

SUSTAINABILITY REPORT 2017

Focused on the environmental sustainability







#### About this Report

This is the fourth annual sustainability report for the Q-Chem companies, covering the 2017 calendar year. The report highlights the activities and economic, environmental and social performance of all three Q-Chem operated facilities:

- Qatar Chemical Company Ltd. (Q-Chem)
- Qatar Chemical Company II Ltd. (Q-Chem II)
- Ras Laffan Olefins Company Ltd. (RLOC)

Activities of the three operational facilities are referred to in aggregate form as "Q-Chem companies", while the performance of each facility is presented separately where applicable.

In this report, we share information about the companies' progress in the areas of health, safety, environment, product quality and stewardship, human capital management, community outreach and economic performance. Appendix A lists key acronyms used in the report.

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#### Cautionary Message

This report contains statements that may be deemed as "forward-looking statements", which express the way in which Q-Chem companies intend to conduct their activities. Forward statements could be identified by the use of forward-looking terminology such as "plans", "aims", "assumes", "continues", "believes", or any variations of such words that certain actions, events or results "may", "could", "should", "might", "will", or "would" be taken or be achieved.

We have made every effort to ensure the report is as accurate and truthful as possible. However, by their nature, forward-looking statements are qualified due to inherent risks and uncertainties surrounding future expectations that could cause actual results to differ materially from these projected or implied statements. Such statements are subject to risks that are beyond Q-Chem companies' ability to control and therefore do not represent a guarantee that events implied in these forward-looking statements will actually occur.



#### Message from

# The Chairman

On behalf of the Board of Directors, I am proud to showcase Q-Chem companies' fourth annual Sustainability Report, presenting the companies progress towards operating more sustainably through highlighting its economic, environmental and social performance.

Q-Chem companies have long recognized their responsibility to contribute to the sustainable development of Qatar, and take their role as leaders in the energy and industry sector very seriously. As a result, we have fully aligned our sustainability framework with the national sustainable development ideals stipulated in the Qatar National Vision (QNV) 2030. The QNV 2030 sets a clear roadmap for the economic, social, human and environmental development of the State of Qatar. Under the guidance of the QNV 2030, we are simultaneously securing our future business prosperity and contributing to the country's long-term interests.

Since Q-Chem was founded in 1997, the Company has undergone many changes to meet growing demand and the needs of a rapidly expanding international market. Despite these changes, we have maintained our strong reputation as a producer of quality petrochemical products in a safe, environmentally responsible and financially sound manner. We truly believe that sustainability is crucial to our continued success.

Engaging with stakeholders on a regular basis remains essential to Q-Chem companies' business strategy and sustainability journey. This report serves as an important stakeholder communication tool, highlighting our performance in sustainability and its importance to our mission, vision and values. With every year, we aim to reinforce our firm commitment to transparency, accountability and continuous advancement.

Finally, I would like to extend my sincerest gratitude to the Q-Chem companies' team, Board members and all of our stakeholders for supporting our continued success in 2017.

#### Abdulrahman Al-Suwaidi

Chairman of the Board of Directors Q-Chem Companies



#### Message from

## The Chief Executive Officer

Welcome to our 2017 Sustainability Report. Each year, the report provides an opportunity for Q-Chem companies to assess our achievements, challenges and opportunities for improvement. We hope this report illuminates our comprehensive efforts to meet and exceed the expectations of our stakeholders.

At Q-Chem companies, we have a wellestablished commitment to sustainability. We take pride in the strides we have taken towards improving sustainability management across all divisions of our companies, and we continuously look for ways to improve our sustainability management systems.

Despite the challenging geopolitical conditions in 2017, our Operational Excellence program ensured that we continued functioning as one of the premier producers of polyethylene and normal alpha olefins in our respective markets. We have continued to uphold international best practices through our partnerships with external certification bodies and agencies such as OHSAS, ISO and Responsible Care.

In 2017, we scheduled the largest "turnaround" in the history of our companies, where we took our industrial operations offstream for an extended period as part of a revamp. During the turnaround, we implemented significant facility and operational improvements, while maintaining strong health and safety controls. Even with 2.5 million man-hours accumulated through this event, we had zero recordable injuries.

At Q-Chem companies, creating the highest standards of safe working conditions has always been a value. Our culture of safety, health and well-being not only applies to all our workers, including our contractors, but also to the environment and society as a whole.

As environmental stewards, we marked another year of progress in 2017, achieving our best performance yet in terms of company-responsible reportable environmental events and upstream responsible events. We look forward to implementing more sustainability-focused projects in the future and further improving our performance.

The QNV 2030, supported by the National Development Strategies, directs our priorities. We are proud of our contributions to achieving the QNV 2030 through our environmental stewardship, economic diversification, national employment and social enrichment initiatives. In 2017, we exceeded our target Qatarization rate for the second year in a row, and we continued our numerous partnerships with local universities to attract new national talent. These and other efforts led Q-Chem companies to receive recognition for supporting Qatarization during the 17th Annual Qatarization Review Meeting. We also recognize the important impact our purchasing has on the Qatari economy, and we are committed to promoting national products by transitioning to brands that are "Made in Qatar". In 2017, our local procurement rate stood at 66%.

We are pleased with our successes in 2017 and look forward to continued growth every year. We are in the process of reviewing our company strategy, mission and values, which will be revised in the near future to ensure they most accurately represent the long-term goals and commitments of Q-Chem companies. I invite you to read this report and learn more about our sustainability progress. We welcome your feedback, which will help us continually improve and realize a better future at the Q-Chem companies.

#### Nasser Jeham Al-Kuwari

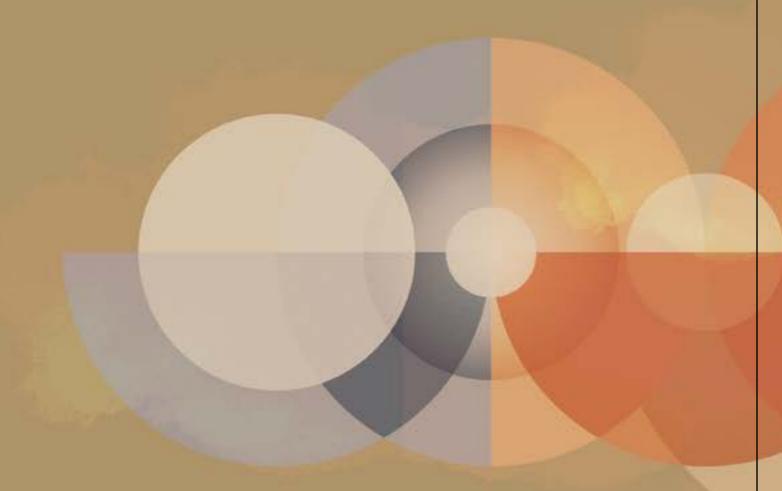
Vice Chairman & Chief Executive Officer Q-Chem Companies



"At Q-Chem companies, we have a well-established commitment to sustainability.

We take pride in the strides we have taken towards improving sustainability management across all divisions of our companies, and we continuously look for ways to improve our sustainability management systems."

# About Q-Chem Companies











#### **About Q-Chem Companies**



Headquartered in Doha,
Qatar, the Qatar Chemical
Company Ltd. (Q-Chem)
was established in 1997
and began operations in
2004. With its associated
companies, Qatar Chemical
Company II Ltd. (Q-Chem
II) and Ras Laffan Olefins
Company Ltd. (RLOC), the
Q-Chem companies produce
high-value petrochemicals
and derivatives from
production facilities located
in Mesaieed Industrial City
and Ras Laffan Industrial
City.



Operational Excellence

Customer Satisfaction

Employee Commitment

Community Partnership

Superior Financial Returns



#### Our Vision

To be the premier producer of petrochemicals in our respective markets



#### Our Mission

To meet and exceed the expectations of our customers, shareholders, employees and community



#### Our Principles

- Work safely or not at all
- There's always time to do it right
- If it's worth doing, do it better



#### Our Values "We believe in"

- Protecting the safety of people, process assets and the environment
- Employing and developing Qatari nationals
- Respecting diversity and cultural differences
- Continuously improving our employees' skills, processes and products
- Communicating well, empowering and engaging individuals and teams, and recognizing superior performance
- Fostering a fair, interesting, enjoyable and rewarding workplace

In 2018, we plan to redefine our corporate strategy, mission and values, not just to reflect the current global landscape but also to position ourselves as relevant to a sustainable future.

#### **Corporate Profile**

The structure of Q-Chem companies supports the focus of our operations: to transform Qatar's natural gas wealth into high-value petrochemicals and derivatives, including high-density and medium-density polyethylene (HDPE and MDPE), normal alpha olefins (NAO) and 1-hexene for sale on global markets.

#### **Qatar Chemical Company Ltd. (Q-Chem)**



After launching commercial operations in 2004, Q-Chem has become a world-class petrochemical plant that produces high and medium-density polyethylene (HDPE and MDPE),

1-hexene and other by-products using cutting-edge technologies provided by the Chevron Phillips Chemical Company, a leading producer of chemicals and plastics.

The Q-Chem complex has a production capacity of 453,000 metric tons per annum (MTPA) of polyethylene and a production capacity of 47,000 MTPA of 1-hexene. The complex also consists of a sulfur recovery and solidification plant, a water treatment plant, a seawater cooling system, dock facilities and administrative buildings.



#### Qatar Chemical Company II Ltd. (Q-Chem II)



Located adjacent to Q-Chem in Mesaieed Industrial City, MIC, Q-Chem II began commercial operations in 2010 to meet the increasing demands of our customers in Asia, Europe and Africa

Taking advantage of economies of scale, Q-Chem II produces 350,000 MTPA of HDPE and is the first full-range normal alpha olefins (NAO) unit with a production capacity of 345,000 MTPA. The NAO plant produces a full range of alpha olefins, including Butene, Hexene, Octene, Decene and higher-molecular-weight olefins up to C30+.



#### Ras Laffan Olefins Company Ltd. (RLOC)



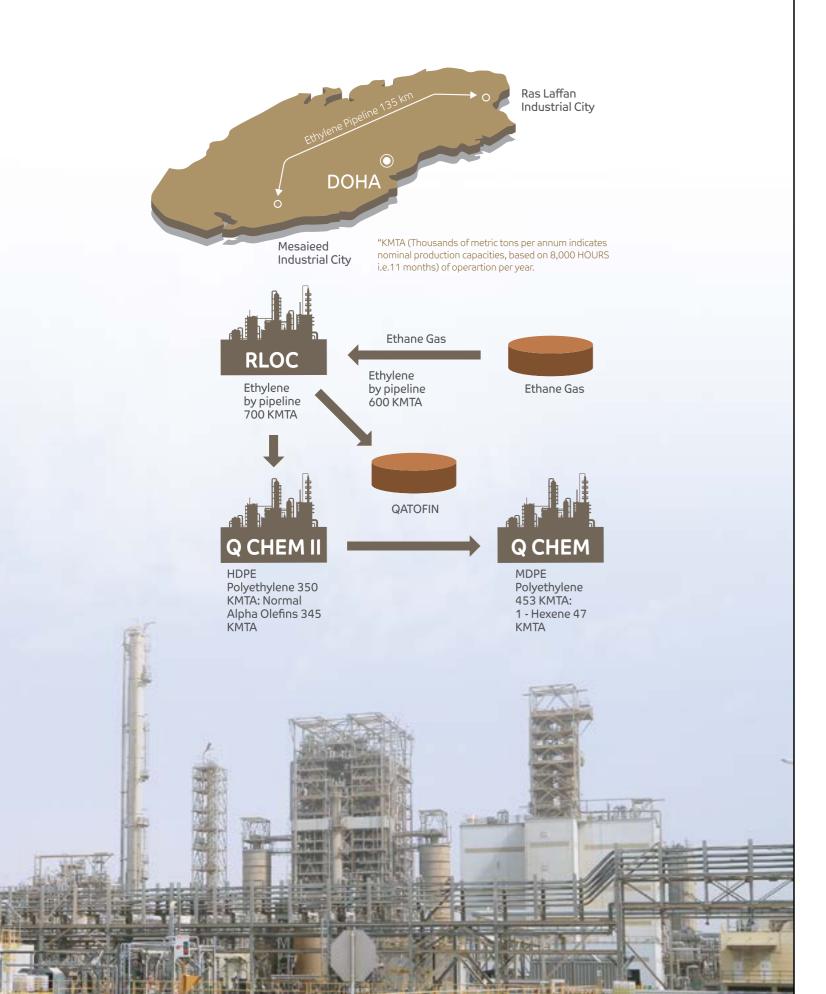
Inaugurated in 2010 and operated by Q-Chem II, RLOC is a premier 1.3 million MTPA ethylene cracker plant located in Ras Laffan Industrial City.

The ethylene produced by RLOC is transferred via a 135 km pipeline from Ras Laffan to Q-Chem II and Qatofin derivatives units in Mesaieed. Upon arriving in Mesaieed, 700,000 MTPA of ethylene is allocated to Q-Chem II and 600,000 MTPA to Qatofin.



#### **Our Supply Chain**

The diagram below illustrates the supply chain process and resulting goods produced by Q-Chem companies



#### **Product Uses**

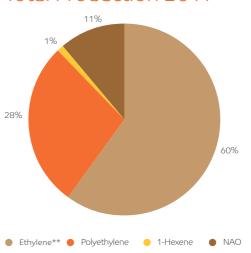
#### Polyethylene

Polyethylene (PE) is a versatile thermoplastic resin that may be converted into a variety of fabricated articles used in containers, pipes, films and geomembrane sheets as well as durable applications in the automotive industry. Films and molded articles may be used in items found in domestic, retail and industrial settings.

