forum (MEMF), on the theme of 'Miracle Energy on Hand' on 26 November 2014 in Doha. This event brought together 180 global industry executives and senior government officials, scientific experts, producers and end-users, with the aim to examine and identify emerging trends in the methanol industry. Thus, various developments in the use of methanol have been presented, such as replacement of diesel with more environmentally friendly and cost-effective option of LPG in cooking and heating applications, or the use of methanol as a maritime fuel.

The global vision of Qatar and GCC countries with regard to petrochemical industry was discussed, in light of its growing importance in a highly globalized economic framework. This continual and transparent sharing of information, knowledge and expertise will contribute further to the efficient and safe production, trade and use of methanol in an increasing number of applications, as well as contributing to robust growth of the methanol industry.



**"With the rapidly increasing importance of methanol as an energy source, as well as a vital component of thousands of products that affect our daily lives, we are confident that the discussions will surely prove to be highly beneficial and significant to the methanol industry."**

Nasser Jeham Al-Kuwari,  
Chief Executive Officer of QAFAC

**Gulf Petrochemicals and Chemicals Association (GPCA) Conference**

As a member of GPCA, QAFAC participated in the GPCA conference held in Dubai in May 2014 which saw the launch of a three-year program to evaluate supply and logistic companies in the chemical and petrochemical sector of the GCC (Gulf Cooperation Council) countries. The aim of the evaluation is to enhance sustainability, efficiency, flexibility and transparency of the supply chain in this sector. Establishing a clear tracking and monitoring system for supply operations will help to identify and avoid weaknesses in the supply chain from both a sustainability and quality point of view. As a result, the program logistics providers in GCC countries will be able to improve their safety, reliability, quality and environmental performance records. QAFAC, as an important player in the region's petrochemical sector and a company that has high sustainability standards close to its heart, is taking an active role in this program.

## Economic Performance

Although 2014 was a year of a turnaround process, when the plant was shut for maintenance and retrofitting, QAFAC production levels remained stable. Actual production of MTBE has exceeded targets for the fourth year in a row, while actual production of methanol has exceeded production targets for the second year in a row. [G4-22]

Table 3. Production Output

Production broken down by main products (tonnes)	2010	2011	2012	2013	2014
Methanol (tonnes)	879,196	1,021,872	843,543	940,963	869,271
MTBE (tonnes)	512,705	654,549	610,985	648,022	600,342
Pentane (tonnes)	5,012	7,903	7,492	8,513	8,194

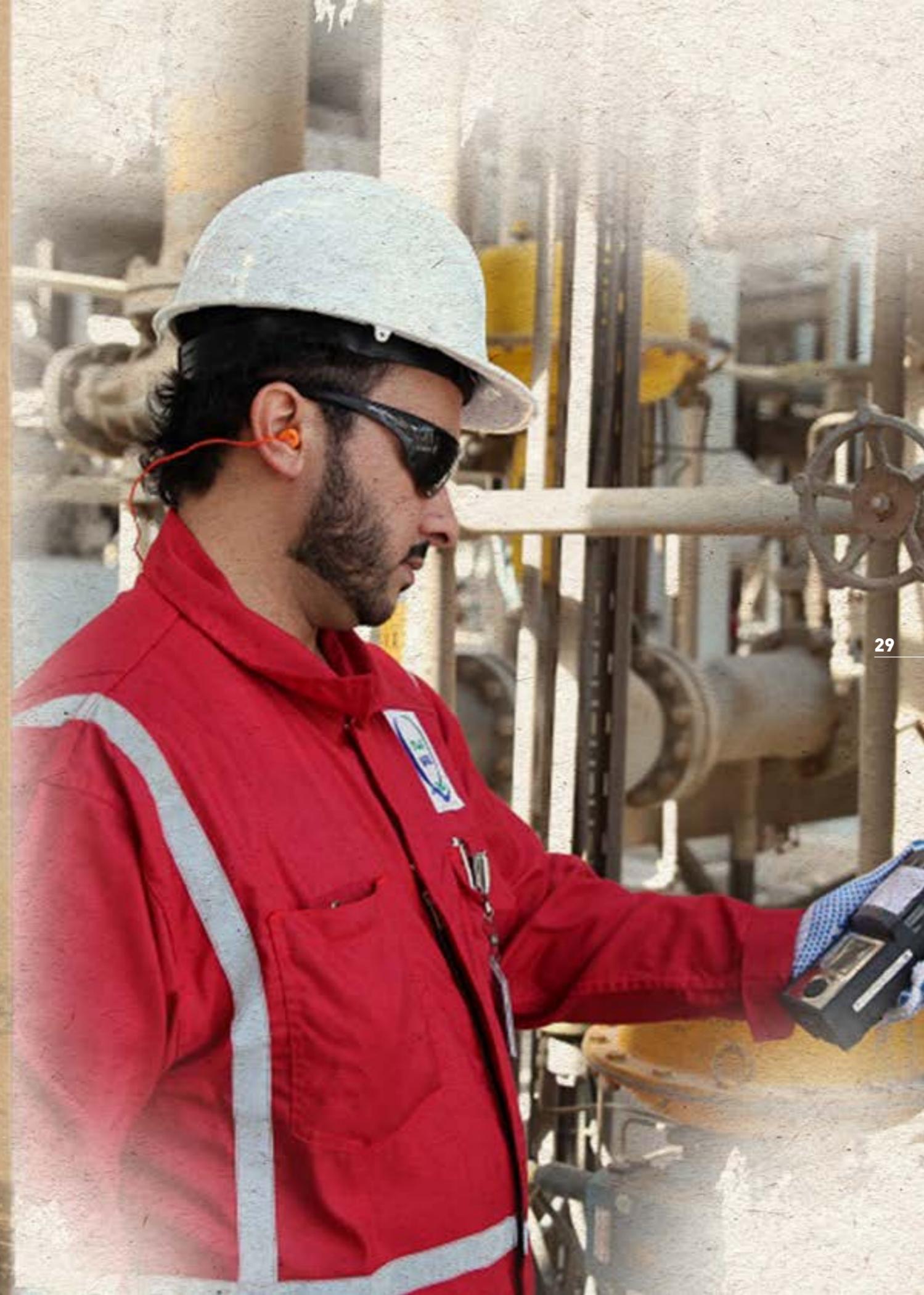
Total revenue in 2014 reached over USD 0.8 billion, a 17% decrease relative to 2013. This was mainly caused by the 60 day planned turnaround in methanol production and 45 day planned turnaround in MTBE production.

Table 4. Direct Economic Value

	2010	2011	2012	2013	2014
Revenue (USD 000's)	569,611	921,244	927,768	984,547	816,702

Indirect Economic Value Generated (USD 000's)

Employee wages and benefits	35,848	34,735	44,983	45,260	55,678
Contractors paid amount – total	20,303	7,917	16,059	18,455	19,769
Suppliers paid amount – total	3,260	1,502	5,540	13,262	16,150



# Operating Reliably and Safely

2014 has been a record year in safe and reliable operations, achieving more than 3 million man-hours with zero Lost Time Accidents (LTA). Consequently, QAFAC has achieved over 6.5 million man-hours with zero LTA since the last incident in June 2011. Considering the extremely challenging process of turnaround along with implementation of several complex large-scale projects, the target set at the beginning of 2014 seemed to be almost impossible to achieve. However, thanks to joint efforts of management, supervisors and all employees directly involved in the production process, the QAFAC workforce has exceeded the target and we are very proud of this outstanding achievement.

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## Reliable and Efficient Operations

In 2014, QAFAC's operational facilities underwent the largest turnaround in the company's history. The turnaround process is focused on updating, repairing and replacing all required parts of operational equipment. In addition to regular maintenance, the QAFAC plant installed a connection with the Carbon Dioxide Recovery (CDR) plant, replaced the Axial Radial Converter (ARC) with an Isothermal Methanol Converter (IMC), upgraded and migrated the Distributed Control System (DSC), and revamped the whole fire and gas system. Operation of the CDR plant will reduce QAFAC's CO2 emissions of by 500 tonnes per day; while the new IMC catalyst will reduce energy intensity by 1GJ per tonne of methanol, contributing to production growth and improve process reliability. In addition, a Risk Based Inspection (RBI) System for evaluation of equipment damage or failure is under implementation, which will increase reliability and efficiency of production processes.

## Turnaround

The turnaround process has been the largest since the start of QAFAC operations in 1999. The scheduled methanol plant shut-down was for 60 days: March 21-May 19, 2014, and 45 days for the MTBE plant 45: March 23-May 06, 2014. The entire turnaround process was completed 1.5 days ahead of schedule, involving 3 million man-hours, and resulting in zero LTA.

