His Highness
Sheikh Tamim Bin Hamad Al-Thani
The Emir of the State of Qatar
His Highness
Sheikh Hamad Bin Khalifa Al-Thani
The Father Emir
The year 2015 was not an easy period for the global oil and gas industry as demand stagnated and prices persisted in their downward trend reaching the bottom just after the year end. The price drop not only affected the national income of oil and gas producers world-wide, but also cast great doubts over various oil and gas investments totaling hundreds of billions of dollars, as investor lack of confidence prevailed.

The Organization of Petroleum Exporting Countries (OPEC) and other major producing countries have made efforts to rebalance the market and restore confidence in its fundamentals and help attain higher prices.

The wise leadership of His Highness the Emir, Sheikh Tamim bin Hamad Al-Thani, enabled us to avoid many of the negative impacts of the price decline through diversification of Qatar’s economy, and strong institutional structures like Qatar Petroleum.

QP, as the custodian of Qatar’s oil and gas resources, managed to weather the storm, and continued to perform well despite the severity and persistence of the global economic downturn. Its success was supported by three basic elements.

First, a prompt, prudent and decisive reaction to the new market realities guided by a resolute plan to move forward with an optimization and reorganization program it had started towards the end of 2014. This program was not limited to downsizing or cost-cutting, but also placed great emphasis at improving the efficiency of our people, our management and operational systems, our facilities, and our support services.

The successful completion of the program resulted in a stronger more motivated organization characterized by the highest levels of efficiency, optimization, synergy and rationalization in all aspects of its activities which is now more capable to compete as a world class corporation on the international level. Cost and asset optimization has enabled QP to stay on track in its efforts to realize a better yield from our resources, sustain higher monetization levels, and enhance the value to the State of Qatar.

Second, placing total focus on QP’s core business in the oil and gas industry, and revisiting its assets, investments, partnerships and future projects. By taking the decision to exit non-core activities, QP was able to exercise better control on its businesses and streamlining its resources, develop new capabilities required for the future, and create a bigger and more competitive space for the private sector.

Third, reinforcing Qatar’s position as the world’s largest LNG producer, and augmenting its ability to engage in new sales and purchase agreements with customers across the globe.

This is so important because it capitalizes on the existing extensive infrastructure thanks to the historic and wise decision of His Highness the Father Emir; this would be almost impossible to achieve in today’s circumstances.

I am pleased to report that a turbulent 2015 had no impact on Qatar Petroleum’s ability to face the challenges and meet its commitments. Nor did it affect its ability to deliver with excellence in all its various activities aimed at ensuring efficiency and sustainability.

QP is now placed in a unique and favorable position that enables it to capitalize on its achievements, and to keep the building blocks for its success and for a bright future for the state of Qatar.

I am grateful to the dedicated and sincere efforts of QP’s management, employees, partners and contractors, who have firmly placed this leading corporation on the road to becoming one of the best national oil corporations in the world.

Dr. Mohammed bin Saleh Al-Sada
Minister of Energy and Industry
Chairman, Qatar Petroleum
Qatar Petroleum is issuing its 2015 annual report in a different format that is designed to highlight to our stakeholders our main initiatives and achievements as well as our evolving approach for a sustainable present and future for our business as well as for the State of Qatar.

2015 was marked by many challenges resulting from the global economy’s continued slow growth and persistent low oil prices. However, despite such pressures, the year saw Qatar Petroleum achieve a stable production rate with healthy revenues, mainly due to a significant optimization effort across the whole spectrum of our activities.

One of the most important achievements of the year was the completion of the restructuring and re-organization of QP based on functional core business responsibility and accountability, designed to meet QP’s new strategic objectives. With integration, streamlining and ‘right-sizing’ our organization has become more dynamic and efficient, enabling it to cope with our strategic needs in the new business environment. I can confidently say we now have total focus on our core business and are firmly in place to pursue our ambition of becoming one of the leading national oil corporations in the world and the biggest of its kind. This project represents a significant milestone in the State of Qatar’s efforts to minimize the carbon footprint of its LNG industry. Another highlight was the signing of a memorandum of understanding for the establishment of a joint company for the generation of electricity from solar power as a 40-60 joint venture with Qatar Electricity & Water Company.

2015 was a notable year for QP’s efforts towards the environment and sustainable development, with recognized contributions to Qatar’s key role in the 2030 Agenda for Sustainable Development and the Paris Climate Change Agreement, as well as in upholding the United Nations Guiding Principles on Business and Human Rights.

Our top priority continues to ensure the highest health and safety levels for people, both at the workplace and in the communities where we operate. In 2015, our combined total recordable injury rate for employees and contractors has decreased by 18% to 0.75, which is better than the 2014 global rate calculated by the International Association of Oil and Gas Producers (IOGP).