#### **Normal Alpha Olefins**

Normal alpha olefins (NAO) and their derivatives are used extensively as PE comonomers, plasticizers, synthetic motor oils, lubricants, automotive additives, surfactants and paper-sizing agents, and can be used in a wide range of specialty applications.

#### Total Production 2017\*



<sup>\*</sup>Chart includes production of all Q-Chem companies

#### **Ownership Structure**

#### Our shareholders include:

- Mesaieed Petrochemical Holding Company Q.S.C. (MPHC), which is majority-owned by Qatar Petroleum (QP)
- Chevron Phillips Chemical International Qatar Holdings LLC (CPChem)
- Qatar Petroleum (QP)
- Qatofin



<sup>\*\*</sup> Ethylene is used as captive consumption in the production of PE and NAO at

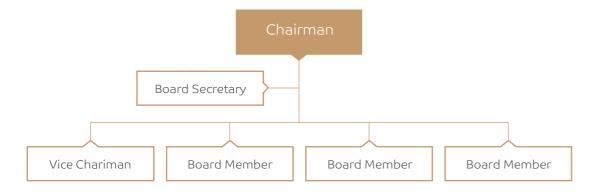
Q-Chem and Q-Chem II.

#### **Corporate Governance**

We are committed to strong corporate governance. Board members, who are nominated directly by our shareholders to represent them, meet quarterly during the year to discuss each company's performance and address areas of concern. Board committees work to ensure the utmost accountability and integrity of each company. As part of our commitment to transparency, our governance bodies and operations are subject to regular internal and third-party audits.

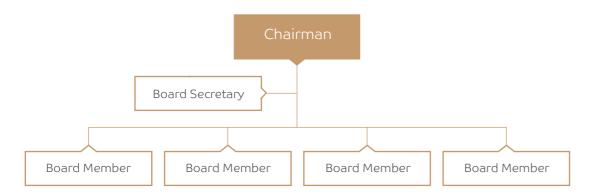
#### Q-Chem & Q-Chem II - Board of Directors

Q-Chem and Q-Chem II companies Board of Directors consist of five members: Chairman (a designate of MPHC); Vice Chairman (an appointee of the Board and representative of MPHC); and one representative of MPHC; and two representatives of CPChem.



#### **RLOC - Board of Directors**

The RLOC Board of Directors consists of five members: Chairman (appointed by QP); Board Secretary (appointed by the Board members); and four members (two appointed by Q-Chem II and two appointed by Qatofin).



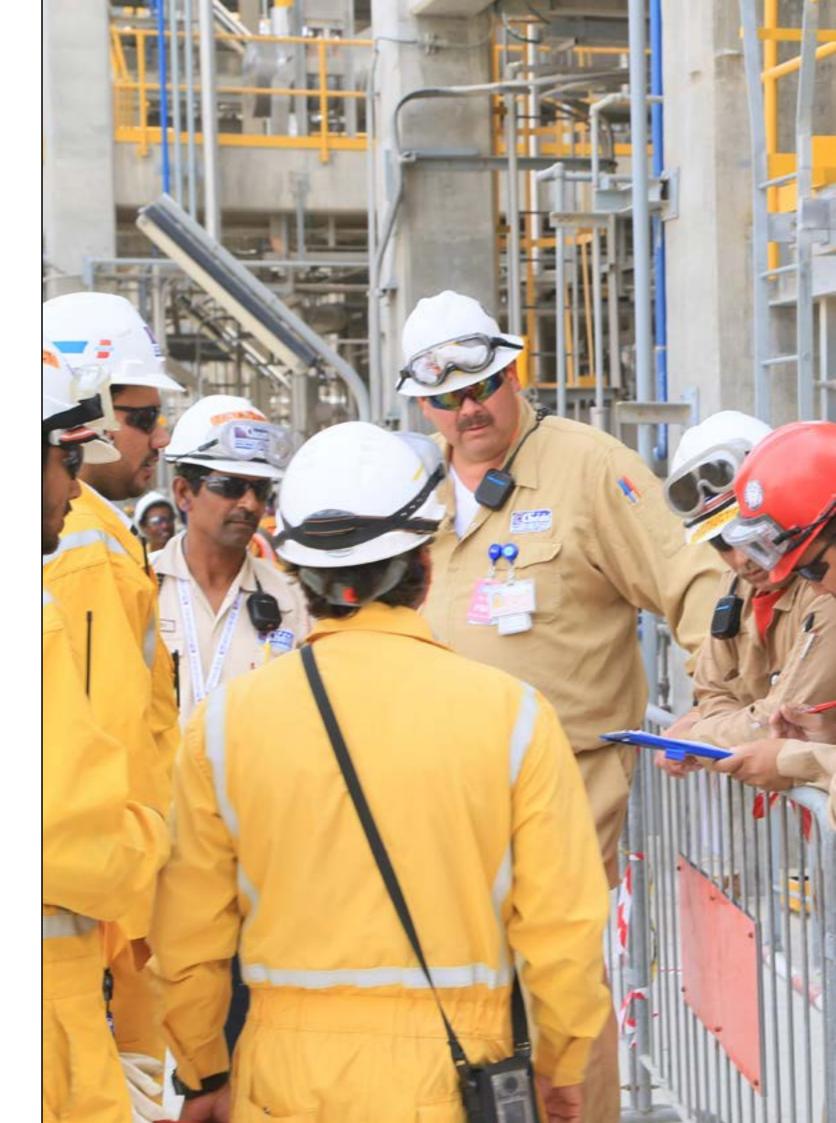
#### **Business Ethics**

We take business ethics very seriously. We have a number of policies and standards, including our Code of Ethics, that set out our expectations for responsible behavior at all times. Every employee, contractor and secondee must abide by these policies and standards, submit a conflict of interest declaration to maintain compliance with code of ethics and submit a conflict of interest declaration to maintain compliance with code of ethics.

All departments are responsible for respecting the Code of Ethics. In particular:

• The Contracts department includes ethicsreporting procedures in all standard contracts.

- Senior management is responsible for setting an example of impeccable ethical conduct and ensuring the implementation of Code of Ethics policies.
- Managers and supervisors must forward all ethicsrelated employee questions or concerns directly to senior management or the human resources department for further investigation.
- Under our policy, all reported violations are kept anonymous and no employee will suffer any retaliation for their good-faith reporting of suspected problems.



# Sustainability Management











#### Sustainability Management

At Q-Chem companies we are proud to have deeply embedded sustainability into our company culture and long-term business strategy. Sustainability lies at the core of our vision, mission, goals and values and we strive to integrate sustainability at all levels by continually finding ways to optimize our operations in line with our social, economic and environmental responsibilities. We are committed to producing petrochemicals responsibly and making significant contributions to the prosperity of Qatar.

#### Sustainability Framework

Our sustainability framework reflects the priorities and expectations of our stakeholders, our understanding of sustainability challenges and opportunities, and our long-term strategic objectives. We continually work towards reaching our sustainability targets by monitoring and improving our performance in the following six focus areas:



#### **Stakeholder Engagement**

We recognize the crucial role our stakeholders play in generating ever-increasing value for our products and in contributing to Qatar's broad socioeconomic development. By regularly engaging with our stakeholders, we believe that we can strengthen our business sustainability and create new opportunities to achieve shared goals.

With this in mind, we have adopted a proactive stakeholder engagement approach. We aim to achieve

greater transparency and constructive engagement with our internal and external stakeholders, and have established avenues to collect input about our operations and impacts. By understanding stakeholder expectations and measuring their level of satisfaction with our activities, processes and products, we have been able to map the main interests of our primary stakeholder groups and their respective channels of engagement. Our results can be found in Appendix B of this report.

#### **Our Stakeholders**





















#### **Materiality Mapping**

Our annual materiality assessment process helps us identify and assess our most important economic, social and environmental impacts. This process allows us to pinpoint the issues of greatest concern to both our business and stakeholders and to detect areas where particular attention is required by our management team. The table below identifies

the range of material issues confronting Q-Chem companies, ranked by their significance to our business and stakeholders.

In 2017, we refreshed our materiality assessment and gathered input from internal and external stakeholders. As a result of this exercise, we identified five additional top issues.

|               |                                    | Interested Parties Inside<br>Company Boundaries |                                   |           | Interested Parties Outside Company<br>Boundaries |              |           | iny       |                   |                      |                     |
|---------------|------------------------------------|---|-----------------------------------|-----------|--|--------------|-----------|-----------|-------------------|----------------------|---------------------|
| Ref in Matrix | Materiality Aspect                 | Administrative Offices<br>and Headquarters      | Operated Facilities<br>Operations | Employees | Contractors                                      | Shareholders | Suppliers | Customers | Broader Community | National Authorities | Regulatory Agencies |
| 1             | Personnel Safety                   | •   | •                                 | •         | •  | •            |           |           | •                 | •                    | •                   |
| 2             | Process Safety                     | •   | •                                 | •         | •  | •            |           |           | •                 | •                    | •                   |
| 3             | Economic Performance               | •   | •                                 | •         | •  | •            | •         | •         | •                 | •                    |                     |
| 4             | Occupational Health and Prevention | •   | •                                 | •         | •  | •            |           |           |                   | •                    | •                   |
| 5             | Flaring, Emissions and Venting     | •   | •                                 | •         |  | •            |           |           | •                 | •                    | •                   |
| 6             | Qatarization and Education         | •   | •                                 | •         |  | •            |           |           | •                 | •                    | •                   |
| 7             | Operational Excellence             | •   | •                                 | •         | •  | •            | •         | •         | •                 | •                    | •                   |
| 8             | Workforce and Training             | •   | •                                 | •         | •  | •            |           |           |                   | •                    | •                   |
| 9             | Governance                         | •   | •                                 |           | •  | •            | •         | •         | •                 | •                    | •                   |
| 10            | Water Management                   | •   | •                                 | •         |  | •            |           |           | •                 | •                    | •                   |
| 11            | Regulatory Compliance              | •   | •                                 | •         | •  | •            | •         | •         | •                 |                      | •                   |
| 12            | Contractor Welfare                 | •   | •                                 | •         | •  | •            |           |           | •                 | •                    | •                   |
| 13            | Quality Control                    | •   | •                                 | •         | •  | •            | •         | •         |                   | •                    | •                   |
| 14            | Indirect Economic Impact           | •   | •                                 | •         |  | •            |           | •         | •                 |                      |                     |
| 15            | CSR and Community Impact           | •   | •                                 | •         | •  | •            | •         | •         | •                 | •                    | •                   |
| 16            | Customer Satisfaction and Privacy  | •   | •                                 | •         | •  | •            | •         | •         |                   |                      |                     |
| 17            | Products, Sales and Marketing      | •   | •                                 | •         |  | •            | •         | •         |                   | •                    |                     |
| 18            | Materials and Waste                | •   | •                                 | •         |  | •            |           |           | •                 |                      | •                   |
| 19            | Energy Management                  | •   | •                                 | •         |  | •            |           |           | •                 | •                    | •                   |

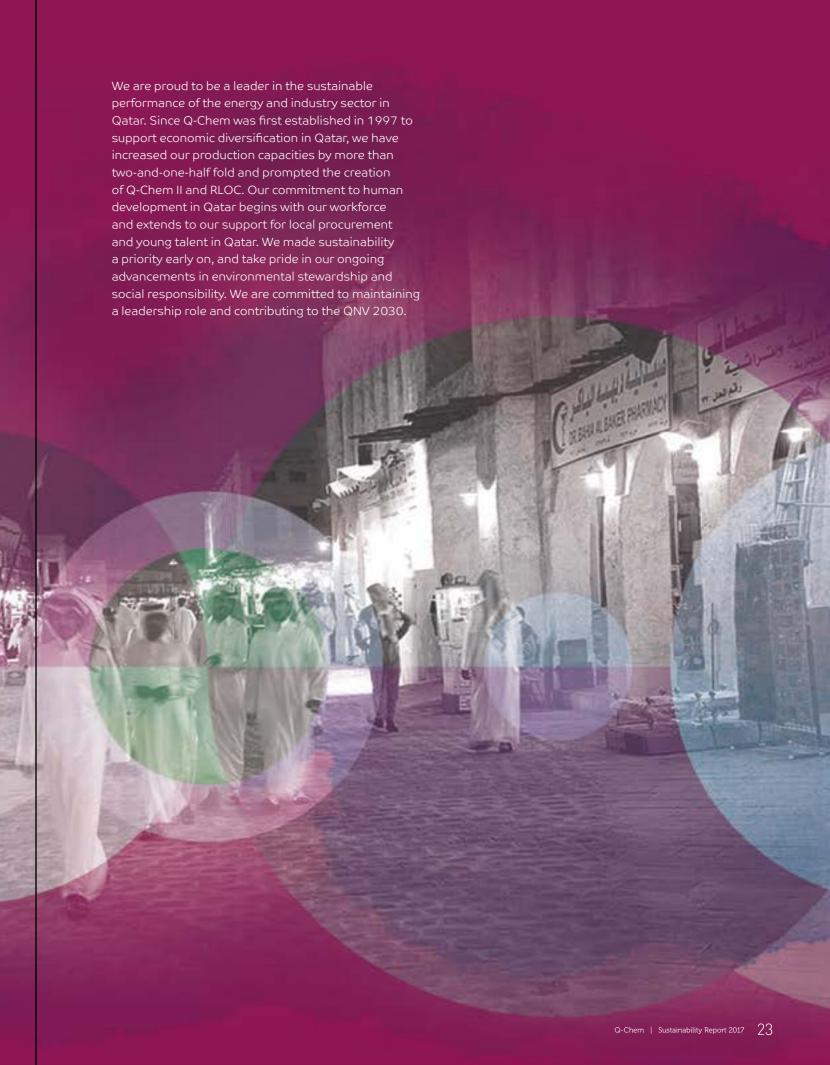


#### Qatar National Vision 2030 (QNV 2030)



H.E. Sheikh Hamad bin Khalifa Al Thani laid out an ambitious national plan in 2008, the QNV 2030, which established a roadmap to propel Qatar forward toward a future of national growth and prosperity. The QNV 2030 is supported by five-year National Development Strategies, establishing concrete targets and goals on the way to reaching a sustainable future by focusing on the economic, social, human and environmental development of the State.