## EFFICIENT AND RELIABLE MIGRATION OF DISTRIBUTED CONTROL SYSTEMS – AN EXAMPLE FOR OTHER COMPANIES IN THE E&I SECTOR IN QATAR

The Distributed Control System is a system that give us the capability to monitor and control whole QAFAC process activities.

Given the importance of a DCS for safe and reliable production processes, QAFAC's Management decided to completely replace the old system with the state-of-the-art Experion® PKS from Honeywell. The process of switching to the new system took place during the turnaround phase of 2014, and was completed in an extremely short period of 20 days. Considering that this migration process to the new system is quite complex, and, in case of QAFAC it was implemented jointly with revamping the surrounding Control Room area and included integration with the CDR plant control system, this achievement is considered a major success story. Indeed, QAFAC has been approached by other companies in the Qatar energy and industry sector who want to learn about our experience of successfully implementing the new DCS within such a short period of time.

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**“By 2050, the global population is expected to exceed 9 billion. As a result, we will face an even bigger increase to environmentally damaging pollutants in the atmosphere. In an effort to address these concerns today, we are doing everything possible to implement technology that will allow us to provide durable and environmentally sustainable solutions. With the support of members of the energy sector and specifically His Excellency, Dr Mohammed bin Saleh Al-Sada, Minister of Energy and Industry of the State of Qatar, we are proud to launch our Carbon Dioxide Recovery Plant. This is a big step forward, and we hope it demonstrates QAFAC's strong desire to play a frontline role as an environmentally conscious company,”**

Nasser Jeham Al-Kuwari,  
CEO of QAFAC

# Carbon Dioxide Recovery Plant

The harsh reality is that the environment is facing severe degradation. The climate is changing as a result of high greenhouse gas emissions and this threatens the wellbeing of the environment and the future generation. Hence, it is critical that organizations, big and small, put sustainability at the forefront of their agenda,"

Hamad Rashid Al-Mohannadi,  
Chairman of QAFAC

In order to implement QAFAC's mission of sustainable production and to follow the strategic direction of sustainable growth, the company has built a Carbon Dioxide Recovery (CDR) plant to capture carbon dioxide from the methanol production that is vented into the atmosphere, in order to re-inject it back into the production process and thus generate more methanol. The plant became operational two months ahead of schedule in July 2014, showing particular effort from QAFAC to implement this exceptionally beneficent project as soon as would technically be possible.

QAFAC's CDR plant is the world's largest commercial-scale carbon dioxide capture facility in methanol production. It has been constructed under license from Mitsubishi Heavy Industries and taken 2.5 years for the engineering process to be complete. The first of its kind, the plant captures carbon dioxide (CO<sub>2</sub>) from methanol reformer flue gas thereby reducing CO<sub>2</sub> emissions by 500 tonnes a day. This is equivalent to the CO<sub>2</sub> absorption capacity of 4,200,000 trees in 10 years or the emissions produced by 32,000 vehicles per year. Recovered carbon dioxide is injected back into the synthesis section of the

Official Launch of the Carbon Dioxide Recovery Plant



methanol plant and used to produce additional methanol by utilizing the existing excess of hydrogen gas. Thus, methanol production is increased by 300 MT/day.

The project is testimony to QAFAC's commitment to achieving sustainability leadership in a way that is aligned and ultimately contributes to Qatar's sustainability priorities and targets. Therefore, QAFAC presented it as a flagship Qatari project for reducing emissions at national and international levels.

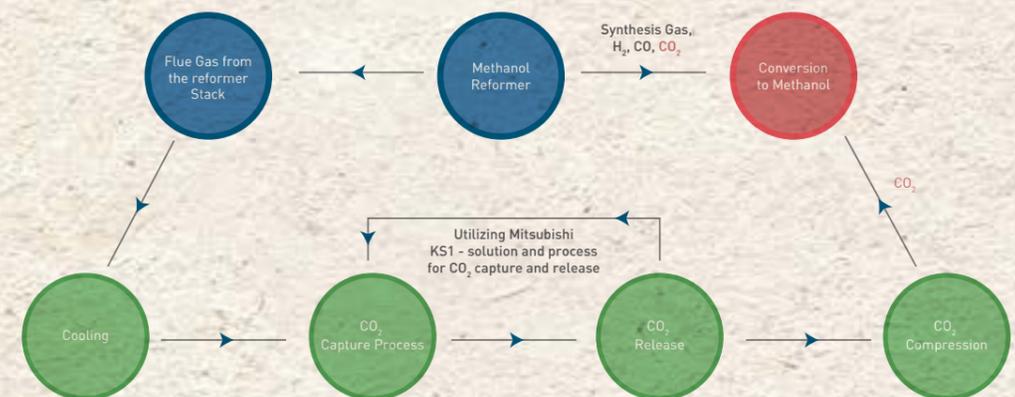
In addition, the plant will:

- Recover 30 m<sup>3</sup> / h of water vapor from flue gas and recycling it to the DM Plant, thus reducing fresh water consumption. The reduction in water consumption is equivalent to 10% of the water that was purchased from Kahramaa in 2014.
- Reduce NOx emissions due to higher percentage in purge gas since H<sub>2</sub> from purge gas is consumed by CO<sub>2</sub> injection.
- Provide a reliable source of CO<sub>2</sub> by eliminating the need to buy CO<sub>2</sub> from external sources, thereby allowing QAFAC to fully utilize methanol production capacity. The plant was already enhanced for the use of additional injection of 500 MTPD CO<sub>2</sub> in 2007.



Figure 10. Carbon Dioxide Recovery 3D View

Figure 11. Carbon Capture from Methanol Reformer Flue Gas



## Isothermal Methanol Converter (IMC)

Previously CO<sub>2</sub> injection into the synthesis process for methanol production was carried out using an Axial Radial Converter (ARC). This approach was very inefficient because even a minor change in any parameter would cause an impact on converter operations, and on a few occasions reaction of the converter was lost altogether.

The replacement of the ARC converter with an IMC convertor has made a significant contribution to smoother and more efficient operations, and has increased production by 92 tonnes per day.



**Mr Milind Mukund Sumant**

**Position:**  
Manager of Methanol and Utilities Plant

**Nationality:**  
Indian

**Working in QAFAC since 1998**

**What has made you stay at QAFAC for 17 years?**

I joined QAFAC when plant construction was underway. My involvement in QAFAC business right from the start has grown during all these years into a sort of personal attachment to the company. The working atmosphere is great: you get challenged at work but also get excellent support from colleagues.

This, in fact, is the reason for many people to stay at QAFAC for a very long time. The

succession planning, as part of the 'Gadan' initiative, has been initiated to prepare highly qualified replacements for current QAFAC employees that will be retiring soon. We are also creating working conditions for younger employees that make them enthusiastic about working here. Thus, we gradually assign them with responsibilities that increase their involvement in the company and create a sense of personal pride in their contribution to the company.

**As Plant Manager, where do you see the factors of success in reaching top results in Health and Safety parameters, taking into account a challenge of the turnaround process - construction of the carbon dioxide recovery plant and Isothermal Methanol Converter replacement - during 2014?**

First of all, we are proud to have highly qualified experts working in our team who are able to guide technical processes to the highest level of proficiency. The issue of Health and Safety for us is the in-built feature of implementing any process, meaning it is an indisputable aspect of every single person who has access to QAFAC's operations. It is the responsibility of every one of us to care for ourselves and for people around us.

**What are the most important aspects of sustainability for QAFAC operations, in your view?**

As a Plant Manager responsible for the production process, a sustainable production process is of the highest importance. It is a top priority to ensure continuous production process, handled in the safest and most efficient manner possible, with zero tolerance to any potential risk at any level.

## Improving Asset Integrity and Process Safety through Risk-Based Inspection (RBI)

QAFAC is implementing a Risk-Based Inspection (RBI) Project with the purpose of increasing the reliability of process equipment (i.e. extending its operational lifetime), its availability (i.e. enhancing the percentage of time when equipment is in an operable state) and maintainability of the plant operation (i.e. reducing the risk of damage to the integrity of the production equipment). So far, the loss of containment in pressurized equipment has been inspected only in the areas of greatest concern based on general industry experience. The RBI system will allow a more precise identification of potential threats based on evaluation of equipment specific risk analysis. The information gained from this process is used to identify the type and rate of damage that may potentially be present, and the equipment or locations where failure would give rise to danger of different degrees. The inspection plan can then target the high-risk equipment and be designed to detect potential degradation before fitness-for-service could be threatened.