Reflecting on our commitment to our human resources, we have enhanced our efforts to realize our vision and strategic objectives by focusing on three areas which together form the QP People Agenda: growing talent and resourcing, and business ethics.

During this year, QP took a number of important steps to enhance our environmental investments, the highlight of which was inaugurating the Jetty Boil-Off Gas recovery project [JBOG], one of the largest of such investments in the world and the biggest of its kind. This project represents a significant milestone in the State of Qatar’s efforts to minimize the carbon footprint of its LNG industry. Another highlight was the signing of a memorandum of understanding for the establishment of a joint company for the generation of electricity from solar power as a 40-60 joint venture with Qatar Electricity & Water Company.

During this year, Qatar Petroleum implemented a number of projects and initiatives to ensure its sustainable production and help achieve its strategic objectives to become a world class oil and gas corporation. It undertook a diligent potential re-evaluation of QP-operated fields through comprehensive reservoir studies, involving the latest modelling techniques, seismic surveys, and data processing.

One such effort involved the redevelopment of the Bul Hanine offshore oil field which is one of the largest to be managed and executed by QP. The project is designed to prolong the field’s life and to increase its production output. In addition, studies were ongoing for the Maydan Mahzam offshore field redevelopment as well as that of Dukhan field, which was re-evaluated and studied earlier.

Work continued throughout 2015 on major projects such as the Barzan gas project, which will produce around 1.4 billion cubic feet a day of sales gas in addition to field and plant condensate, ethane, propane and butane; and the Laffan Refinery 2 project, which will be similar to the first Laffan Refinery with a similar processing capacity. The highlighted was the signing of a memorandum of understanding for the establishment of a joint company for the generation of electricity from solar power as a 40-60 joint venture with Qatar Electricity & Water Company.

Much of our focus in 2015 was placed on the future operation and development of Al-Shaheen oil field, largest oil fields in the world and the largest oil producing field in Qatar. QP issued invitations in May 2015 to a group of Maersk Oil of Denmark and business ethics.

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Qatar Petroleum is today a well-focused organization that is quietly moving forward with a sense of purpose and a clear strategy to advance and further develop Qatar’s oil and gas sector. Our achievements during 2015 give us great confidence in our path towards the future, and reaffirm QP’s stature as a reliable supplier of energy to customers around the world. All of this could not have been possible without the wise leadership and guidance of His Highness Sheikh Tamim bin Hamad Al-Thani, the Emir of the State of Qatar.

Saad Sherida Al-Kaabi
President & CEO
QP Annual Review & Sustainability Report 2015

**ABOUT QATAR PETROLEUM**

Qatar Petroleum (QP) is a state-owned corporation responsible for all phases of the oil and gas industry in the State of Qatar. Established by Emiri Decree No. 10 of 1974, QP has spearheaded the continued growth of Qatar’s oil and gas industry as well as expanded its operations to many countries worldwide.

The principal activities of QP and its subsidiaries and joint ventures cover the exploration, production, and marketing of crude oil, natural gas liquids, liquefied natural gas (LNG), refined products, gas-to-liquids (GTL) products, petrochemicals, fuel additives, fertilisers, steel and aluminum.

QP’s operations and activities are conducted at various onshore locations, including Doha, Dukhan and the Mesaieed and Ras Laffan industrial cities, as well as at offshore areas, including Halul Island, offshore production stations, drilling platforms and the North Field.

Covering an area of 6,000 square kilometers, the North Field has 900 trillion standard cubic feet of recoverable gas, and is the largest single non-associated gas reservoir in the world. The utilization of this field’s massive reserves has become a primary national goal to continue the development and prosperity of the country.

QP is committed to the health and safety of its employees, contractors, visitors and the local communities where it operates. From drilling to construction, operations to decommissioning, QP’s HSE policy forms an integral part of the corporation’s daily business and long-term planning. Education, promotion and training programs help ensure that each and every employee is committed to safe operations and environmental protection.

Thriving on innovation and excellence, Qatar Petroleum is committed to the highest levels of sustainable human, socio-economic, and environmental development in Qatar and beyond.

**MAXIMISING CONTRIBUTION**

The year 2015 was a major landmark for Qatar Petroleum. It witnessed the completion of an extensive re-organization and optimization program initiated in November 2014, which included the integration of Qatar Petroleum International into QP, making the corporation in charge of all its oil & gas business domestically and internationally.

The objective of the program was to create a stronger, more focused, and efficient QP that is capable of realizing a better yield from Qatar’s resources, achieving higher monetization levels, and delivering its commercial and growth objectives. It aimed at enhancing QP’s ability to maximize its contribution and compete as a world-class corporation on the international level by achieving the highest levels of efficiency, optimization, synergy and rationalization in all aspects of QP activities.

Moving forward, QP’s plans were not limited to downsizing or cost cutting, but also placed great emphasis on improving the efficiency of its people, management and operational systems, machinery, and support services.