The energy and industry sector of Qatar is one of the key drivers of Qatar's economy, with petrochemicals playing an important role in policies centered on economic diversification and national economic development.



#### **Summary of Sustainability Performance**

| Material Topics                                   | Key Performance Indicator   | Performance in 2017   |
|---|---|---|
|   | Key Performance Indicator   |   |
|   | Compliance with Qatar national laws and applicable international laws       | Renewed and maintained permits from national authorities  |
|   | Safety management compliance  | Achieved OHSAS 18001:2007 accreditation based on OSHA Guidelines  |
| Compliance with Regulations                       | Energy, carbon management and compliance<br>Quality management              | 1) Renewed and maintained RC® 14001:2012 and ISO 14001:2015 accreditations 2) Contracted third-party consultant to enhance standard greenhouse gas emission (GHG) and criteria pollutant and reporting plan for Q-Chem and Q-Chem II 3) Maintained compliance with MIC/RLC and MME environmental laws and regulations |
| Operational Excellence                            | Quality management  | 1) Performed internal and third-party audits<br>2) Achieved ISO 9001:2015   |
|   | Health and Safety   |   |
|   | Fatalities (employee and contractor)  | 0   |
|   | Lost time injuries  | 2   |
| Ossusational                                      | Total recordable injuries (employee and contractor)                         | 2   |
| Occupational<br>Health & Safety                   | Heat stress events  | 0   |
|   | Loss of containment events  | 1   |
|   | Emergency response drills   | 59  |
| Process Safety                                    | Process safety event rate (PSER) (per 1 MM work hours)                      | 0.1   |
| General Safety                                    | Total HSE training hours  | 14,472  |
|   | Environmental Performance   | ·   |
|   | Environmental events (company and upstream)                                 | 7   |
| Resource Conservation and<br>Pollution Prevention | Reportable spills   | 1   |
|   | Human Capital   |   |
|   | Total workforce (consists of employees, baseload and call-off contractors*) | 2867  |
| Training and Development                          | Total training hours for employees and contractors                          | 88,400  |
|   | Social Enrichment   |   |
|   | Qatarization (%)  | 21.7%   |
| Qatarization                                      | Qatari new hires  | 34  |
| Community   | Community investment  | Participated in activities to support the local community, including:  • Beach cleanup  • Waste-Free Environment (WFE) campaign  • Sponsorship of sports activities  • Sponsorship of university students  • Blood drives   |
|   | Economic Performance  |   |
| Customer Satisfaction                             | Brand and trademark   | Promoted the 'Made in Qatar' brand throughout the world   |
| Product Stewardship                               | Product responsibility  | Adopted "Product Stewardship" and "Product Supply<br>Chain" concepts as per Responsible Care® 14001<br>guidelines and GPCA-recommended responsible care<br>codes  |
|   |   |   |
| Indirect Economic Impact                          | Internships and trainees at Q-Chem companies                                | 33  |
| Indirect Economic Impact                          | Local procurement (percent)   | 66%   |

<sup>\*</sup> At Q-Chem companies we have two types of contractors: baseload contractors are those working full time and are included in our organizational chart; non-baseload contractors are those working more than six months per year but work remotely or on-call basis, and are not included in the organizational chart.

#### **Memberships and Associations**

| Organization   | Membership Since | Relationship to Operations  |
|--|------------------|---|
| Mesaieed Industrial City (MIC) Environmental,<br>Safety, Emergency Response & Community<br>Outreach Working Subcommittee | 2005             | Established jointly by MIC companies to communicate and jointly manage issues of common interest in various industry and community-related areas - with Q-Chem as an active member of all subcommittees                     |
| Laffan Environmental Society (LES)   | 2010             | Established jointly by RLC and other Ras Laffan companies and stakeholders to monitor and provide services in environmental management  |
| Gulf Petrochemicals and Chemicals Association (GPCA)   | 2006             | The first association to represent the interests of the petrochemical and chemical industries in the Arabian Gulf, providing members with industry data and information resources   |
| Ras Laffan Community Outreach Program (COP)  | 2010             | Established jointly by RLC and other Ras Laffan companies to unify outreach efforts in nearby communities   |
| European Petrochemical Association (EPCA)  | 2012             | A Brussels-based international non-profit association that serves a global network of petrochemical-related businesses and is comprised of producers of petrochemicals and their suppliers, customers and service providers |
| GPCA Industrial Waste Subcommittee   | 2014             | A Q-Chem representative served as chairman of this group, which was tasked to create industry guidance on hazardous waste management for GPCA member companies  |

# SR17 | SUSTAINABILITY (SPORT 2017)



# Operational Excellence











#### **Operational Excellence**

Q-Chem companies take pride in operational excellence. To accomplish this, we systematically integrate safety, security, health, environmental management, product stewardship, quality and customer satisfaction into our operations.

# OPERATIONAL EXCELLENCE (OE) POLICY OF Q-Chem companies

- We shall strive each day to conduct our business in a safe, secure, injury-free, and environmentally responsible manner.
- We are committed to complying with all laws and regulations applicable to our facilities and business activities and to complying with all voluntary programs to which we elect to subscribe (Responsible Care®).
- We shall strive to make optimal use of the resources we consume and minimize emissions and waste.
- We shall strive to limit the risks of our products throughout their lifecycle.
- We are committed to reducing risks in our operations to safeguard our employees, contractors, and the communities where we operate and engage in business activities.
- We shall openly communicate our results and welcome the input of our employees and contractors, regulatory agencies, communities, customers, and other interested stakeholders.
- We shall accomplish our goals by integrating safety, security, health, environmental, reliability, and quality into our management processes using our Operational Excellence System (OE).
- We shall use OE to: set goals for continual improvement; provide alignment of activities and resources; assess and manage risks; gain stakeholder input; and rigorously audit our performance against operational objectives and compliance requirements.

#### Management Approach

Our Operational Excellence (OE) Policy sets out our commitments and priorities that underpin strong OE performance. This policy is supported by a comprehensive OE Management System to guide us in embedding sustainability aspects into our daily procedures. We are committed to identifying new methods of improvement, as well as measuring and evaluating our results. Our central focus is on achieving optimal safety, health, product quality and resource consumption, while minimizing our impact on the environment by limiting emissions and waste.

We continuously work to limit all risks related to our products throughout their lifecycle and to eliminate all operational risks. Moreover, we are committed to ensuring that our operations and business activities comply with all applicable laws and regulations. This is also expressed in our Tenets of Operation<sup>1</sup>, which are fundamental principles that guide each employee and contractor during all operational activities. We are committed to ensuring these Tenets of Operation are not only respected but continue to be an integral part of the Q-Chem companies operational culture.



<sup>1</sup> Our Tenets of Operation can be found in the Health & Safety section of this report

#### **Operations Reliability**

At Q-Chem companies, we integrate our key principle of operations reliability throughout the hierarchy of all company operational priorities, as demonstrated in the diagram below.



To ensure the reliability of our operations, we continually review our plant performance, based on our Key Performance Indicators (KPIs), and identify areas of improvement. In 2017, our NAO plant demonstrated a consistent year operationally as a result of improvements made during the year. The plant had no unplanned feed outages greater than one shift and achieved zero environmental reportable events.

#### **Business Intelligence**

As part of our commitment to continuous improvement, we recognize the value of rigorous decision-making – be it tactical, operational or strategic. Our new Business Intelligence/Data Warehouse (BI/DW) technology platform collates data across all our IT systems, allowing us to enrich our knowledge base and gain valuable information and analytics to inform strategic decision-making.

Moving forward, we are embarking on the implementation of an end-to-end product-based solution that uses BI/DW technologies to generate an intelligent reporting system across all departments. This will greatly enhance our productivity and improve the overall reliability of our business and operations.

#### Information Technology (IT)

An excellent IT infrastructure is essential to ensuring the reliability and efficiency of our operations. We dedicate substantial resources to regularly improve the automated functioning of our operational, security and management processes.

Our in-house development team analyzes business requirements and deploys and maintains software solutions when needed. Our ability to internally develop software solutions enhances our capacity to map our specific business and technical requirements to the software product, thereby reducing overall cost, allowing customization and improving our security. Some of our proprietary in-house applications include the Warehouse Management System, the Plant MOC System, the Catalyst Tracker service and the Q-Safe system.

#### **Polycom**

In 2017, we increased the implementation of the state-of-the-art video conferencing system (Polycom). The system enables our people and teams to collaborate from anywhere, facilitating meetings and content collaboration in all facilities, resulting in improved productivity, reduced operational costs and less travel between locations.

#### **SharePoint**

We upgraded our SharePoint-based intranet platform to make it more secure, faster and easier to use. The upgrade also resulted in the database being deployed in a fault-tolerant platform.

#### **Centralized Access Control System**

With the recent introduction of a centralized access control system, we unified access between all Q-Chem companies offices. This has dramatically improved our system maintenance, employee tracking and reporting, and overall productivity.

#### **ECM System**

We have centralized all our key business documents in the Enterprise Content Management (ECM) system. The ECM system provides employees with easy access to documents and records along with a technological framework to manage document revisions.

#### **Cyber Security**

In an increasingly digital world, a strong cyber security system is crucial to maintaining business as usual and preventing cyber attacks on our business. Our digital operations network is secured through multiple firewalls to safeguard our data as well as to ensure that the exchange of this data is strictly controlled through firewall policies.

This past year, we continued to strengthen our cyber security system by implementing new controls for ensuring our IT and industrial control systems comply with local and international standards. Additionally, we adopted a new security system to provide stronger controls around our enterprise apps and data.

#### **Enterprise Risk Management**

The Enterprise Risk Management (ERM) system was introduced at Q-Chem companies in 2015 to establish a framework for integrating risk management approaches into our corporate governance, values and culture. Our ERM system has since been embedded in all critical business activities, functions and processes. Central to the effective management of our risk profile is a clear and well-understood process of risk assessment and risk prioritization.

Since 2016, we have been carrying out an annual ERM review cycle, in which the entire company updates its risk profile and develops key risk and mitigation plans. The results are captured in the enterprise risk register, which is reviewed and prioritized by senior leadership.

It is then presented to the respective Boards of Directors for Q-Chem and RLOC. The most significant risks are reviewed and monitored every quarter by the senior leadership team, the Boards' Business Risk and Crisis Management Committees and our Boards of Directors.



The annual ERM Review Cycle is extremely important to achieve risk reduction in a timely manner and to be better prepared for risks that may prevent or delay the achievement of organizational objectives.

In 2017, we successfully managed key supply chain risks that occurred as a result of the political blockade, ensuring business continuity. Additionally, in an effort to demonstrate visible leadership on key risks to our employees, we introduced a program where our senior leadership and the Boards' Risk Committees engage directly with risk owners on specific departmental and potential company risks.

#### Certifications

#### Responsible Care® RC 14001:2013 and ISO 14001:2015

The Responsible Care® program, managed by the International Council of Chemical Associations and adopted by the Gulf Petrochemical and Chemicals Association (GPCA), is practiced today in more than 65 countries around the globe. This program offers an integrated and structured approach to improve company performance in the following key areas: community awareness and emergency response, security, distribution, employee health and safety, pollution prevention, and process and product safety. Q-Chem companies adopted the GPCA Responsible Care® initiative in 2013 and was recertified in 2016 on RC14001:2013 and ISO 14001:2015. Responsible Care® and ISO 14001 certifications are combined into a single cost-effective process.





#### ISO 9001:2015

Q-Chem companies achieved the ISO 9001:2015 Certification of Quality Management, verified by the International Accreditation Forum (IAF) in 2017. Since 2012, Q-Chem companies have held the ISO 9001 certification, which requires a periodic review of the quality management system, thereby improving services, product quality and operations.

#### OHSAS 18001:2007

Q-Chem companies have achieved the OHSAS 18001 (Occupational Health and Safety Assessment Series) accreditation across all its manufacturing sites in 2016. OHSAS 18001 helps an organization identify and control health and safety risks, reduce the potential for accidents and improve overall performance.