The benefits of implementing the RBI system are understanding equipment specific risks better and optimizing intervals for risk inspection by matching the need for inspection to equipment specific requirements. This project allows QAFAC to control the threat to process integrity by making sure that equipment inspection is conducted and maintenance is applied when due. Enhanced integrity of the operational equipment increases process safety, ensures business continuity by preventing uncontrollable equipment failure, and consequently brings better financial management of the production resources. All these factors affect sustainability of the production process by extending its lifetime and thereby increasing its operational efficiency.

A detailed study of the RBI system application was conducted by an external consultant, with full participation and technical involvement from QAFAC personnel. This is achieved by the complete involvement of QAFAC RBI team during the data collection process and participation in the RBI Team Study at site. It is very important that QAFAC personnel master the RBI system because this system is dynamic and requires periodic reassessment of its application on the basis of inspection results. The early involvement of QAFAC personnel ensures first-hand understanding and development of independent control skills for the system's operational requirements, thereby ensuring maximum use of its benefits and long-term efficiency.

The RBI project was 75% complete by the end of 2014, and is expected to reach full completion by the end of 2015. Turnaround of 2014 was the first major shut-down in which inspection of the static equipment and piping were based on the RBI Study. The Study delivered many significant findings, which allowed necessary repairs and replacements to be planned before the shut-down. During the turnaround, a large amount of equipment underwent inspection based on the outcome of the RBI study. The end of the turnaround will require reassessment of the RBI system to reflect new levels of risk in the equipment.

The importance of the RBI system is evident for all parts of QAFAC's operational processes, so we plan to implement the same system at the CDR plant after the RBI Study of the main Process Plants is completed.

QAFAC is carrying out Relative Accuracy Test Audit (RATA) for all Continuous Emission Monitoring Systems (CEMS) annually.

Mobile Lab for Stack Emission Monitoring



Table 5. Health and Safety Parameters

Health and Safety					
	2010	2011	2012	2013	2014
Work hours (employees)	449,670	460,056	496,234	469,968	542,016
Work hours (contractors)	1,185,252	515,974	891,832	940,120	2,819,236
Employee fatalities	0	0	0	0	0
Contractor fatalities	0	0	0	0	0
Employee lost time injuries	0	1	0	0	0
Contractor lost time injuries	0	0	0	0	0
Employee total reportable injuries	1	1	0	0	0
Contractor total reportable injuries	1	1	0	0	1
Employee occupational illnesses	0	0	0	0	0
Heat stress events	0	0	0	0	0
Loss of containment (LOC) / process safety incidents	0	0	0	2	0
Emergency response drills	4	4	4	8	12
Safety incident investigation initiated	0	1	0	0	2
Safety incident investigation completed	0	1	0	0	2

### Occupational Health and Safety

Achieving the target of ZERO LTA in 2014 has taken a substantial effort. This was the year of the most challenging turnaround, which included several significant technological undertakings in process modernization. The turnaround process required the full engagement of all employees and 2,500 contractors.

QAFAC Management kept a good track of the HSE figure by discussing it at all monthly safety meetings. This provided high motivation and enthusiasm for all supervisors, in particular the HSE Department that played a key role in ensuring implementation of health and safety practices.

The success of reaching outstanding results in health and safety can be credited to the full involvement of HSE Departments in controlling the work of employees and contractors in the most challenging parts of the operational process. A very important way of controlling adherence to safety practices was daily direct involvement with everyone engaged in the turnaround process. This included compulsory toolbox talks with workers before the start of activities to discuss particular safety issues, and safety walks to identify and correct unsafe acts and unsafe conditions in the process practice. The continuous safety practice education for personnel contributes to the establishment of a safety culture among the workforce.

The Department paid particular attention to providing comfortable working conditions for all involved in the turnaround process, with an abundance of drinking water and quality food, limiting working hours to the productive optimum, and making sure that mandatory breaks and days off are respected. Proper technical safety precautions were undertaken in the most dangerous parts of the operation such as high locations, with safety focal points appointed at the most critical activities for constant safety surveillance.

### Contractors' Safety

QAFAC has developed an elaborate procedure in order to make sure that contractors meet international standards and best industrial practices during selection procedure, and keep up with QAFAC's health and safety standards during their involvement in the company's operations. The Supply Chain Department, End User Department and Technical Department are involved in the process of contractor selection and monitoring, with the HSE Department playing the key role.

Contractor adherence to QAFAC's HSE requirements is evaluated during the tender process, where each contractor is evaluated based on the self-assessment questionnaire, with a technical evaluation then applied to initially selected contracts. Contractors are informed about QAFAC's HSE practices before the commencement of work through pre-job safety meetings and site safety inductions. Contractual management for fulfilling QAFAC's HSE requirements is performed by regular revision of contractor performance during operations in accordance with individual HSE Action Plans and key performance indicators specifically determined for each particular contractor in the contract. Only contractors that successfully pass the final evaluation of adherence to HSE requirements will be kept in the approved supplier list, with the potential for further cooperation with QAFAC.

### Behaviour Based Safety (BBS) Program

QAFAC's target is to integrate safety culture fully into the culture of the workforce. Thus in 2014 we introduced a BBS study program focused on shaping the behavior of employees so that they take care of safety matters by using their own initiative. This gives the workforce a sense of safety ownership during their work.

### HSSE Observation

A HSSE Observation system was introduced in December 2012, where everyone was encouraged to highlight unsafe issues and where particularly valuable observations were rewarded. In 2014, a total of 1,028 observations were forwarded (955 from contractors and 73 from employees), with a remarkable 98% closure rate showing the percentage of observations that had been referred for investigation or correction. 29 observations, of which 20 submitted by contractors and 9 by employees, that represented particular importance in improving personnel safety were rewarded.

The QAFAC team is very proud to have reached this excellent achievement in personnel safety as a result of all the efforts in health and safety applied during regular production processes and exceptional maintenance and new construction processes. QAFAC will do everything possible to reach a new target of 7 million man-hours with zero LTA in 2015.

### Process Safety

QAFAC is paying particular attention to ensure highest safety standards are fulfilled in the operation of all production and non-production facilities. QAFAC conducts Management Facilities Inspections on a monthly basis, which covers Plant, Production Control Building, Workshop, Warehouse, HSE Fire Hall, Security, Plant Administration Compound and out-of-territory company operations (Jetty, Seawater Intake, etc.). The Inspection is focused on identifying issues of concern from Health, Safety, Environmental, Housekeeping, Operational, Management and Security perspectives. As a result of the Inspection, effective actions to improve the situation have been proposed. In 2014, QAFAC implemented several technical and managerial innovations focused on enhancing process safety.

### Steam Traps Management Program

QAFAC conducted the Steam Trap Management Program focused on monitoring and making an inventory of all steam traps and additional steam sources. Monitoring of all steam traps was done using an ultrasound device and infrared camera, while calculation of steam was performed in accordance with the UNFCCC calculation method. The complete inventory has been processed and imported into software. Monitoring results have shown 18.9% of steam traps being defective so repairs have been initiated, which will save 247,288 USD of annual cost loss due to the loss of steam

and will avoid emissions of 6,034 tonnes of CO<sub>2</sub> / year. The steam trap management project will have paid for itself within 2 months after repair.

#### Information Security Management

With an ever-increasing sophistication and consolidation of IT management within the company, including control of operational processes, QAFAC takes the security of IT management very seriously. We were the first company in the oil and gas sector in Qatar to attain ISO/IEC 27001 Certification, ensuring that best practice is applied in managing information assets. Protecting the information management system from any cyber attacks or system failures will ensure business continuity of operational processes.

#### Managing Risk Wisely and Proactively

Reliable production process is based on an effective risk management system that would identify potential threat to the operations ahead of time and would offer alternatives in managing those risks.

QAFAC follows international standards in adopting the systems that ensure business continuity and best practices for risk management.

#### Business Continuity

Following the guideline of ISO 22301, the international standard for business continuity, QAFAC is establishing a system to protect against disruptive incidents. This will reduce the likelihood of disruptive incidents and ensure prompt business recovery in case of an incident occurring. Managing risk wisely and proactively is a very important materiality aspect from a sustainability perspective, since mismanagement of risks could cause interruptions in the company's operational process that would create serious economic, environmental and social impacts. Thus, the management of risks around materiality aspects involves engagement of both internal and external stakeholders such as suppliers.

In 2013, efforts were underway to collect data for a Business Impact Analysis, which is the first step of setting up operation of the Business Continuity Management System. Currently QAFAC is at the final stage of implementing Business Continuity Management, and expects to receive accreditation ISO 22301 in 2015.

#### Enterprise Risk Management

The ERM system was established by QAFAC in 2013, following ISO 31000 standard guidelines. It is a key initiative for the company's strategy to achieve the operational excellence goal of optimized resource use, while enhancing safety practices. The system takes a proactive approach in identifying, monitoring and ensuring timely mitigation of potential risks, in alignment with the company's risk propensity.

On the basis of 39 identified risks, 13 risk registers have been developed and are being integrated into the operation of each department. Risk registers provide measurable means for recording, monitoring and correcting the risks inherent to each departmental operation.

Given that Business Continuity and ERM is a dynamic process requiring overall engagement of everyone involved, the key prerequisite for successful system implementation is the spread of a risk management culture among employees.

Thus, the challenge is to internalize the risk register system developed by an external consultant, among the multicultural workforce and establish the culture of continuous engagement and commitment required for proper system management. For this purpose, several training sessions have been conducted with Risk Management Champions, and at corporate and plant level. Monthly Management Committee meetings are planned to review and provide regular inputs into the ERM system operation.



# Caring for the Environment

Environment-related issues are at the top of material issues both for QAFAC and for its stakeholders. The company's environmental concerns are not only dictated by legal compliance, but by the ultimate goal of achieving sustainability leadership in its operations. QAFAC is undertaking numerous significant steps in managing the issues of major environmental concern, such as increasing energy and water use efficiency, scaling down impact on the environment by decreasing emissions through flaring reduction and other large emission reduction initiatives, and improving waste management practice. By investing over USD 100 million in two significant projects, the world's largest commercial-scale carbon dioxide capture facility and the new Isothermal Methanol Converter, QAFAC will reduce energy intensity by one GJ/tonne of methanol produced and will reduce emissions of CO<sub>2</sub> by 500 tonnes per day. QAFAC is thereby demonstrating its commitment to sustainability principles that combine the objectives of Operational Excellence and sustainability leadership.

Other important undertakings during 2014 included indoor air quality monitoring, the Flare Management Program and the Leak Detection and Repair Program which are all directed at reducing air emissions from production processes and air quality inside our premises. In line with Qatar's environmental policy, QAFAC is working on achieving zero liquid discharge of wastewater into the sea. This will be achieved by introducing sophisticated wastewater treatment technologies that allow the maximum re-use of water possible.

Even though our production process does not generate a significant amount of industrial waste, QAFAC undertakes additional measures to reduce, reuse, recycle waste through initiatives directed on domestic and industrial waste segregation.

## Robust Environmental Management System

The Environmental Management System (EMS) is part of the company's management system used to develop and implement its environmental policy and manage its environmental aspects. In 2005, QAFAC received ISO 14001 certification for its EMS. Auditing is critical for keeping QAFAC's EMS up-to-date, so the company undertakes an annual internal audit, annual third party surveillance and re-certification audit every three years. There is a dedicated EMS Management Team who manages associated maintenance, training and awareness raising, and coordinates the audit process. However, compliance with the requirements of our EMS depends on every employee and contractor involved in QAFAC operations, so we work to ensure that there is enough workforce awareness about the EMS purpose and everyone's personal role in staying abreast of the company's environmental management standards.

**Our carbon dioxide recovery plant is helping to reduce CO<sub>2</sub> emissions by 500 tonnes a day. This is equivalent to the CO<sub>2</sub> absorption capacity of 4,200,000 trees in 10 years or the emissions produced by 32,000 vehicles per year.**



## Energy Efficiency and Climate Change

Doubling its carbon dioxide emissions in the last 30 years due to the industrial development, and given its small population, Qatar became top emitter of CO<sub>2</sub> per capita in the world. Thus, Qatar's share of responsibility in the reduction of global greenhouse gas (GHG) emissions is particularly important in the global effort of climate change mitigation. QAFAC, from its side, acknowledges its duty in contributing to the national effort of GHG abatement.

QAFAC's new CDR Plant reduces emissions of CO<sub>2</sub> by 500 tonnes per day, which is equivalent to the CO<sub>2</sub> emitted by 32,000 vehicles per year<sup>1</sup> or that absorbed by 4,200,000 trees in 10 years<sup>2</sup>. Implementation of these two projects is driven by QAFAC's commitment to the sustainable growth of production, where augmentation of production capacity is accompanied by an increase in energy efficiency and reduction of greenhouse gas emissions.

Implementation of the Leak Detection and Repair (LDAR) program, Flare Management Program, and Steam Trap Management initiatives are also focused on aligning the company's sustainability strategy with Qatar's goals in addressing climate change.

In reporting GHG for its operations, QAFAC is following GHG Protocol: Corporate Standard, which is the most widely used international accounting tool for government and business leaders.

Table 6. Energy Consumption

	2010	2011	2012	2013	2014
Total direct and indirect energy consumption (GJ)	19,683,462	22,844,437	19,886,406	21,676,472	19,500,795
Energy intensity (GJ/tonne production)	14.14	13.63	13.67	13.68	13.27
Direct energy consumption (diesel) (GJ)	18,985,973	22,057,736	19,158,500	20,964,690	18,761,283
Indirect energy consumption (electricity) (GJ)	697,489	786,701	727,906	771,782	739,512

Table 7. GHG Emissions

	2010	2011	2012	2013	2014
Total GHG emissions (tonnes of CO <sub>2</sub> e)	868,982	989,495	868,311	929,007	907,663
GHG intensity (GHG/tonne production)	0.62	0.71	0.62	0.66	0.65
<b>Direct and indirect emissions</b>					
Direct GHG emissions (diesel and fuel gases) (tonnes)	774,008	882,373	769,195	823,722	806,967
Indirect GHG emissions (electricity) (tonnes)	94,974	107,122	99,116	105,285	100,696
SO <sub>x</sub> (tonnes)	63	120	93	103	94
NO <sub>x</sub> (tonnes)	1,091	1,329	1,235	1,363	1,254

1. Calculation is based on EPA (2009). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007.

2. Calculation is based on the U.S. DOE (1998). Method for Calculating Carbon Sequestration by Trees in Urban and Suburban Settings. Voluntary Reporting of Greenhouse Gases, U.S. Department of Energy, Energy Information Association.

## Air Quality

### Indoor Air Quality

Awareness of indoor air quality issues continues to increase throughout the world and studies conducted by the USEPA, WHO and other environmental agencies that compare risks of environmental threats to public health consistently rank indoor air pollution among the top five risks. Indoor air quality has become a significant environmental issue because of building air-tightness, the growing use of synthetic materials and energy conservation measures that reduce the amount of outdoor air supply. Modern office equipment (e.g. photocopiers, laser printers, and computers), cleaning products, and outdoor air pollution can also increase the level of indoor air contamination.

QAFAC is taking measures to face this potential threat to the environment and to QAFAC's workforce who spend a considerable amount of time indoors. Monitoring equipment of the highest standard, that measures 16 air parameters, has been installed for specific periods of time in a number of locations. QAFAC has carried out this measurement in all buildings including administration buildings, warehouses, control rooms, laboratories, workshop and safety buildings under supervision of HSE team. Parameters measured have shown that there were no indicators exceeding the allowed level of safe indoor air quality in accordance with international standards.

This level of monitoring will be repeated by QAFAC on a biannual basis, or ad hoc in case of specific indoor air quality concerns raised by any department in QAFAC.

### Flaring

Due to the specifics of production processes in QAFAC, a certain degree of flaring is necessary to ensure safety and reliability of operations. However, the need for flaring of hydrocarbons can be reduced by preventing internal emission leakage in the closed flaring system. The main sources of leakages are different types of valves connected to the flare headers.

Under the framework of the Flare Management Program, QAFAC has implemented sophisticated ultrasonic devices that detect turbulence inside the system, thereby identifying the source of leaks. Site experience from British Petroleum, the technology developer, shows that 5-10% of valves leak out, of which 1-2% cause 70% loss of gas with a potential value of 100,000 Euros. In QAFAC, the control valve has been identified as a main source of leaks among 743 checked sources of leakages, resulting in 117,936 kg of CO<sub>2</sub>-equivalent emissions of methane per year. Repairing the valve will lead to 86% reduction of emissions.