#### **Sustainable Improvement Projects**

We continuously seek to improve our sustainable performance by employing best practices. During our turnaround event last year whereby some operations were halted temporarily for major maintenance, we focused heavily on incorporating sustainable improvements to our facilities and equipment. Some key projects

| Project                              | Sustainable Improvements   | Tangible Benefits  |
|--------------------------------------|--|--|
| Super Sack<br>Unloading<br>Systems   | Replaced the additive dump stations with super sack<br>unloading systems. All three PE trains now use additives<br>in super sacks.   | Decreased dust generation during the additive handling process since there is no open dumping of additives     Prevent any lower back or muscle injuries to operators     Maintain the common stock of the additives on-site in super sacks     Provide operational flexibility for grades switching across the three PE trains      |
| NAO Reactor Catalyst<br>Pump         | Enhanced our NAO reactor catalyst pump plunger by improving plunger coating metallurgy and finish.   | Increase our packing life to more than 90 days, resulting in a reduction of annual maintenance costs Improve reactor operations leading to lower product quality variation Enhance safety and reduced spillage   |
| NAO Ethylene Recycle<br>Pump         | Improved the seal design of our NAO Ethylene recycle pump.   | Improve the seal life, significantly reducing our<br>annual maintenance cost   |
| PE3 Reactor Circulation<br>Pump Seal | Modified the internal design of the PE3 reactor pump seal. As part of the new design, the oil channel in the shaft sleeve was removed, the area contact was improved, and the bearing inner ring slip was fit and eliminated.  | Improve reliability of PE3 Reactor Circulation Pump<br>Seal     Eliminate plant shutdown with every failure of the<br>PE3 Reactor Circulation Pump Seal  |
| Caustic Tower Study                  | Conducted a study on the functioning of the caustic tower. The study identified that the tower had been operating under jet flooding conditions in higher throughputs, which could limit the process capacity of the ethylene unit due to the carrying over of caustic mist with overhead gas through the tower. As a result of the study findings, we replaced the caustic tower tray internals with SUPERFRAC tray technology during the turnaround. | Ensure optimal operations of the Caustic Tower to achieve on-specification ethylene production     Increase the vapor capacity of the tower without having to replace the tower     Reduce the pressure drop of the tower, a nearly 40% saving of power on the CGC     Reduce high-pressure steam for every ton of ethylene produced |



# Health and Safety











#### Health and Safety

The health and safety is a core value at Q-Chem companies. The people that work in our facilities are our most important asset, and one of our biggest priorities is ensuring the well-being of each and every employee and contractor.

We believe that maintaining the highest standards of health and safety not only protects the well-being of those working in our facilities, but also attracts high caliber specialists, enhances work capabilities through a culture of safety, and maintains customer satisfaction by providing high-quality and safe products. Creating safe working conditions ensures business and environmental integrity and the sustainable progress of the company.

#### **Management Approach**

We are continuously looking for ways to enhance our safety management systems, through both the direct participation of company leadership and the increasing inclusion of contractors in safety programs. The company frequently applies innovative technical solutions to ensure process and personnel safety irrespective of the cost.

There are three guiding principles of our health and safety culture: work safely or not at all; if it's worth

doing, do it better; and there's always time to do it later.

As an extension of these principles, we have ten "Tenets of Operation" focused on ensuring the safety of each person, the reliability of our equipment and the quality of production. Anyone entering, and operating at, our premises must do so in accordance with these tenets. Through this framework, we have seen significant improvements in our safety programs and a steady decrease in recordable injury rates.





#### **Health and Safety Performance**

Q-Chem companies have an excellent track record of safe operations, with no employee or contractor fatalities. In the last ten years, we have had zero occupational illnesses and zero heat-related illnesses.

Q-Chem companies had the second best year in history in terms of recordable injuries rate, RIR, in 2017 - representing nearly 2.5 million safe hours worked. This is a considerable feat since we also undertook our largest-ever facility turnaround last year, with the Q-Chem Mesaieed plant shut down for 39 days for full maintenance of production lines.

Also last year, we formed a vehicle safety team to address any vehicle or traffic-related issues in the complex. This new team was tasked to enhance onsite traffic safety by focusing on drivers behaviors, circle-for-safety, vehicles inspections, and minimizing

traffic on-site to essential vehicles only.

#### **Turnaround Safety Performance**

Our turnaround in 2017 was the largest-ever in Q-Chem companies history in terms of scope and manpower. We employed 2.5 million man-hours, with 1,535 jobs and 44 projects completed. Despite the many hours of work required, we had zero recordable injuries and zero tier I/II process safety events. This was in large part due to extensive training provided to everyone involved.

#### **Work Crew Program**

Trainers were hired 90 days before the start of the turnaround training activities. The work crew trainers were provided by the main turnaround contractor, who was trained extensively and certified under the Q-Chem companies Work Crew Program.

The Q-Chem companies Work Crew Program, which is a prerequisite for becoming a lead worker or a fire/hole watcher, lasts a total of eight hours and encompasses various topics, including personnel protective equipment, the Q-Chem companies Tenets of Operation and hazard communications. The program also requires more than 20 subsequent hours of training and covers 11 life-critical procedures in detail.

Trainees are required to demonstrate their knowledge on the procedures they are taught in the classroom

during field training. Upon completion of the classroom and field training components, each trainee must pass an interview by a safety specialist. This interview determines whether they are qualified to serve as a lead worker on Q-Chem companies facilities.

The work crew program also certifies the work crew to enter a confined space and take a post as a gas monitoring crew member. The fire/hole watchers and lead workers are certified by Q-Chem companies trainers and act as contractor trainers on all Q-Chem companies facilities. They are part of the Q-Chem companies employee headcount and are permanently site-based.

#### **Safety Programs**

Contributing to the success of our 2017 turnaround were the following initiatives organized by Q-Chem companies' Safety Department.



#### **Hiring of Contractor Safety Officers**

Twelve contractor safety officers were hired to ensure the safe execution of jobs in the field. We also developed an integrated contractor safety culture. Daily meetings were arranged with all contractor safety officers to provide required fieldwork updates to the Q-Chem companies Safety Department.

#### **Daily Toolbox Topics**

The Q-Chem companies Safety Department prepared a series of "Daily Toolbox Topics" on various safety topics, such as tips for working at heights and performing hot work, as well as job safety and hazard analyses. These safety topics were communicated to all employees and contractors throughout the turnaround on a daily basis, as a reminder and reinforcement of the safety requirements.

#### **Turnaround Workshop**

Two safety workshops were conducted with the Q-Chem companies senior management team and contractors to reinforce Q-Chem companies' safety expectations of 'Work Safely or Not At All'.

# Chem 1

#### **RULES TO LIVE BY-TA 2017**

- 1. Never place yourself or someone else in the line of fire.
- 2. Never begin a job without having a valid and current permit to work.
- 3. Never begin a job without verifying complete isolation of every source of energy.
- 4. Never place yourself in a position for an unrestrained fall.
- 5. Never use a tool in a way that is different from its intended purpose.
- 6. Never use a piece of pipe, scaffold, metal stock, or other material as a hand tool.
- 7. Never place your feet on a surface that is not designed for walking or climbing.
- 8. Never use your hand to hold impact tools while hammering.
- 9. Never perform a non-routine or critical job without a detailed JSA and hazard review.
- 10. Never let a job continue when you obersve an unsafe condition.

Alway ask for help when you are unsure how to proceed.

#### Hiring of Breathing Apparatus Contractor During Q-Chem companies Turnaround 2017

In 2017, we performed maintenance work in approximately 120 confined spaces inside the process vessels. To protect employees and contractors from the health hazards of those confined spaces, we supplied fresh air or specialized masks with respirator cartridges. A specialized contractor was hired to supply the necessary breathing apparatus throughout the turnaround and to provide assistance for respirator fit testing. Approximately 1100 fit tests were carried out during the turnaround in 2017 and an average of 120 breathing apparatuses were provided each day to contractors to ensure their safety while working.







#### **Professional Rescue Services**

To deal with emergencies in confined spaces and rescue workers safely out of these areas, we arranged for professional contractors to provide specialized rescue services during the turnaround.

#### **Gas Detector Management**

During the turnaround, large numbers of portable gas meters were provided by a vendor to monitor items such as the hot work, confined space entries and Lower Explosive Limit (LEL). In accordance with Q-Chem companies' safety requirements, gas meters must be calibrated, pumps must be tested before use, and battery charging must be completed before the next shift. The vendor provided 290 MX6 and MX4 portable gas detectors, multiple docking stations, calibration gas and spare sensors, and technicians. Additionally, the vendor carried out the calibration, charging, bump testing and repairs, providing service on a 24-hour, 7-days a week basis throughout the turnaround activities in 2017.

#### **Q-Safe**

Q-Safe is a Behavior Based Safety (BBS)<sup>2</sup> program, which establishes a framework for employees and contractors to observe and report on any noncompliance or at-risk behaviors during operations. The "no name and no blame" approach encourages "act-on-the-spot" action, emphasizing that personnel should take immediate corrective action whenever possible.

#### **Turnaround Safety Campaign**

In January 2017, the Q-Safe team organized a 'Turnaround Safety Campaign' to increase new contractor awareness and expose them to our safety culture. The campaign provided an opportunity to engage with contractors and discuss how they can contribute to an injury and incident-free turnaround. We set up a Q-Safe booth to showcase different protective equipment, compressed gas cylinder models and Lessons Learned Reports (LLR) posters from history-recordable events. We also organized a Hazard Card Contest for the contractors and participants.





<sup>2</sup> BBS is a safety process that creates a partnership between management and employees to continually focus their attentions and actions on daily safety behavior. This occurs through peer monitoring of safety behavior, thus deliberately involving those most likely to be hurt by unsafe behaviors.

#### World Day for Safety and Health at Work

Since 2004, the 28th of April has been observed globally as "World Day for Safety and Health at Work". This annual awareness-raising campaign promotes safe, healthy and secure work environments. The International Labor Organization (ILO)'s campaign for 2017 was aimed at the critical need to improve collection and utilization of reliable occupational safety and health (OSH) data.

In 2017, we commemorated the campaign by considering how our safe actions at work can prevent future work-related deaths, injuries and illnesses. With a focus on optimizing the collection and use of OSH data, we conducted a variety of activities, such as unveiling the Aman Safety Mascot at the Mesaieed main gate, displaying posters around the facility and distributing a Toolbox Talk link for discussion.









Additionally, we organized an interdepartmental case study competition. The purpose was to engage staff in identifying and learning from previous incidents so that we prevent their recurrence at Q-Chem companies. The competition was held at the Mesaieed plant, with 12 teams participating.

#### Vehicle Safety Campaign

In October 2017, the Q-Safe team organized a vehicle safety campaign. The campaign featured a special tricycle inspection and repair workshop that worked on more than 250 tricycles. Other activities included introducing the "Circle of Safety" concept, providing eye checkups, offering a contractor toolbox, and hosting a lecture from the Qatar Traffic Department on safe driving tips.













#### Step Up, One Step Ahead

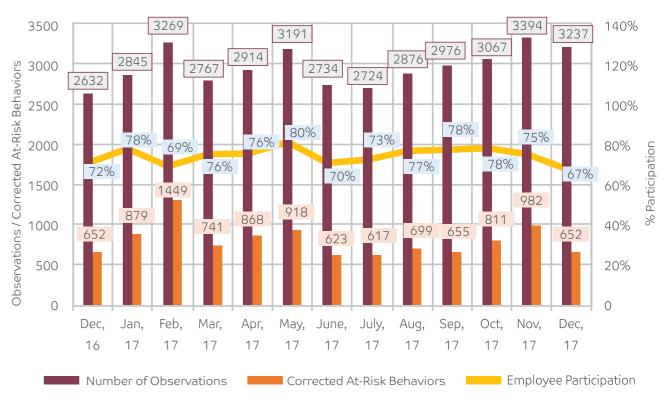
We launched the "Step Up, One Step Ahead" campaign in December 2017, a safety initiative targeted at contractors. Meetings were held with contractors in the field to recognize and reinforce safe behavior.







#### Q-Safe Observations



The next chart illustrates the annual participation of employees in Q-Safe activities. All employees completed a minimum of two observations for the year. We sustained 70 percent average monthly participation, which attests to our safety and health-oriented work culture.

#### **AVERAGE MONTHLY PARTICIPATION**



#### **Process Safety**

We have a comprehensive system for evaluating operational hazards and implementing timely measures to prevent potential process safety risks. Our proactive measures help us prevent safety incidents, map early trends, mitigate risks before they occur and further improve our operational performance.

#### Process Safety Management (PSM)

In 2017, we rolled out an online safety bypass application to enhance our ability to efficiently evaluate and mitigate risk for all occurrences where safety-critical equipment is bypassed, and to ensure the bypass is performed in a safe and controlled manner. The application closely tracks and normalizes the status of the safety system bypasses in the plant in real time.

Also last year, we underwent an extensive external PSM corporate audit, which covered both Q-Chem companies manufacturing facilities in Mesaieed and

Ras Laffan, to evaluate the PSM systems and their implementations. We achieved zero high-risk audit findings. This audit was performed to meet OSHA's PSM regulations, which require us to perform a compliance audit every three years.

To comply with the OSHA PSM requirements, in 2017 we conducted a process hazard analysis (PHA) study in all three of our companies, completing a study for 1-Hexene, the NAO unit and Inside Battery Limits (ISBL). We applied a stringent Layer of Protection Analysis (LOPA) method during the hazard and operability (HAZOP) analysis. This extensive study identified areas of improvement, and lessons learned were formally tracked by the facility to reduce potential risks to a level as low as reasonably practical.

#### Health, Safety and the Environment (HSE) Requirements for Contractors

We invest significant effort to ensure that contractors at Q-Chem companies operate at the same level of HSE preparedness as our own employees. During the selection process, we filter potential contractors (i.e., bidders) based on their HSE performance. All potential contractors are required to complete a self-assessment questionnaire, which includes topics such as safety records, their own HSE requirements and their commitment towards safe working practices.

To engage and integrate contractors in our safety culture, we educate them on our safety practices and provide and distribute a periodic HSE newsletter. The safe behavior of contractors is given extra recognition through a special raffle drawn during safety campaigns and major turnarounds.