### Fugitive Emissions

#### Leak Detection and Repair (LDAR) Program

QAFAC is working on implementing a Leak Detection and Repair (LDAR) Program, which will be completed in the fourth quarter of 2015. LDAR Program will follow US EPA Method 21 for monitoring of all components in Volatile Organic Compounds and Hazardous Air Pollutants. This will allow detection of components exceeding the leak threshold and fixing of these losses, thus reducing total fugitive emissions to the atmosphere.

### Water Use and Wastewater Management

#### Water Use

In 2014, QAFAC's total water consumption has been reduced by 22% relative to 2013, thanks to the additional recovery and reuse of 25% of wastewater by the CDR plant.

As described previously, the operation of the CDR plant will recycle 30 m<sup>3</sup>/h of water from flue gas back to the steam system, thereby reducing raw water imported from Kahramaa. Given that the majority of water is consumed during methanol production when the water is converted into steam during the steam reforming and gas synthesis process, the Steam Trap Management Program will help to increase efficiency in water use by repairing unnecessary steam leakage and thus avoiding superfluous water usage.

Table 8. Water Consumption and Wastewater Discharge

	2010	2011	2012	2013	2014
Fresh water used (m <sup>3</sup> )	1,170,556	1,289,819	1,405,222	1,563,951	1,219,204
Total wastewater generated (m <sup>3</sup> )	479,453	521,323	575,947	720,960	484,961
Water discharged to sea (excluding non-contact cooling water) (m <sup>3</sup> )	248,245	288,223	312,669	317,724	258,463
Water discharged for the Green Belt (m <sup>3</sup> )	231,208	233,100	263,278	403,236	226,498
Share of wastewater recycled to the Green Belt (%)	48%	45%	46%	56%	47%
Water recovered and reused from CDR plant (m <sup>3</sup> )					125,615

## Wastewater Management

QAFAC uses a significant amount of water for processing. Approximately one third to half of the water used will result in wastewater. Until now, QAFAC has been discharging generated wastewater in line with the regulatory limits for substance content established by the Ministry of Environment (MOE).

Going forward, new regulations from the Ministry of Environment require all process wastewater to be internally utilized and not discharged into the sea. QAFAC is working on establishing a wastewater recycling process for the treatment and reuse of wastewater in the production process, which will see zero wastewater discharge by 2016. QAFAC plans to implement the zero liquid discharge initiative by installing an ultra-filtration and reverse osmosis process for tertiary treatment of treated wastewater, which will be recycled back into the production process thus further reducing the need for fresh water consumption.

Until now, QAFAC's water recycling initiative has directed 47% of recycled sanitary wastewater to the Green Belt. The Green Belt is a project focused on utilization of treated wastewater by irrigating trees planted at the plant facilities and in the main approach road to QAFAC. The initiative is also contributing to the absorption of CO<sub>2</sub> from the air, thus partially compensating for the GHG emissions. So far, around 560 trees have been planted, 2.5km irrigation pipes laid down and a dedicated irrigation water pumping system was installed, and a large area in the North West of the plant is converted to Green grassy plot.

Other newly issued MOE environmental standards are aiming to reduce the environmental impact of residual chlorine and thermal discharges into the seawater. In accordance with this, QAFAC was asked to conduct hydrodynamic modeling for residual chlorine discharge to confirm (a) that the current cooling water discharge complies with the maximum allowable limit of 0.05 mg/L at the edge of the mixing zone, (b) the maximum residual chlorine concentration/mass flow rate at the discharge point and (c) whether discharged water corresponds in its thermal quality to the temperature limit. QAFAC completed an Environmental Impact Assessment (EIA) of residual chlorine and thermal discharge into seawater in cooperation with the Texas A&M University of Qatar (TAMUQ). The study used the advanced simulation for marine and atmospheric transport model (3D SMART) which confirmed that reported levels of residual chlorine in the cooling water and its temperature complied with the Ministry of Environment's regulations. We will use this model in the future to make sure that levels comply with the limit of free residual chlorine levels and allowed temperature of discharged water.

Table 9. Waste Management

	2010	2011	2012	2013	2014
Total waste disposed (tonnes) <sup>3</sup>	2,983	3,306	4,914	3,318	3,312
Total industrial waste (hazardous) disposed to MIC Hazardous Waste Treatment Center (tonnes)	183	506	2,114	518	512
Domestic waste (tonnes) <sup>4</sup>	2,800	2,800	2,800	2,800	2,800
Oil waste, recycled (tonnes)	0	0	27	20	66
Total waste recycled (tonnes)	0	0	27	21	66
Number of significant spills	0	0	0	0	0

## Waste Generation and Management

QAFAC's process is gas-based, which does not generate a significant amount of waste or hazardous waste relative to production processes operated by other companies. All waste is managed in accordance with Qatar regulations, where hazardous waste is sent for appropriate treatment and disposal to the Mesaieed Industrial City (MIC) Hazardous Waste Treatment Center, and spent oil is transported to an approved oil reclamation company for recycling.

We are applying the following efforts to promote recycling and waste reduction activities for office waste, which will also bring additional cost saving benefits:

- bins for recycled paper positioned in designated locations: 5,435kg of collected paper was sent to a recycling company in 2014;
- installation of two machines for plastic bottle and can recycling in our administration building and in QAFAC's head office: 50kg of plastic bottles and 7kg of cans were recycled in 2014;
- Gradual phasing out of printers in 2014, substituting over 100 printers with 13 printers. Next stage will be the introduction of a centralized multi-functional network printer that will reduce paper and electricity use, reduce maintenance costs, and also prevent creation of waste for decommissioned printers; and
- Introduction of virtualised desktop VmWare will eliminate the need to annually replace 25% of computers based on amortization rate, thereby reducing the generation of



hazardous technological waste and reducing costs of electronic equipment replacement.

In addition to the abovementioned initiatives QAFAC has hired Averda Consulting to help us in our efforts of waste recycling and environmentally friendly management of energy and water consumption. The results of our recycling efforts for 2014 are quite impressive, and the equivalent value of savings is demonstrated in the picture below.

And finally, this Sustainability Report itself is printed on recycled paper, as was also done for our previous Sustainability Report. In this way we are trying to raise awareness of the importance of recycling practices.



3. Total waste disposed is a sum of total industrial waste and domestic waste.

4. Domestic waste data is estimated based on the average produced per person multiplied by the number of workforce.

## Participation in Environmental Events

### Participation in Environmental Fair

QAFAC participated in the eighth "QP Environmental Fair 2014" on 23-26 April 2014, which was held at Qatar National Convention Centre (QNCC). QAFAC's pavilion at this event was built with a vision of water conservation. QAFAC highlighted the significant achievement of constructing the CDR Plant which will contribute to recovery of CO<sub>2</sub> and 720m<sup>3</sup>/day of water from fuel gas moisture.



### World Environment Day

QAFAC is celebrating World Environment Day that is commemorated every year on the 5th of June under the initiative of the United Nations Environmental Program (UNEP). This year World Environment Day had the slogan "Raise your voice, not the sea level". QAFAC organized a contest for employee's children aged 7-17 by dividing entries into three age categories. Winners from each age group were awarded. The contest focused on raising environmental awareness among children, and also among their parents and other employees.



# Developing Our Workforce

Developing a diverse and highly skillful workforce, with a focus on increasing the local workforce and encouraging female participation in QAFAC activities in line with Qatar National Vision 2030, is a particularly important part of our sustainability strategy and an issue of high materiality for our stakeholders.

## A Diverse Workforce Profile

Workforce	2010	2011	2012	2013	2014
Total workforce	304	300	291	329	364

### BY EMPLOYMENT LEVEL

Senior management	9	8	10	13	13
Middle management	28	27	8	21	21
Staff	267	265	273	295	295

### BY NATIONALITY

Qatari nationals	51	54	50	75	98
Expatriates	253	246	241	254	266

### QATARIZATION AT THE MANAGEMENT LEVEL

Qatari nationals at Senior Management					8
Qatari nationals at Middle Management					5

Workforce Age Profile	2010	2011	2012	2013	2014
Workforce by age 18-30	53	47	28	59	72
Workforce by age 31-40	76	65	55	67	79
Workforce by age 41-50	134	135	116	126	124
Workforce by age 51-60	41	53	92	77	88

## Qatarization

In line with Qatar National Vision 2030, QAFAC takes an active role in increasing the number of local Qataris among its employees. QAFAC offers various incentives to attract qualified specialists, and invests in future potential employees by sponsoring students in the study areas relevant to our operations. Currently Qatari employees constitute 27% of the total QAFAC workforce. More information about QAFAC's Qatarization initiatives is in the chapter on "Strengthening Our Society".



goal of training is to develop you as a person, make you a stronger employee and enable you to continue to move up in the company. I enjoy a really great working environment in QAFAC and feel very close to my colleagues.

**In your view, how is QAFAC approaching Qatarization?**

QAFAC has a clear plan to fill key positions in the company with Qataris. There is a lot of significant support for growth and development in the company. The company either develops Qataris by providing them with cycles of experience or recruits experienced Qataris to fill strategic positions. QAFAC interacts with Qatari society and helps to add value to the students' development by offering internships to secondary school and university students during the summer vacation. This opportunity provides them with professional experience and opens up new possibilities in the learning process related to the operation and maintenance processes in the petrochemical industry. During the internship program, QAFAC also advertises job opportunities and allows trainees to explore the chances of progression within the company.

**What do you see as QAFAC's biggest PR achievements over the last year?**

We organized various conferences in a short period of time which provided QAFAC with important profiling opportunities. These included the first Middle East Methanol Forum, organized by QAFAC in association with the Methanol Institute, and the carbon dioxide recovery plant launch which enables us to increase methanol production and decrease greenhouse gas emissions. We are proud of such achievements and grateful to our CEO, Mr. Nasser Jeham Al-Kuwari for encouraging us to increase awareness about our company.

**MR ALI AHMED A. AL-SUWAIDI**

**Position:**  
Public Relations Manager

**Department:**  
Public Relations

**Nationality:**  
Qatari

**Working in QAFAC since October 2013**

**What is the best thing about working in QAFAC?**

Starting from the CEO, people at all levels of QAFAC are very friendly, approachable and highly skilled in what they do. The company truly values its employees and is committed to supporting people in maintaining a work/life balance. Employees are encouraged to take training classes on a number of subjects, even if the subject matter is not directly associated with an employee's current position. The

## Female Employment

While some women may prefer not to work in the petrochemical industry due to changing shifts and harsh physical demands, QAFAC provides equal opportunities for female employment at all levels of the organization. Female employees have grown by 6% since 2010. QAFAC has 1% of female employees engaged in senior management and 2% in middle management.

Our training and development, recruitment and retention programs aim to create a positive work environment for female employees. Our company is committed to supporting and providing equal opportunities for all female employees, and we have taken measures to make sure that there is equality in the salaries that men and women receive for equivalent work.

Table 10. Female Employment

Female Employment	2010	2011	2012	2013	2014
Number of female employees	10	9	11	24	33
Female employment rate (%)	3.0	3.0	3.6	7.3	9.1
Females in middle management (%)	9.2	9.2	1.0		2.0
Females in senior management (%)	2.9	2.9			1.0

### MRS MAHA ABDULAZIZ FARHOOD AL-MADEED

**Position:**  
Internal Auditor

**Nationality:**  
Qatari

**Working in QAFAC since 2012**

#### Why do you like working at QAFAC, especially from the point of view of a Qatari employee?

It is a general approach of respect and understanding on a personal level that makes QAFAC an enjoyable place to work. Being Qatari does not feel different from the treatment of other employees: we are all equally challenged at work, which fosters a spirit of enthusiasm and initiative, and the will to do more for the company. Equally so for female employees like me.

I joined QAFAC almost three years ago as a developpee, and since then I have felt I have been taken care of in the development of my career, following my Personal Development Plan set up in the beginning.

It is particularly important that every one of us is given a chance to prove ourselves, and to improve in certain skills. QAFAC management provides full support for personal initiatives of employees to allow them to develop professionally. I am currently undergoing a process of acquiring the Certificate of International Audit (CIA), and I am grateful to QAFAC for sponsoring my studies and providing extra time during the examination process. This will allow me to become one of the few CIA certified auditors in Qatar, in particular, becoming the first female CIA certified Qatari auditor.

#### Where do you think QAFAC's approach to sustainability is especially important?

Workforce is the essence of the company. By giving endless opportunities for the professional development of its employees, QAFAC ensures a continuous business growth.

## Employee Turnover and Succession

We dedicate considerable efforts to ensure our workforce and contractors are appropriately trained to perform their jobs in the most skilful manner and, most importantly, to make sure their work is accomplished in accordance with the highest safety standards. We constantly try to provide safe and comfortable work conditions for our workforce, resulting in a low rate of employees leaving the company over the past 10 years, especially among those in leadership positions.

In order to ensure business continuity QAFAC has strong and integrated succession planning, knowledge transfer and talent attraction systems and practices. These systems proactively address any attrition challenges that affect a company operating for the considerable period of 16 years. Consequently, QAFAC has now introduced a talent management initiative to ensure continuity when soon-to-be retired employees are succeeded by young talent.

As in previous years, all our employees receive regular performance and career development reviews.

Table 11. Employee Turnover

	2010	2011	2012	2013	2014
Turnover rate, total (%)	2.9	5	0.3	2.7	1.1
Total number of employees who left the organization	9	15	1	9	4
<b>TURNOVER BY EMPLOYMENT LEVEL</b>					
Senior management	2	3	0	2	0
Middle management	3	2	0	3	1
Staff	4	10	1	4	3
<b>TURNOVER BY GENDER</b>					
Female	1	0	1	1	0
Male	8	15	0	8	4
<b>TURNOVER BY AGE</b>					
Workforce by age 18-30	0	3	0	0	3
Workforce by age 31-40	2	3	0	2	0
Workforce by age 41-50	4	7	1	4	1
Workforce by age 51-60	3	2	0	3	0

### Establishment of Talent Management Section and Launch of the Gadan Initiative

Given that 23% of employees are in the age category of 51-60, it is necessary to prepare a new workforce to replace QAFAC's specialists in the leadership positions that they will be leaving upon reaching pensionable age. Thus, we have established the talent management initiative called "Gadan", which stands for "Tomorrow" in Arabic. It addresses the issues of attracting, retaining and developing talent by increasing individual employee motivation, as well as focusing on succession planning. Although the Gadan program is open to all employees, it is expected to have the most positive impact on the development of our Qatarization policy.

This initiative differs from traditional company training and development because it focuses on producing QAFAC's leaders of tomorrow. It will produce a pool of highly motivated, talented and focused individuals who will benefit from leadership, development and training initiatives to reach the point where they can be included in the Company Succession Plan at all levels of the organization. The round of qualification tests to select candidates suitable for inclusion into the program will start in February 2015. Successful candidates will start a two-year learning program after the second quarter of 2015. To date, over 40 employees have volunteered to take part in the qualifying tests.

“The importance of this initiative should not be underestimated. The establishment and deployment of talent is a critical part of the future of our business. With that in mind we have established a dedicated function whose sole aim is the nurturing and development of key talent within QAFAC – attracting and retaining the best is very much what QAFAC will be about in this increasingly competitive human capital market.”

Mr Nasser Jeham Al-Kuwari, Chief Executive Officer

Table 12. Employee Training

	2010	2011	2012	2013	2014
Total number of training hours for total workforce (h)	1,414	2,353	3,920	4,176	4,452
Average hours of training per year per employee (h/employee)	4.7	7.8	13.5	12.7	12.2
Average hours of training per employee for nationals (h/employee)	4	3	17	24	780
Total cost of training (QR)	3,376,420	3,729,510	5,411,264	14,184,346	10,860,575
Average cost of training per employee (QR)	11,106	12,431	18,595	43,113	29,836

### Employee Training and Development

Health and Safety training for employees and contractors is essential in maintaining our safety target. This was particularly challenging in 2014 due to a highly complex turnaround process, construction of new facilities such as the CDR plant and implementation of the other upgrade initiatives described in the chapter “Operating Reliably and Safely”. As already reported, QAFAC successfully concluded this year with zero LTA among employees.

The HSE department organized and managed 8,450 hours of in-house training activities in order to ensure proper preparation for all employees and contractors involved in production processes. These training hours are considered separately from other training hours. This is more than double other training activities provided at QAFAC. The following HSE training activities were provided in 2014:

- Emergency Response Team (ERT) training;
- Pre-turnaround training for employees and contractors involved in the turnaround process;
- Health and safety training for newly hired contractors;
- Heat stress training for employees;
- Training for employees issuing permits to work (PTW) to enable them to assess whether an employee or contractor is qualified to perform the job safely;
- Mandatory training in HSE issues provided to new fire and safety operators, student trainees, and new production employees. Statistics on training provided by the HSE department are shown below.



### Employee Engagement and Recognition

#### CEO Awards

QAFAC annually recognizes the loyalty of company staff that have completed over five, ten and fifteen years of service. In 2014, the CEO of the company, Mr Nasser Jeham Al-Kuwari honored 108 employees with the award for loyalty and contribution to company business.