In 2017, we experienced a total of two lost-time injuries, both of which happened to contractors. To eliminate onsite injuries, we have significantly increased our investment in contractor training: last year we had a record of 74,612 training hours for contractors – a 56 percent increase compared to 2016.

|   | 2014   | 2015   | 2016   | 2017   |
|---|--------|--------|--------|--------|
| Contractor fatalities                           | 0      | 0      | 0      | 0      |
| Contractor lost time injuries                   | 2      | 1      | 1      | 2      |
| Contractor total reportable injuries            | 3      | 1      | 1      | 2      |
| Contractor injury rate (per million man-hours)* | 0.85   | 0.15   | 0.29   | 0.34   |
| Total number of training hours for contractors  | 35,202 | 22,168 | 47,868 | 74,612 |

<sup>\*</sup> Q-Chem companies have used 1,000,000 man-hours as a base and continues to do so for consistency.



#### **Environmental Stewardship**

At Q-Chem companies, we are fully committed to protecting the environment through a holistic approach that advances both our Sustainability Development Goals and the Qatar National Vision 2030.

One of our top priorities is to ensure that our operations avoid negative impacts on the environment and minimize resource consumption in our manufacturing facilities. To achieve this, we use energy, water, chemicals, additives, catalysts and other raw materials with the utmost efficiency. We focus on reducing waste, flaring and emissions, and on preventing environmental spills and other forms of pollution.

#### **Management Approach**

As part of our commitment to environmental stewardship, we have a robust environmental management system that satisfies local regulations and meets international standards. Through this system Q-Chem companies are working to maintain good ambient air quality, reduce greenhouse gases and promote reliable plant operation, while operating within an environmentally responsible workplace.

During 2017, the company leadership team and senior management established the Pollution

Prevention Core Team (PPCT), which is made up of representatives across several departments from all our production facilities. The PPCT informs management about the company's performance in pollution prevention programs, upcoming challenges and recommended actions to improve performance. The overall role of this team is to meet the company's strategic goals and targets related to flaring and emissions reduction, efficient water usage, wastewater reuse, waste minimization, chemicals management and energy optimization.

#### **Environmental Champions**

To recognize environmental leaders at our companies, the Q-Chem companies Environmental Department rewards a champion each year and other individuals on a monthly basis that demonstrate good housekeeping and waste segregation.



#### **Environmental Sustainability**

Sustainable performance in the energy and industry sector is an essential component to promoting economic growth in Qatar and achieving the Qatar National Vision 2030. We believe this begins with sustainable production, defined as producing goods and services using processes and systems that are environmentally sound, followed by other aspects essential for long-term environmental sustainability.

We continuously initiate and implement new projects that can optimize production, enhance worker and asset safety, and strengthen compliance with environmental regulatory requirements. The safety and environmental departments are engaged in reviewing and enhancing the sustainability of our assets. Q-Chem companies' Environmental Department implements and maintains an effective environmental management system by providing technical support to all process and non-process areas at Q-Chem companies. The department oversees and takes action on results from the environmental quality monitoring and reporting program, environmental auditing program, pollution prevention and resources conservation program, and other programs and plans.

#### **Environmental Management**

Our dedicated environmental team leads the process of monitoring and handling innovative ways of minimizing the environmental impacts of all Q-Chem companies.

In 2017, we achieved our best record yet of companyresponsible reportable environmental events<sup>3</sup>, completing the year with only two events. This steady decrease over the past few years is also reflected in the reduction of upstream-responsible events<sup>4</sup>.

At Q-Chem II and RLOC we had zero environmental events, and for over two years we have had zero company-responsible events in the Sulphur Recovery Units. These figures attest to our achievements in environmental and process safety performance.

|   | 2014 | 2015 | 2016 | 2017 |
|---|------|------|------|------|
| Environmental events (company-responsible)  | 9    | 6    | 3    | 2    |
| Environmental events (upstream-responsible) | 8    | 13   | 6    | 5    |

Q-Chem successfully prevented process safety events whenever the LDAR team found significant leaks in the process units at Mesaieed Industrial City and Ras Laffan Industrial City. In response, the production team carried out a repair plan to close any leak in a quick, safe and efficient manner.

#### **Reducing Flaring and Emissions**



Climate change is a global challenge that requires collective action by all sectors. In addition to international agreements, a strong commitment from the private sector is necessary for meaningful change. We at Q-Chem companies contribute by focusing our efforts on minimizing flaring and emissions during our production processes.

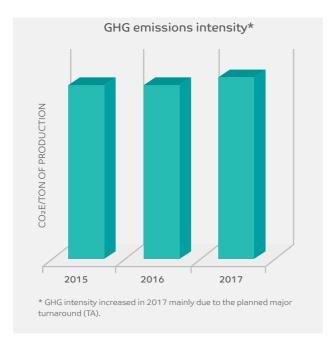
Our production process involves the flaring of ethylene gas and acid gas, which leads to emissions of  $\mathrm{SO}_2$ ,  $\mathrm{NO}_{\mathrm{X}}$  and  $\mathrm{CO}_2$  into the atmosphere. To minimize flaring and emissions, we have developed Flaring Reduction Program and formed a flare minimization team to execute and manage flare reduction measures. For example, one of the engineering improvements to enhance the performance of the acetylene reactor has reduced flaring events while providing longer life for the catalyst and improving process reliability.

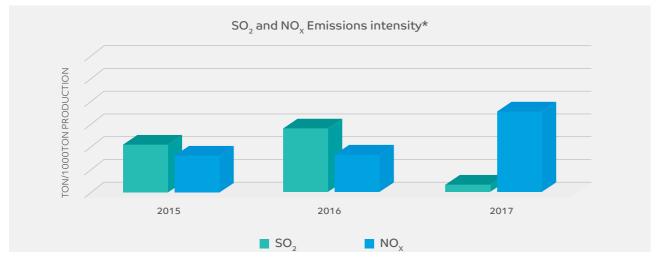
These and other efforts implemented in 2017 resulted in the elimination of gas acid flaring (H2S) and the reduction of ethylene gas flaring at RLOC by 93%, at Q-Chem by 47% and at Q-Chem II by 15% (all relative to 2016 levels during normal operations).

<sup>3</sup> Company-responsible events are any exceedances in flaring and emissions events, Continuous Emissions Monitoring System (CEMS) exceedances, water discharge quality, noise, and spills that are within the company's control.

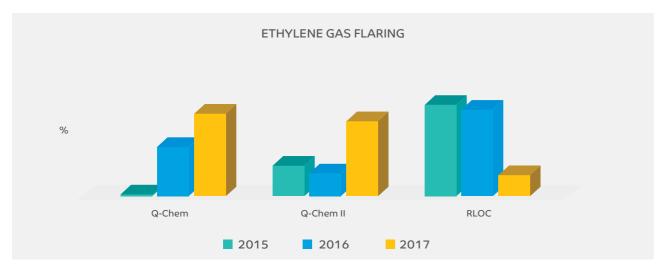
<sup>4</sup> Upstream-responsible events are related to flaring and emissions caused by feed rate or feed composition interruptions or power interruptions from upstream operations, which can then affect Q-Chem unit operations and cause flaring or emissions/discharges beyond the company's control.

Also in 2017,  $SO_2$  emissions decreased across all Q-Chem companies by almost 86%. However, we recorded an increase in our total  $NO_x$  emissions, attributable to improved calculations adopting EU/IPCC and API methods of accounting and reporting for accurate monitoring purposes.

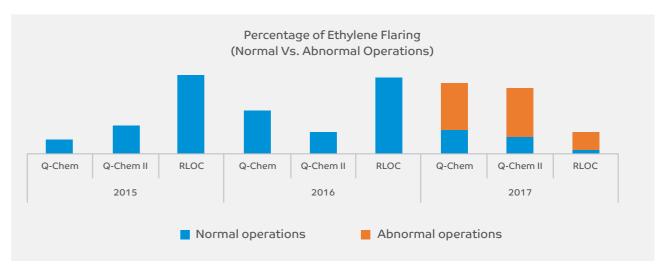




<sup>\*</sup> The increase in NO<sub>x</sub> is due to improved calculations with better accuracy implemented in 2017 for Q-Chem and Q-Chem II utilizing EU/IPCC and API methods.



<sup>\*</sup> Ethylene flaring intensity increased at Q-Chem and Q-Chem II facilities in 2017 mainly due to the planned major TA at Q-Chem facility.



<sup>\*</sup> Abnormal operations refers to unit upsets, shutdowns and startups.

As referenced earlier, Q-Chem companies continued to advance their sophisticated video conferencing system for distant communication among all parties, which has reduced additional greenhouse gas emissions resulting from administrative operations and travelling by employees.

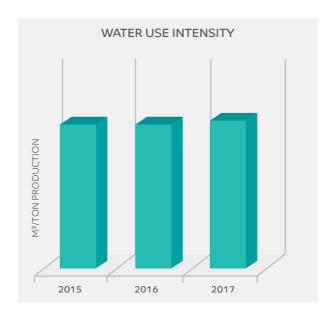
During 2014 to 2016, we developed a new and improved GHG calculation tool and contracted a third-party consultant to enhance a standard GHG and criteria pollutant accounting and reporting plan for Q-Chem and Q-Chem II. This newly applied plan is based on EU/IPCC guidelines in conjunction with QP requirements for GHG reporting. Tools were tested for 90 days and have been put in use for compliance reporting to the Ministry of Municipality and Environment (MME) for Q-Chem and Q-Chem II since January 2017, but have been in use for RLOC since 2010.

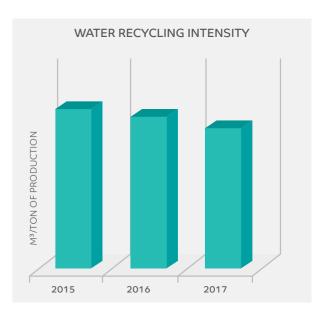
#### Water Management

Water management is an increasingly critical issue in Qatar, where fresh water is scarce.

To play our part, our approach is focused on water reuse and water conservation. In 2017, the volume

of water conserved reached nearly 400,000 m<sup>3</sup> even with increased total production. Our water use intensity has remained relatively consistent over the past three years.





#### The Near Zero Liquid Discharge (NZLD) Project

As part of our efforts to recover and reuse treated industrial water, we established the Near-Zero Liquid Discharge (NZLD) project, previously known as the Recovery and Reuse of Treated Industrial Wastewater program. This program focuses on installing facilities that ensure enhanced recovery of treated industrial water for use in existing plant and irrigation purposes.

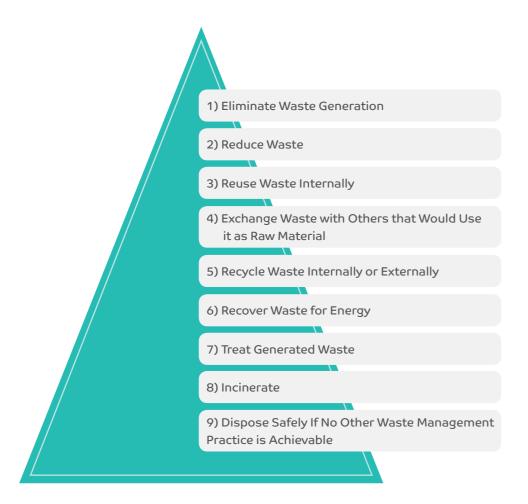
Through the NZLD project, we aim to install additional wastewater treatment solutions that will minimize wastewater discharged to the sea to around 25% of the total industrial wastewater in the near future<sup>5</sup>. These efforts will bring us closer to the Ministry of

Municipality and Environment (MME) requirement to meet a near-zero level of wastewater discharge into the sea in the near future.

Q-Chem also carried out an environmental study assessing the negative and positive impacts of the NZLD project, including analyses of water resources, energy, raw material and air emissions. This study attests to our resolute commitment to making sure that our operations avoid adverse effects on the environment as much as possible.

#### Material Use and Waste Management

Q-Chem companies strive to achieve the utmost efficiency and to be environmentally responsible in our management of hazardous, non-hazardous and inert wastes. We implement our waste management process in accordance with the following hierarchy of waste management:



We also participate in regional initiatives focused on sharing best practices in waste management, such as the GPCA Industrial Waste Management Subcommittee.

#### **Hazardous Waste Management**

Q-Chem companies are committed to minimizing the amount of waste generated through our operations by practicing 'the 4Rs' (Remove, Reduce, Reuse and Recycle). We make sure that all hazardous waste is handled in an environmentally responsible manner. For example, we recycle the batteries of machinery and uninterrupted power supply units. We also recycle

the hydrocarbon waste that undergoes the pyrolysis treatment process, and partially reuse the chrome catalyst waste internally, which has resulted in an 18% reduction in the intensity of catalyst waste generation relative to 2012 levels. By doing so, we not only contribute to the reduction of hazardous waste, but achieve cost reductions by extending catalyst life.

#### Promoting Greater Resource Efficiency and Waste Reduction

An inspection of a liquid sulphur tank last year uncovered a large amount of solid sulphur with catalyst waste at the bottom. Dealing with this unexpected quantity of waste meant removing 86 megatons of waste sulphur and spending nearly QR 500,000. In an effort to reduce the waste and offset our costs, we collaborated with nearby Qatar Acids Company, which was able to use this off-spec material at their sulphuric acid production facility.



#### Non-Hazardous Waste Management

Our objective is to maximize waste reuse and recycling. This is accomplished either through cooperation with waste management contractors, or by finding internal ways to increase efficiency in waste management, thereby minimizing harm to the environment and reducing the cost of materials.

In 2017, recycled waste as a percentage of total waste generated increased by 84% relative to 2016, and 100% of our plastic waste generated was recycled.

Metal waste was recycled 100% locally for waste

collection and further use. Many empty containers and wooden pallets are reused for material delivery and the handling of waste.

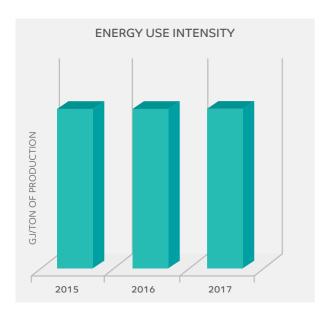
We are currently evaluating more options for waste exchange within industrial cities, where the waste product of one industry process can become a valuable raw material for a second industry process (i.e., waste exchange option), resulting in a circular economy, greater resource efficiency and waste reduction.

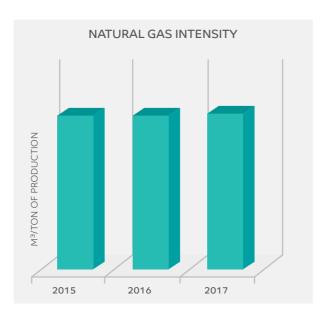
#### **Energy Efficiency and Conservation**

For the past three years, our energy consumption intensity has remained consistent. Nonetheless, we are keen to improve the energy efficiency of our operations.

In 2017, we implemented numerous measures focused on energy conservation. Among the key measures was the use of steam turbines and auxiliary blowers, resulting in electricity savings of almost 8 million kWh and reduced GHG emissions.

<sup>5</sup> This level of discharge is most feasible from technical and environmental perspectives in accordance with the Environmental Impact Assessment (EIA) of the NZLD. Technical solutions of the NZLD project include pre-treatment, ultrafiltration (UF) and one or two stages of Reverse Osmosis (RO).





As part of our efforts to implement short-term recommendations and long-term solutions to improve the NAO steam system, the Process and Productions teams collaborated to identify improvements that would enhance condensate recovery. For example, previously our steam and condensate headers suffered leaks due to undersized pipelines. To address this problem, we hired a specialty engineering company to conduct a major assessment of the affected areas and propose a sound, cost-effective solution to eliminate and reduce failures and leaks. After receiving the study results, we implemented all the recommendations.

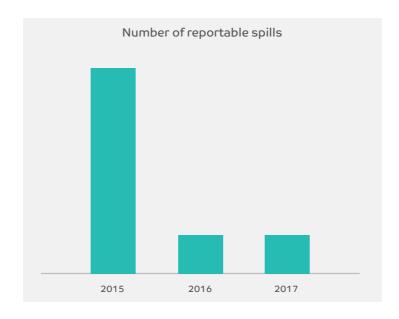
During the turnaround, we conducted a major upgrade of the steam and condensate headers to achieve a greater thickness and better metallurgy, as well as increased some header sizes. Since then, no leaks have been reported, and we expect this trend to continue as our management teams focus on correcting defects as soon as they arise. As a result of these efforts, the Q-Chem II condensate recovery has increased by roughly 10% over the last year.

In 2017, we conducted an ISO 50001 Energy Management Pre-assessment Audit. We are currently working on integrating the identified opportunities for improvement.

#### **Accidental Spills**

Preventing spills is essential in safeguarding resources and assets, prevent slips (trips and falls) and protecting the environment. To reduce operational spills, we have routine programs and precautionary measures in place to maintain and improve the reliability of our plants, facilities and pipelines. Spills can sometimes still occur due to operational failure, corrosion or accidents.

We continuously investigate and learn from spill incidents to improve our performance and clean the affected areas. We also train employees in spill prevention and response action. In 2017, we recorded one reportable spill incident, the volume of which was 98% less than in 2016.



#### **Environmental Requirements for Contractors**

We are committed to making certain that our contractors respect the same international standards of environmental protection that we do.

During the selection process, each contractor is subject to an HSE evaluation. The evaluation allows us to assess a contractor's past performance in terms of any environmental damage caused, as well as to discover what contractor programs, procedures or other channels are in place to monitor or improve environmental performance.

We also require contractors to complete an "Environmental Management System Audit Checklist,"through which we assess the policies that contractors follow to prevent environmental events and ensure compliance with applicable environmental regulations.

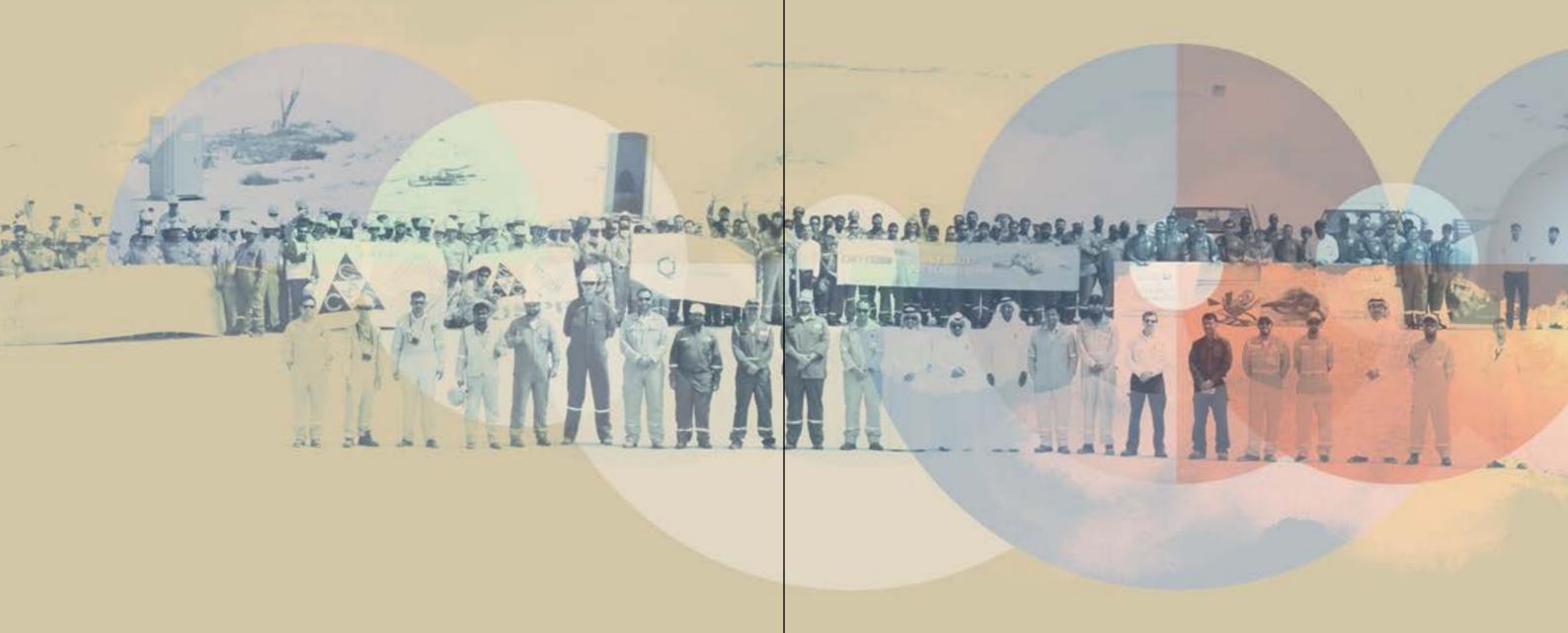


EMS Audit Checklist





# Our Human Capital









#### **Our Human Capital**

The Qatar National Vision 2030 highlights human development as one of its four central pillars. The Vision emphasizes that a "capable and motivated workforce" is a critical component of Qatar's sustainable development endeavors. In line with this vision, we at Q-Chem companies also recognize that the quality of our workforce is central to our sustainability goals and business success.

Q-Chem companies are dedicated to creating a healthy working environment, free from intimidation, hostility, discrimination, harassment and other factors that could detrimentally interfere with employee satisfaction and productivity.

#### **Management Approach**

At Q-Chem companies, we strongly believe that a satisfied and engaged workforce is the best measure of our success in talent management. We offer employees fulfilling careers at one of the leading companies in Qatar and have set strategic targets for optimizing our human capital to support QNV 2030.

We offer highly competitive remuneration for our industry in Qatar, provide an enriching and stimulating work environment, and empower our employees to take charge of their career development. Because employee loyalty is also vital to the stability and continuity of our business, we have adopted a multi-dimensional approach to cultivating loyalty among our employees. We are also committed to increasing our national employment rate, giving priority to suitably qualified Qatari nationals in our recruitment, development and succession planning processes.

#### **Workforce Profile**

Our belief in respecting human rights, treating people with dignity and providing fair employment opportunities is reflected in our personnel development practices. Our company-wide approach encompasses recruitment, compensation, professional development and promotions. We believe our efforts have resulted in a dynamic and dedicated team of professionals who pursue a common goal and, in doing so, contribute to their own growth, professional development and integrity.

We continue to see growth in the rate of national and female employees joining Q-Chem companies.

In 2017, we once again exceeded our national employment target by achieving a 21.7% Qatarization rate. Our female workforce stood at 6.4% in 2017, and we are committed to encouraging more women to join our workforce and to increasing their presence in leadership positions.

Although 72% of our employees come from Asia, our workforce draws from a total of 29 nations. This diverse and multiethnic culture creates a rich working environment where employees of different cultures develop trust in one another and cooperate to achieve our goals of efficient and responsible operations.

|                            | 2014  | 2015  | 2016  | 2017  |
|----------------------------|-------|-------|-------|-------|
| Total workforce            | 1,156 | 1,034 | 1,008 | 1,101 |
| Total Qataris in workforce | 210   | 207   | 200   | 212   |

#### **Employee Engagement and Satisfaction**

To maintain the ethical, transparent and fair treatment of all our employees, Q-Chem companies has an "open door policy" to foster communication at all levels of the company.

One of our core goals is to "communicate well, empowering and engaging individuals and teams,

and recognizing superior performance." Through our performance management system, we have fostered a high-performing culture where frequent face-to-face discussions and honest and constructive feedback is encouraged.

In 2018, we will launch an employee engagement survey across the organization – one of many significant steps we're taking to retain a talented and fully-prepared workforce. The survey will actively measure employee engagement levels in each of our businesses and give us insights into the actions our company can take to improve motivation, performance and personal development.

#### Diversity, Inclusion and Equal Opportunity

From the beginning, Q-Chem companies has worked to involve all employees in a collaborative and inclusive working environment, striving to treat everyone with respect and dignity. We take care to recognize and harness the talents and strengths of each employee to make them successful team members. Our workplace culture emphasizes that each member is instrumental to team performance.

#### **Recognition Programs**

Through our recognition programs, we seek to cultivate loyalty among our employees and acknowledge the important contributions made by employees.

#### Tagdeer

n 2017, we introduced a new employee recognition initiative – 'Taqdeer' - to award outstanding performance, exemplary behavior or safety ethics in the workplace. The initiative aligns employee performance and achievements with our corporate values and objectives.



#### **Long-Service Awards**

We are deeply proud that the number of long-term employees at Q-Chem companies continues to grow each year. We believe that their hard work, dedication and diligence are key contributors to our company's prosperity and sustainability.

As a gesture of gratitude, we celebrate their long-serving contributions and company loyalty with appreciation certificates and long-service bonuses. In 2017, 149 employees were recognized in this way. The awards ceremony was held at Sharq Village and attended by representatives of Q-Chem companies at all levels, including Mr. Nasser Jeham Al Kuwari, Q-Chem companies' CEO.



#### **Employee Training and Development**

Professional training and development increases the efficiency and effectiveness of our workforce, thereby contributing to the success of our operations. We have several training and development programs in place that help our employees sharpen existing skills and learn new ones.

To improve the quality of our training, we have been

reviewing our training needs since 2014 and taking steps to redesign training delivery. For example, we have merged a number of training courses into one comprehensive package, which has led to a reduction in training hours without affecting training results. In 2017, we provided 88,400 training hours for both employees and contractors, a 57% increase from the previous year.

|  | 2014    | 2015   | 2016   | 2017   |
|--|---------|--------|--------|--------|
| Total training hours for employees and contractors | 124,812 | 59,432 | 56,260 | 88,400 |

#### **Building Strong Talent for the Future**

Preparing a young talent pool of future leaders for the organization is critical to sustaining our long-term success. We focus on preparing qualified eventual successors, ensuring they are equipped with the right skills for key positions.

We have a well-established program that provides internal and external training to young leaders. Internally, we offer our employees an exciting, challenging and rewarding work experience with commensurate benefits. Q-Chem companies looks for suitable qualifications and experiences together with the right attitude when screening candidates.





#### **Employee Attraction and Retention**

Our aim is to be an employer of choice for both nationals and expatriate employees. Our Talent Stewardship Committee works to identify and attract the most qualified and talented candidates, while prioritizing existing employees as potential candidates for promotion.

To ensure we identify the best person fit for the role, candidates undergo a "Job Man Match" process, which assesses every dimension of the job against the employee's competencies and identifies any gaps or matches with respect to the new role.

In addition to sourcing the best talent, we strive to maintain low employee attrition rates across all levels of the organization. Our increasing number of long-service awardees is a testament to our employee satisfaction and ability to retain a loyal workforce. This has been achieved by selecting candidates that fit well with Q-Chem companies' culture and values, providing targeted training and development opportunities, and deploying a succession planning program to identify and develop new leaders.