#### Human and Labor Rights Management

In 2013, QAFAC ensured that human rights criteria were included in all agreements with contractors and suppliers, and we ensured that both national and international suppliers abided by Qatari laws and regulations. Building on this, QAFAC created a human rights policy for its employees that will also be the basis for contractor and supplier human rights standards. As of 2014, no incidents of child labor or compulsory labor were identified. 100% of agreements included clauses incorporating human rights concerns.



## Strengthening Our Society

The strength of our society is ensured by promoting a specialized local workforce, supporting local suppliers in order to enhance the local economy, assisting the needs of local communities, and engaging QAFAC in activities of common interest.

### Promoting Qatarization

Promoting development of the local workforce is a very important policy for QAFAC, in line with the goal of the National Vision of Qatar 2030. In 2014, 23 new Qatari employees joined QAFAC, increasing the ratio of local staff among QAFAC employees from 23% in 2013 to 27% in 2014. Qatari staff receive extensive training, and the average hours of training for Qatari employees has increased from 24 hours of training for Qatari employee to 780 hour, i.e. by 32 times.

Table 13. Student Scholarships, Trainees and Interns

	2010	2011	2012	2013	2014
Number of Qatari students sponsored to study in universities abroad	5	5	13	14	9
Number of Qatari students sponsored to study in university/technical school in Qatar	8	9	7	10	8
Number of trainees and interns at QAFAC	14	17	14	16	20
Number of QAFAC employees supported to complete their education					33

QAFAC not only supports Qatari students with scholarships in international and national educational institutions to develop the future intellectual capital of the country, but also cooperates directly with local educational institutions to work on technical issues relevant for QAFAC processes. We have cooperated with Texas A&M University at Qatar (TAMUQ) to study the environmental impact of residual chlorine and thermal discharges into the Arabian Gulf, as described in the section on wastewater management.

In April 2014 QAFAC sponsored “Engineering Week” at the University of Qatar, focused on informing the community, and high school students in particular, about the Engineering College’s achievements to raise interest among future potential College students. At the same time, current Engineering College students had an opportunity to learn about the sponsorship and training opportunities that QAFAC provides.

QAFAC sponsors other educational initiatives such as supporting an English language course organized by the Qatar Foundation to prepare 100 Qatari students for English entrance exams.



### Supporting Local Suppliers

One important aspect for reaching Qatar’s strategic goal of diversifying its economy is supporting local suppliers of materials and services, thus strengthening various economic sectors of the country. QAFAC recognizes its responsibility for supporting local suppliers and contractors, and subsequently favours local materials and service providers in the selection process. We continually increase the percentage of local suppliers, and have currently assigned 65% of our contracts to them. Our payments to local suppliers have increased by 3% relative to 2013.



### Positive Impact on the Community

QAFAC increased its investment in social initiatives by almost 10 million Qatari Riyal, which is an equivalent of USD 2.7 million, relative to 2013. Thus, we have more than tripled the share of our pre-tax profit directed on social spending, showing our deep commitment to the development of local community.

Table 14. Support to Local Suppliers

	2010	2011	2012	2013	2014
Percentage of locally based suppliers	60%	58%	64%	65%	65%
Local suppliers paid amount – total (QR '000)	77,369	27,115	68,845	90,170	92,391
Percentage of spending on local based contractors and suppliers (% of total spending)	90%	79%	88%	78%	71%

Within the framework of Corporate Social Responsibility, QAFAC is taking an active role in numerous community related events to promote activities that have a positive impact on the development of a local society. We support many sport related initiatives, such as the Qatar Sailing and Rowing Federation organizing regular Gulf sailing events. For the second consecutive year, we are

Table 15. Investment in Community Initiatives

	2010	2011	2012	2013	2014
Community investment (QR)	752,616	1,230,276	1,185,593	7,655,618	17,157,000
Community investment as a percentage of pre-tax profit	0.035	0.036	0.091	0.529	1.78
Community investment by areas of impact					
Spent on educational initiatives (QR)	306,042	274,939	539,535	2,390,392	601,139
Spent on environmental initiatives (QR)	217,004	79,399	329,026	513,398	836,476
Spent on safety initiatives (QR)	181,563	82,828	87,001	497,035	2,376,589
Spent on health initiatives (QR)	48,007	-	230,032	202,227	6,571,248
Other					6,750,540

supporting the West Asian Federation of Billiards and Snooker. In 2014, as every other year, QAFAC participates in the National Sports Day, organizing various activities for its employees and for public. Senior management also participates in such social event.



However, our support of local communities is not limited to sporting initiatives alone. We are working on extending our approach of following internationally recognized standards to manage sustainability related aspects. QAFAC sponsored Um Ayman Independent Secondary School for Girls in the implementation of an integrated management system, including Quality Management System, Environmental Management System (following ISO 14000:2004), and Health and Safety Management System (OHSAS 9001). Consequently, Um Ayman will be the first public school in Qatar to implement an integrated management system and will set an example for other schools in the country.

# Annex 1: Sustainability in Numbers

	Indicator	Unit	2010	2011	2012	2013	2014
Economic Contribution	Revenue	USD ('000)	569,611	921,244	927,768	984,547	816,702
	Production - broken down into main products:						
	MTBE	t	512,705	654,549	610,985	648,022	600,342
	Methanol	t	879,196	1,021,872	843,543	940,963	869,271
	Pentane	t	5,012	7,903	7,492	8,513	8,194
	Goods and services sourced locally	%	90	79	88	78	71
Climate Change and Energy	Direct energy use	GJ	18,985,973	22,057,736	19,158,500	20,964,690	18,761,283 <sup>5</sup>
	Indirect energy use	GJ	697,489	786,701	727,906	771,782	739,512
	Amount of renewable energy generated	GJ	0	0	0	0	0
	Energy exported to the grid	GJ	0	0	0	0	0
	Direct GHG emissions (scope 1)	t CO <sub>2</sub>	774,008	882,373	769,195	823,722	806,967 <sup>6</sup>
	Indirect GHG emissions (scope 2)	t CO <sub>2</sub>	94,974	107,122	99,116	105,285	100,696 <sup>7</sup>
	Flaring	MMSCM	118	150	138	152	151
The Environment	Natural gas used	m <sup>3</sup> ('000)	957,597	1,116,416	955,560	1,054,480	958,029
	Fresh water used (from purchased)	m <sup>3</sup>	1,170,556	1,289,819	1,405,222	1,563,951	1,219,204
	Fresh water used (from company generated)	m <sup>3</sup>	0	0	0	0	0
	Water discharged (to sea)	m <sup>3</sup>	248,245	288,223	312,669	317,724	258,463
	Water discharged (other than sea)	m <sup>3</sup>	231,208	233,100	263,278	403,236	226,498

5. Direct energy consumption numbers are significantly lower for 2010-2014 than in the Sustainability Report 2013, because the new methodology for calculation of energy consumed takes into account only energy from natural gas used to run operational processes, not taking into account natural gas used as a raw material for methanol production. [G4-22]

6. GHG emissions, provided in this table, do not take into account composition changes of the natural gas in use during the production process. I.e. GHG are based on stoichiometric calculations. [G4-22]

	Indicator	Unit	2010	2011	2012	2013	2014
The Environment	Water recycled or reused for the Green Belt	m <sup>3</sup>	231,208	233,100	263,278	403,236 <sup>8</sup>	226,498
	Water recovered and reused from CDR plant	m <sup>3</sup>					125,615
	SOx emitted	t	63	120	93	103	94
	NOx emitted	t	1,091	1,329	1,235	1,363	1,254
	Significant oil spills (> one barrel)	-	0	0	0	0	0
	Volume of spills	l	-	-	-	-	-
	Total waste disposed	t	2,983	3,306	4,914	3,318	3,312
	Total waste recycled	t	0	0	27	21	66
Health and Safety	Work hours (employees)	h	449,670	460,056	496,234	469,968	542,016
	Work hours (contractors)	h	1,185,252	515,974	891,832	940,120	2,819,236
	Employee fatalities	-	0	0	0	0	0
	Contractor fatalities	-	0	0	0	0	0
	Employee lost time injuries	-	0	1	0	0	0
	Contractor lost time injuries	-	0	0	0	0	0
	Employee total reportable injuries	-	1	1	0	0	0
	Contractor total reportable injuries	-	1	1	0	0	1
	Employee occupational illnesses	-	0	0	0	0	0
	Heat stress events	-	0	0	0	0	0
	Loss of containment (LOC) / process safety incidents	-	0	0	0	2	0
	Emergency response drills	-	4	4	4	8	12
	Safety incident investigation initiated	-	0	1	0	0	2
Safety incident investigation completed	-	0	1	0	0	2	
Workforce	Workforce size	-	304	300	291	329	364
	Qatarization	%	16.7	18	17.18	23	27
	Female employment	%	3.0	3.0	3.6	7.3	9.1
	Employee satisfaction	%	N/A	N/A	N/A	N/A	N/A
	Total hours of training provided to employees	h	1,414	2,353	3,920	4,176	4,452
Society	Total social investment budget	USD	206,672	337,839	325,569	2,102,270	4,707,690
	Corruption or human rights incidents	-	0	0	0	0	0