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# Social Enrichment











#### Social Enrichment

Q-Chem companies is firmly committed to being an exemplary corporate citizen by actively engaging in the development of our communities.

#### Management Approach

Our corporate social responsibility (CSR) efforts are focused on raising public awareness of issues that the company considers important for the sustainable future of the country.

To create positive social impact, we:

- attract and develop the local workforce
- promote key issues such as sports, health and education
- engaging in community outreach
- helping those in need

The chart below highlights our 2017 community investments:

#### **CORPORATE CITIZENSHIP**

#### **2017 PERFORMANCE**

**S534K** 

More than 1101 employees benefited in recognition, long service award, or activities related to their betterment

**EMPLOYEES** 



Impact 2083

\$125K

\$124,530 which had a direct impact on 220 people across Qatar, Activities included Donations

Q-Chem companies contribution reached

**COMMUNITY** 



Impact 220

\$16,513

internal sports teams as well as sponsoring outside sports activities, including Sport Day **SPORTS** 



Impact 2083

**S11,483** 

ceremonies, participated in engaging local schools

**EDUCATION** 





Impact 1550

#### **ENVIRONMENT**

Engaged in beach cleaning and waste-free campaign



**SAFETY** Organized World Safety Day Impact 1000







**VOLUNTEERING HOURS** 



#### **Qatarization**

Increasing the number of Qatari nationals in the country's workforce is a priority of the QNV 2030. In response, we are recruiting, developing and retaining highly competent Qatari talent for careers at Q-Chem companies. Our "Quality in Qatarization" objective is strongly linked to individual performance and proven competencies that relate to meeting our operational requirements and organizational success. There are a wide range of capacity-building programs available to prepare, attract and develop Qatari nationals for careers at Q-Chem companies.

In 2016, we exceeded our Qatarization target of 19.6% and achieved 20.3%. We once again exceeded our target in 2017, setting a goal of a 21.5% national employment rate and surpassing it to achieve a 21.7% rate. This continuing trend reflects the effectiveness of our strategy around national talent acquisition.

This increase in our national employment rate is also attributable to our investment in training programs and individual development plans, which attract a national talent pool capable of taking on various roles in the organization.

In 2017, we more than doubled the total and average training hours for Qatari employees as well as the cost of training for Qatari employees compared to the previous year. Among our initiatives, we provided:

- high-quality training (in-person and through e-learning) to improve employee skills and competencies
- one-on-one coaching sessions with a Qatarization supervisor to develop leadership skills
- a company-wide Qatari mentoring program
- regular career counseling on for both senior staff and trainees/developees

#### **Individual Development Plans**

In line with our commitment to achieving the QNV 2030 and maintaining our principle of Total Quality Qatarization we provide individual development plans (IDPs) for our national employees, providing them with a roadmap for progressing within the company. In 2017, six developees completed their IDPs and moved successfully to new positions with good performance results. Additionally, seven trainees completed their training plans and transitioned to new IDPs that targeted senior staff positions.

Recognizing that attention to detail is vital to the success of our Qatarization objective, Q-Chem companies undertake regular reviews of each Qatari employee and the entire program is closely monitored by our CEO. All levels of management are expected to ensure that the successful implementation of Qatarization takes place within their respective areas of responsibility.

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#### **Annual Qatarization Certificate**

At the 17th Annual Qatarization Review Meeting in 2017, Q-Chem companies received the Annual Qatarization Certificate for Supporting Qatarization in recognition of our robust commitment and practices.

"Q-Chem companies strongly believes in the great potential that exists in Qataris. We will all benefit from working to expand opportunities for Qataris and we therefore enthusiastically support the Qatarization drive, so as to ensure the nation's sustainability and prosperity. In particular, Q-Chem offers Qataris a world of opportunity with rewarding careers at our three company locations in Doha, Mesaieed, and Ras Laffan." – Mr. Ahmad Saif Al-Sulaiti, Chairman of the Board of Directors of the Mesaieed Petrochemical Holding Company, MPHC, Executive Vice President – Operations in Qatar Petroleum.



#### **Total Quality Qatarization**

To increase the number of Qataris in our workforce, we have implemented a principle of Total Quality Qatarization, which aims to enhance the recruitment, training, development and retention of quality Qatari employees. Our focus is not only on professionals, but also new graduates and trainees, providing them with capacity-building initiatives that give them the necessary skills to fill vacant positions in our company.

In 2017, Q-Chem's senior leadership met with Qatari national employees during "Qatari Day." Roughly 200 employees from Q-Chem and RLOC, as well as students, chiefs and managers, attended the meeting, discussing the integral role Qatarization plays in sustainable development and identifying areas where Qataris can grow and prosper.



#### **Promoting Education in Qatar**

As part of our CSR program, we support students at various schools and academic institutions to help them achieve success in their specialties. By promoting education in Qatar, we are helping to build the foundation for the sustainable development of the country's economy.

Our contributions range from pre-primary education initiatives to research-based collaborations with universities, and then providing training to students and new graduates.

The future of the petrochemical industry depends on reliable technical expertise, and developing that expertise in young Qataris is essential to having a sustainable workforce. In addition to proactively investing in the nation's education sector, we sponsor educational programs that enable talented Qataris to study in Qatar or abroad in areas of expertise related to our operations. Our efforts include sponsorships, summer school programs, internships and school visits by Q-Chem engineers, as well as supporting the development of academic research programs. We also invite students to visit our operational facilities.

#### Attracting and Preparing a Qatari Workforce

Within Qatar, there is a host of capacity-building programs available to prepare, attract and develop Qatari nationals for careers at Q-Chem companies. We collaborate with several Qatari educational institutions and community organizations to provide essential information about careers in the petrochemical industry.

- Our job shadowing program directly engages students in first and second year university and introduces them to the practical requirements of our industry.
- Our senior management visits colleges annually to follow up with company-sponsored students and encourage them and young engineers to enter the petrochemical industry.
- Several leading educational institutions and communities actively participate in plant visits, presentations and joint research or graduation projects.

#### Partnerships with Local Institutions

Q-Chem companies partners with local institutions, offers scholarships to outstanding students and participates in several career fairs and networking events at various universities in Qatar. Our central goal is to help students gain an in-depth understanding of professional career requirements in different industry sectors and roles. We not only focus on professionals, but also provide new graduates and trainees with the opportunity to fill vacant positions.

In 2017, Q-Chem companies celebrated the graduation of 14 sponsored students who successfully completed Certificate II and Certificate III of the Technician Preparatory Program (TPP) at the College of North Atlantic–Qatar (CNA-Q). These outstanding graduates will be able to work at several departments within Q-Chem companies facilities located at Doha, Mesaieed, or Ras Laffan. Moving forward, we are in the process of conducting recruitment campaigns to attract high school students to the program.



|   | 2014 | 2015 | 2016 | 2017 |
|---|------|------|------|------|
| Students sponsored to study in universities abroad* | 5    | 0    | 7    | 18   |
| Number of trainees and interns at Q-Chem            | 107  | 30   | 18   | 33   |
| Number of students beginning TPP at CNA-Q           | 33   | 18   | 0    | 1    |
| Students sponsored at Qatar University              | 3    | 12   | 7    | 11   |
| Students sponsored at Texas A&M                     | -    | 4    | 3    | 5    |
| Students sponsored at community college             | 1    | 1    | 3    | 6    |

<sup>\*</sup> Q-Chem Companies are aiming at enhancing the quality of the internship and training to ensure maximum benefits to students and trainees.



Q-Chem companies sponsored the Qatar University's (QU) College of Engineering (CENG) Recognition Day, a day celebrated annually to honor students on the Dean's list and current CENG students and alumni for both their local and international achievements. In April 2017, Q-Chem's Human Capital Manager met with CENG's Dean to discuss opportunities for future collaboration. We also took part in QU's 11th Career Fair to provide students with the opportunity to meet our team members and learn about employment and training opportunities.

Q-Chem was among the 70 companies across various sectors that attended the Hamad Bin Khalifa University Career Fair, which highlighted internship and employment opportunities.

#### Research & Development (R&D)

Research and development (R&D) is the foundation for product and process innovations. As part of our commitment to R&D, Q-Chem is a member of the Technical Advisory Board of the Mary Kay O'Connor Process Safety Center (Qatar Consortium), which operates at the Texas A&M University Qatar (TAMUQ). The Center's mission is to promote industry safety around the world in order to prevent future accidents.

In 2017, we renewed our Silver Class membership at the Al Attiayah Foundation, which gathers together successful global pioneers in the energy industry with the International Foundation for Energy and Sustainable Development, creating a robust platform for knowledge sharing and research to promote sustainable development.

#### **Community Outreach**

Local communities are major stakeholders of Q-Chem companies, so we strive to understand and respond to the their needs and concerns. Our 2017 community engagement activities ranged from blood donation drives to raising environmental awareness and promoting sports and an active lifestyle.



We are committed to encouraging and engaging employees in a healthy lifestyle. Sports play a fundamental role in maintaining and improving employee and community well-being. Some of our investments last year supported football, cricket and rugby.

#### Al Khaliji Cup

The Al Khaliji Commercial Bank hosts an annual football tournament to support Qatar's National Sports Day and foster values of community, sportsmanship and positive team spirit. In 2017, the Q-Chem football team played against other teams and won first place.



#### Qatar Rugby, Hockey, and Cricket Foundation (QRHCF) Donation

As part of our corporate goals to support communities and sports, Q-Chem companies donated QAR 50,000 to support QRHCF's sports activities.



#### First Aid Kit for Senyar Fishing and Diving Competition

Q-Chem companies supported the sixth annual Senyar Championship, a maritime event organized to celebrate the rich heritage of Qataris. This fishing and pearl diving contest highlights traditions, customs and values of Qatari sea life. We distributed first aid kits to participants, which included safety equipment and guidelines on handling ailments and injuries.

#### Hamad Medical Corporation Blood Donation - Amwal Tower & Mesaieed Plant

Q-Chem companies organized blood donation drives both at the company headquarters at Amwal Tower in Doha and at the Q-Chem clinic at the Mesaieed plant, bringing in a fully-equipped mobile blood donation unit and a team of medical specialists. These blood drives are part of our commitment to providing humanitarian services to local communities. Our drive was a great success, with a huge turnout from Q-Chem companies employees and contractors. We expanded the initiative by inviting personnel of surrounding tenant companies in Amwal Tower to come forward and donate blood for Hamad Medical as well. At the Mesaieed plant, we successfully collected 39 blood units which had the potential to provide up to 117 lifesaving applications.





#### PRESERVING THE ENVIRONMENT

At Q-Chem companies, we believe that active engagement instills a greater sense of environmental responsibility among employees, volunteers and the wider community. That's why we organize annual beach clean-ups and preservation campaigns.

#### Turtle Beach Clean-Up Campaign



In December 2017, our employees participated in the turtle beach clean-up campaign at Ras Laffan northern beach, one of the best nesting spots for hawksbill turtles and an area that accommodates close to 30% of the total nests in Qatar. The campaign reflects Q-Chem companies' deeper commitment to preserving our oceans and land by sensitizing people in the company and the community to the harms that stem from throwing garbage and pollutants on land and in the sea.



#### **Waste Free Environment**

An annual event in Qatar, Waste Free Environment (WFE) is an important environmental initiative launched by the Gulf Petrochemicals and Chemicals Association (GPCA) and supported by GPCA's Plastics Committee. In collaboration with other companies, Q-Chem companies organized a week-long WFE campaign to promote recycling and encourage a more responsible attitude towards litter disposal. Activities included school visits to spread awareness among students and setting up a tent at Al-Wakra Family Beach to showcase the "3Rs" (recycle, reuse and reduce).







#### Helping Those in Need

We have launched several programs in collaboration with local community institutions, such as the Qatar Society for Rehabilitation of Special Needs (QSRSN) to help less privileged communities and empower people with special needs to meet their aspirations in life. Additionally, last year we donated over 100 items of IT equipment to charity, so that underprivileged families can have access to modern technology and communication.

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Economic
Performance
and Product
Responsibility









# Economic Performance and Product Responsibility

Our participation in a commoditized chemical business requires constant focus on cost discipline to maximize margins and create value for all stakeholders, while always maintaining our commitment to safety and the environment.

Q-Chem companies' petrochemical production has more than tripled since the start of its operations in 2004. We are proud to generate valuable revenues that enable Qatar to achieve sustainable development through economic diversification.

#### **Management Approach**

Our products are always procured directly from renowned manufacturers and their authorized agents. In line with our core values, Q-Chem and its associated companies always strive to procure products that are meeting the latest standards in areas of personnel and plant safety and environmental responsibility. These products are procured with reference to SAP's "Material Masters."



#### **Economic Performance**

Our economic performance is critical to the success of Q-Chem companies and its operations. To deliver healthy financial results, we are constantly looking for ways to increase our operational and cost efficiencies. We use an integrated approach in the management of our economic performance that is defined in three key areas:



Despite recent difficulties -- namely the global downtrend of oil prices and the blockade placed on Qatar -- Q-Chem companies have managed to maintain strong economic performance by focusing on our strategic objectives and maintaining the safety of our operations and the environment. This is also evident from our sustained production capacity and sales levels.

#### **Production and Sales**

In 2017, the global trend in oil prices continued to improve from the previous year, which was reflected positively in our sales revenues. We have consistently produced and distributed more than 1.2 million tons of derivative products in each of the past five years. This is a landmark for Q-Chem's growth and expansion, since

our operations began in 2004 with less than 400,000 tons of production.

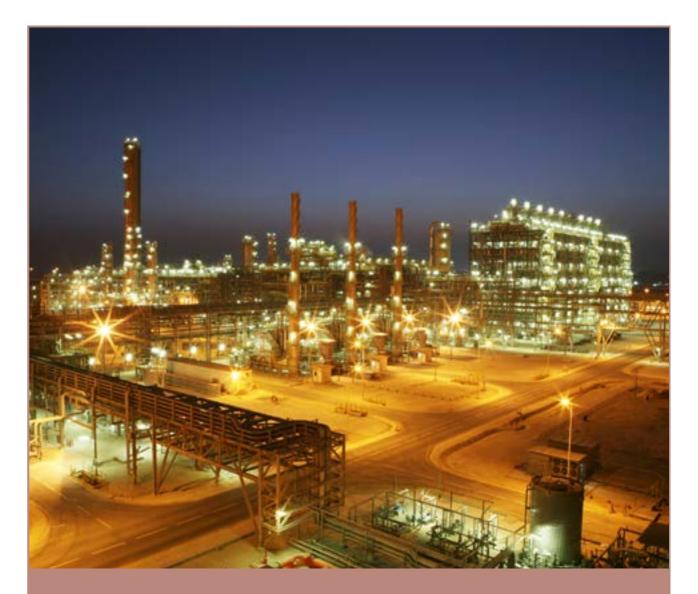
#### Fiscal Responsibility

Fiscal responsibility enhances Q-Chem companies' ability to deliver maximum profitability to shareholders. We have a strong record of profitability, which stems from a combination of high-value and high-quality operations and our dedication to fiscal responsibility. This is at the core of Q-Chem companies' operations, as is demonstrated by the inclusion of expenses within the company bonus calculation. In 2017, Q-Chem companies achieved 4% savings on expenses compared to what was budgeted. We conduct regular audits and analyses of our fiscal performance in alignment with best practices and the regulatory requirements of the State of Qatar.

#### **Economic Impact**

Since operations began in 2004, Q-Chem's petrochemical and derivatives production has more than tripled. Our economic impact extends deep into the economy and society of Qatar. Through the sale of our products to the Qatar Chemical and Petrochemical Marketing and Distribution Company (Muntajat) Q.J.S.C., which markets our products globally,

Q-Chem generates valuable revenues that contribute to the State of Qatar's overall wealth and its path of economic development. Q-Chem companies continued to create many economic opportunities for Qatar through employment and procurement.



#### Q-Chem companies role within Energy and Industry Sector

Q-Chem companies facilities hold a major part of the energy, industry and petrochemical sector value chain that begins with energy exploration and production and concludes with high-value petrochemical exports. Strong partnerships with other Qatar energy and industry sector companies allow us to optimize the efficiency and production potential that Qatar gains from having a linear and consolidated energy and industry sector.

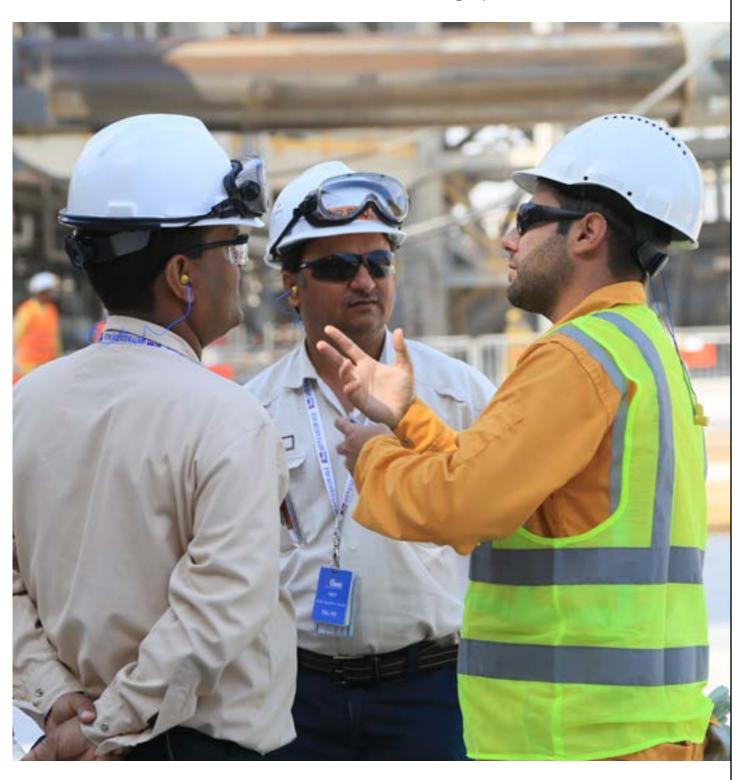
To boost our local economic impact, our procurement policies prioritize purchasing from Qatarbased suppliers. As a result, our local procurement rate stood at 66% in 2017. Feedstock is provided from local processers and processed by Q-Chem II for the input of ethylene as the raw material for our petrochemical derivatives production process.

#### **Sustainable Procurement**

At Q-Chem companies we recognize the importance of local procurement spending and its long-term, indirect beneficial economic impact on the Qatari economy. In 2017, 66% of Q-Chem companies' purchases were from local vendors, representing more than QR 1 billion to the economy. Additionally, 91% of the service contracts were awarded to locally registered companies. Recognizing the risk reduction and economic impact opportunities of its purchasing, we have implemented a procurement policy that gives preference to Qatar-based suppliers. In addition,

Q-Chem companies are part of the Mesaieed Strategic Procurement Forum that works collaboratively to develop sustainable local procurement practices for MIC-based companies.

Immediately following the blockade placed on Qatar, we formed a crisis management team. Its role was to list and take immediate action on all the materials, open purchase orders and shipments that might be affected by the embargo and identify solutions to ensure business continuity, which included building up stocks and rerouting shipments.



#### **Product Stewardship**

We are aware of the value we generate for many other companies through our focus on product quality and sustainable production. As a result, we believe we have a responsibility to maintain our leading status in product stewardship and reliability. We focus greatly on keeping our company up to international standards and accreditations. All our facilities have been accredited for ISO 14001 Management and RC 14001® Responsible Care standards.

We have created internal teams to help us proactively manage the potential adverse impacts of the poor handling of our products, inside and outside the boundaries of our facilities. The Product Risk Management Team is responsible for addressing the safety impacts of all new and existing products, and provides training to support risk evaluation and management. The Product Stewardship Committee ensures that information on the safe use and handling of our products is always provided and meets customer requirements. Our product Safety Data Sheets (SDS) are available for download on our website.

#### Establishing a "Made in Qatar" Brand

We are committed to promoting Qatari products. In 2016, we transitioned from the Marlex® brand to Lotrène®, a new Qatari brand fully owned by Muntajat. Muntajat is responsible for the marketing, sale and distribution of all petrochemical products produced in Qatar. Muntajat has a strong global network, ensuring our products are serving the needs of customers in Asia, Africa and Europe. This move brings in many benefits to our company and the State of Qatar, offering another world-class quality product that is "Made in Qatar".



#### Responsible Supplier Management

Our Supplier Qualification-Self Audit Questionnaire is a powerful and effective tool that ensures only companies continuously protecting the safety, health and welfare of their employees are allowed to work inside Q-Chem sites. We require each bidder to complete the questionnaire in each tender whenever a site activity is expected to be performed. We believe this questionnaire reminds each and every bidder of our unwavering duty to maintain the highest standards of safety and quality, not only in terms of the workers but also the environment and society as a whole.

Put into broader perspective, the self-audit questionnaire has contributed not only to achieving the company's safety objective and performing the work safely, but to attaining sustainability by ensuring the high-quality, onbudget and timely completion of the work, and making certain that the safety, health and welfare of all workers is protected.

We at Q-Chem companies engage with an extensive network of suppliers and their contributions are paramount to our success. Choosing suppliers with good sustainability business practices is a way for us to positively influence our supply chain.

# Appendices



### Appendices

#### Appendix A – Acronyms

| BBS              | Behavior Based Safety                         |
|------------------|---|
| BI/DW            | Business Intelligence/Data Warehousing        |
| CEMS             | Continuous Emissions Monitoring System        |
| CENG             | College of Engineering (QU)                   |
| CEO              | Chief Executive Officer                       |
| CGC              | Cracked Gas Compressor                        |
| CNA-Q            | College of North Atlantic - Qatar             |
| CO <sub>2</sub>  | Carbon dioxide                                |
| CPChem           | Chevron Phillips Chemical Company             |
| CSR              | Corporate Social Responsibility               |
| ECM              | Enterprise Content Management                 |
| EU               | European Union                                |
| GHG              | Greenhouse gas                                |
| GPCA             | Gulf Petrochemicals and Chemicals Association |
| H <sub>2</sub> S | Hydrogen sulfide                              |
| HAZOP            | Hazard and operability                        |
| HDPE             | High-density polyethylene                     |
| HSE              | Health, safety and the environment            |
| ILO              | International Labor Organization              |
| IPCC             | Intergovernmental Panel on Climate Change     |
| IT               | Information Technology                        |
| KPI              | Key Performance Indicator                     |
| LDAR             | Leak Detector and Repair                      |
| LEL              | Lower Explosive Limit                         |
| LOPA             | Layer of Protection Analysis                  |
| MDPE             | Medium-density polyethylene                   |
| MIC              | Mesaieed Industrial City                      |
| MME              | Ministry of Municipality and Environment      |

| MPHC            | Mesaieed Petrochemical Holding Company Q.S.C.     |
|-----------------|---|
| MTPA            | Metric tons per annum                             |
| NAO             | Normal alpha olefins                              |
| NO <sub>x</sub> | Nitrogen oxides                                   |
| NZLD            | Near-Zero Liquid Discharge                        |
| OE              | Operational Excellence                            |
| OSH             | Occupational safety and health                    |
| OSHA            | Occupational Safety and Health Administration     |
| PE              | Polyethylene                                      |
| РНА             | Process Hazard Analysis                           |
| PPCT            | Pollution Prevention Core Team                    |
| PSER            | Process Safety Event Rate                         |
| PSM             | Process Safety Management                         |
| QAR             | Qatar Riyal                                       |
| Qatofin         | Qatofin Company Ltd.                              |
| Q-Chem          | Qatar Chemical Company Ltd.                       |
| Q-Chem II       | Qatar Chemical Company II Ltd.                    |
| QNV 2030        | Qatar National Vision 2030                        |
| QP              | Qatar Petroleum                                   |
| QRHCF           | Qatar Rugby, Hockey and Cricket Foundation        |
| QSRSN           | Qatar Society for Rehabilitation of Special Needs |
| QU              | Qatar University                                  |
| R&D             | Research and development                          |
| RLOC            | Ras Laffan Olefins Company Ltd.                   |
| SO <sub>2</sub> | Sulphur dioxide                                   |
| SDS             | Safety Data Sheets                                |
| TAMUQ           | Texas A&M University at Qatar                     |
| WFE             | Waste Free Environment                            |

#### Appendix B – Stakeholder Mapping

| Stakeho | older Group  | Main Interests  | Engagement Channels   |
|---------|--|---|---|
|         | National Authorities:<br>Government of Qatar, Qatar<br>Energy and Industry Sector  | Compliance with regulations, economic and social development, national growth and employment  | Board of Directors, public events<br>and media, national campaigns, and<br>outreach programs  |
| ††      | Employees:<br>Shift workers, managers,<br>and all other employees  | Safety, compensation, training and development, wellness, and community engagement  | Daily operations, periodical performance reviews, feedback through the management chain, social events, and workplace campaigns and programs                                |
| Agency, | Regulatory Agencies: Qatar Ministry of Municipality and Environment, Qatar m, Economic Regulatory Industrial Cities Authorities, sible Care Initiative | Compliance with laws, participation in industry initiatives, and reporting and monitoring of performance  | Annually/quarterly/monthly performance reporting, Board of Directors, and participation in events and programs  |
| 200     | Customers: - Muntajat QPSPP (Qatar Petroleum for sale of Petroleum Products) - Dolphin Energy - Qatofin - Qatar Acid                                   | Reliable and timely delivery of products, product quality, bagging, and shipment safety and security  | Sales contracts, direct marketing, frequent meetings with customers and agents, and customer feedback surveys   |
|         | Suppliers:<br>Manufacturers of raw<br>materials  | Cost and sales, product quality, delivery, and inventory control  | Supplier audit questionnaire, procurement and finance departments, and invoicing  |
|         | Contractors: Catering, maintenance, and service providers  | Payment of invoices, quality services,<br>manpower/equipment<br>requirements, safety and security, and<br>cost  | Tendering contracts, safety orientation, contractor audit questionnaire, quarterly contractors' evaluations, on-site contractor engagement, feedback tracking, and training |
| \$      | Shareholders: - Chevron Phillips Chemical Company - Mesaieed Petrochemical Holding Company (MPHC) - Qatofin - Qatar Petroleum (QP)                     | Safety, economic return on investment, reliable operations, and enterprise risk management Disclosure of price-sensitive and confidential information | Weekly HSE performance reporting, periodic Board of Directors reports, monthly production and financial performance reporting, and annual sustainability reporting          |
| ****    | Communities:  - Mesaieed  - Doha  - Ras Laffan  - Qatari society   | Safety, infrastructure development, environmental programs, education, and employment   | Community outreach events, employee programs, grievance hotline, recruitment campaigns, collaboration with educational institutes, and press releases                       |