7. Calculations of indirect GHG emissions are based on the consumption of electricity. [G4-22]

8. The volume of recycled/reused water is different from the data in Sustainability Report 2013 due to the previous error in calculation. [G4-22]

# Annex 2: GRI G4 Content Index

GRI G4 Content Index for 'in accordance' option Core



GENERAL STANDARD DISCLOSURES		
General Standard Disclosures	Page Number	External Assurance
STRATEGY AND ANALYSIS		
G4-1	6, 8	Not Assured
ORGANIZATIONAL PROFILE		
G4-3	10	Not Assured
G4-4	10	Not Assured
G4-5	Doha, Qatar	Not Assured
G4-6	QAFAC Operates only in Qatar	Not Assured
G4-7	10, 11	Not Assured
G4-8	QAFAC product are sold in Asia and in the Middle East	Not Assured
G4-9	24, 28, 48	Not Assured
G4-10	48, 50	Not Assured
G4-11	Trade unions are not allowed in Qatar	Not Assured
G4-12	24, 25, 55	Not Assured
G4-13	There were no major operational changes in 2014	Not Assured
G4-14	The precautionary approach is embedded in QAFAC's sustainability management	Not Assured
G4-15	Qatar National Vision 2030, Qatar National Development Strategy 2011-2016	Not Assured
G4-16	Gulf Petrochemicals and Chemicals Association (GPCA) Air & Waste Management Association (A&WMA) Asian Clean Fuels Association (ACFA) Royal Society for the Prevention of Accidents (RoSPA)	Not Assured
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES		
G4-17	10	Not Assured
G4-18	21	Not Assured
G4-19	21	Not Assured
G4-20	64	Not Assured
G4-21	64	Not Assured
G4-22	28	Not Assured
G4-23	No significant changes from 2013	Not Assured

STAKEHOLDER ENGAGEMENT		
G4-24	20	Not Assured
G4-25	20	Not Assured
G4-26	20	Not Assured
G4-27	20	Not Assured
REPORT PROFILE		
G4-28	1 January 2014 – 31 December 2014	Not Assured
G4-29	2013	Not Assured
G4-30	Annual	Not Assured
G4-31	3	Not Assured
G4-32	60	Not Assured
G4-33	3, this report was not assured by third-party	Not Assured
GOVERNANCE		
G4-34	11, 20	Not Assured
ETHICS AND INTEGRITY		
G4-56	Code of Ethical Conduct, based on international standards in professional business ethics, is applicable for all employees. The Code of Conduct Committee oversees compliance with the guidelines of the Code of Ethical Conduct. Internal Audit Department ensures compliance of QAFAC as a company with corresponding laws and regulations.  All employees and members of the Board must annually declare any conflict of interest in accordance with QAFAC's Conflict of Interest Policy.	Not Assured

SPECIFIC STANDARD DISCLOSURES			
DMA and Indicators	Page Number	Omission(s)	External Assurance
CATEGORY: ECONOMIC			
MATERIAL ASPECT: ECONOMIC PERFORMANCE			
G4-DMA	19		Not Assured
G4-EC1	28		Not Assured
G4-EC4	No assistance received from the government		Not Assured
MATERIAL ASPECT: INDIRECT ECONOMIC IMPACTS			
G4-DMA	48		Not Assured
G4-EC6	48		Not Assured
MATERIAL ASPECT: PROCUREMENT PRACTICES			
G4-DMA	55		Not Assured
G4-EC9	55		Not Assured
MATERIAL ASPECT: PROCUREMENT PRACTICES			
G4-DMA	31		Not Assured
G4-EN2	31		Not Assured

MATERIAL ASPECT: ENERGY		
G4-DMA	42	Not Assured
G4-EN3	42	Not Assured
G4-EN5	42	Not Assured
G4-EN6	30	Not Assured
MATERIAL ASPECT: WATER		
G4-DMA	43-45	Not Assured
G4-EN8	43-45	Not Assured
G4-EN10	43-45	Not Assured
MATERIAL ASPECT: EMISSIONS		
G4-EN15	42	Not Assured
G4-EN16	42	Not Assured
G4-EN18	42	Not Assured
G4-EN19	42	Not Assured
G4-EN21	42	Not Assured
MATERIAL ASPECT: EFFLUENTS AND WASTE		
G4-DMA	45	Not Assured
G4-EN22	43, 44	Not Assured
G4-EN23	45	Not Assured
G4-EN24	59	Not Assured
CATEGORY: SOCIAL		
SUB-CATEGORY: LABOR PRACTICES AND DECENT WORK		
MATERIAL ASPECT: EMPLOYMENT		
G4-DMA	51	Not Assured
G4-LA1	51	Not Assured
MATERIAL ASPECT: OCCUPATIONAL HEALTH AND SAFETY		
G4-DMA	35-37	Not Assured
G4-LA6	36	Not Assured
MATERIAL ASPECT: TRAINING AND EDUCATION		
G4-DMA	52	Not Assured
G4-LA9	52	QAFAC have not provided this indicator is breakdown by gender, as this indicator are not measured
G4-LA10	51	Not Assured
MATERIAL ASPECT: DIVERSITY AND EQUAL OPPORTUNITY		
G4-DMA	48	Not Assured
G4-LA12	48	Not Assured
MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR LABOR PRACTICES		
G4-DMA	37	Not Assured
G4-LA14	37	Not Assured

SUB-CATEGORY: HUMAN RIGHTS		
MATERIAL ASPECT: INVESTMENT		
G4-DMA	53	Not Assured
G4-HR1	53	Not Assured
MATERIAL ASPECT: CHILD LABOR		
G4-DMA	53	Not Assured
G4-HR5	53	Not Assured
SUB-CATEGORY: SOCIETY		
MATERIAL ASPECT: ANTI-CORRUPTION		
G4-DMA	11	Not Assured
G4-S05	11	Not Assured
MATERIAL ASPECT: ASSET INTEGRITY AND PROCESS SAFETY		
G4-DMA	35	Not Assured
G4-OG13	35	Not Assured
SUB-CATEGORY: PRODUCT RESPONSIBILITY		
MATERIAL ASPECT: CUSTOMER HEALTH AND SAFETY		
G4-DMA	25, 26	Not Assured
G4-PR1	26	Not Assured
MATERIAL ASPECT: PRODUCT AND SERVICE LABELING		
G4-DMA	25, 26	Not Assured
G4-PR3	26	Not Assured

# Annex 3: Material Aspects Boundaries

[G4-20] [G4-21]

Sustainability Framework Pillars	Materiality Aspect	Boundary
Sustainability Leadership	Governance and accountability (including anti-corruption)	Shareholders, customers & Muntajat, environment, society, employees
	Strategy implementation	Shareholders, employees
	Stakeholder confidence	Shareholders, customers & Muntajat, environment, society, employees
	Legal compliance	Shareholders, customers & Muntajat, environment, society
High Value Products and Production Growth	Growth (operational and financial)	Shareholders, customers & Muntajat, environment, society, employees
	Product quality and innovation	Customers & Muntajat
	Feedstock supply	Shareholders, employees, suppliers
	Supply Chain (procurement, material management, contract and sourcing)	Shareholders, suppliers
Caring for the Environment	Energy efficiency	Environment, shareholders
	Water efficiency	Environment, shareholders
	Environmental Impact (emissions, flaring, waste management)	Environment, shareholders
Strengthening Our Society	Corporate Social Responsibility (Qatarization, local procurement, job creation)	Society, employees
Developing Our Workforce	Human resources attraction and retention	Employees, society
	Employee learning and development	Employees
Operating Reliably and Safely	Process safety and asset integrity	Employees, shareholders, environment
	Plant reliability	Shareholders, customers & Muntajat



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