One important aspect of the optimization program was the concerted effort to revisit QP’s assets, investments, partnerships and future projects, with a focused view on its core business, its available resources, and its competitive edge. QP’s Finance and Planning Directorate assumed responsibility for the finance aspects of the various transfers and divestments of non-core activities, such as Al-Waseeta and the Long Son Petrochemical Complex, including the finance aspects of any necessary agreements and funding commitments.

However, QP remained committed to international expansion as it sought new ways to build its international presence with new investments that provide more attractive opportunities for QP to build on its core competencies.

And while QP continued to enhance its competitiveness and serve the State of Qatar in the most valuable way, the following steps were singled out as crucial elements for success:

- Refocusing on core businesses along the specific oil & gas value chain;
- Strengthening business leadership positions both domestically and internationally;
- Optimizing costs and assets;
- Developing new capabilities required for the future;
- Increasing Qatarization rate and expanding the Qatari leadership bench; and Enhancing value to the State of Qatar.

**REORGANIZATION**

The reorganization of QP was carried out with the aim of delivering its strategic objectives by designing a “fit-for-purpose” organization and by becoming more effective and efficient in the way we work together, enhance our competitiveness, and continue to serve the State of Qatar in the most valuable way.

One of the catalysts for restructuring was the awareness of the realities of the energy industry down cycle, the persistent nature of declining oil and gas prices, and the conviction that these prices were unlikely to recover in the short term. Therefore, certain projects and initiatives had to be cancelled or deferred, and measures had to be taken to reduce operating costs. Some of these measures affected our organization. Some positions were cancelled and a number of employees were released during this effort, while other positions were created to help shape a right-sized, more focused, more cohesive, more accountable, and more adaptive organization.

The reorganization program was highlighted by the implementation of QP’s new organizational structure, which was designed to instill a new impetus in the corporation’s drive to become one of the best NOCs in the world. Most importantly, it has recognized the value and importance of “quality Qatarization”
throughout all levels of the organization, which saw a significant increase in 2015 (see Qatarization). Major reassessments of the Capital Project Portfolio led to an optimized list of projects that are oriented towards the core business. The total projects that were deferred or completely/partially cancelled are 14 projects.

The Project Management System (PMS) for the governance, management and delivery of QP projects is currently being upgraded in line with industry best practice. In particular, enhancements will be adopted to project governance, assurance, categorization, inter-directorate integration and performance management. This will ensure the consistent high-quality delivery of projects that meet QP’s business needs and continuously improve project management capability and performance.

Additionally, a Project Management Competency framework is being drafted to assess, maintain, and monitor the knowledge, skills, and attributes of our staff. This will help our managers make informed decisions about talent recruitment, retention, and succession strategies to ensure business continuity. Mr. Saad Sherida Al-Kaabi, the President and CEO of Qatar Petroleum, announced the completion of the reorganization program in a press conference held at QP Headquarters on the 23rd of June 2015. During the event, which was attended by local, regional and international media representatives, Mr. Al-Kaabi announced that with the end of the program, “we are now a corporation that is in charge of our oil & gas business domestically and internationally.”

Therefore, the integration of Qatar Petroleum International (QPI) into QP was a major element towards enhancing this ability by leveraging our combined technical, commercial and financial capabilities to deliver on our international growth aspiration, while ensuring effectiveness and efficiency in the use and deployment of our resources.

The integration was also an important indicator of QP’s commitment to international expansion. Since it was founded in 2007, QPI had served as QP’s arm to establish international presence across different countries along the oil & gas value chain, and it had partnered with leading global players to form 10 joint ventures across four continents. QPI’s key role in this sense was to fulfill the critical role of incubator for QP by growing our portfolio of assets and opportunities internationally.

The completed integration in March 2015 saw QPI’s employees, assets and projects transitioned into the new QP organization.

As part of the integration of QPI with its mother corporation, the management of commercial matters of QPI’s international assets were integrated into QP’s Commercial and Business Development Directorate, which will also help in focusing on the overall management of QP’s upstream non-operating assets located in Qatar as well as in other countries.

STRATEGIC OBJECTIVES
QP was true to its vision

“To be a world-class oil & gas corporation, with its roots in Qatar and a strong international presence”

and has achieved global recognition as a reliable business partner in a wide spectrum of activities.

As the transformation of QP moved ahead, it was only natural that it would adopt a new set of strategic objectives that would help it stay on track during the transitional period marked by an industry down-cycle and a very competitive business environment. These would lead to a strong and determined QP that is ready to engage the future and live up to its promise and commitment and is at “par” with leading international oil & gas companies and corporations.

In this context, QP was determined to achieve the development of qualified, motivated, and capable human resources and manpower, pursue excellence in the implementation of major projects, maximize the benefit to the corporation by managing production sharing agreements and joint projects, and attain operational excellence in all its businesses and assets.

A successful achievement of the above would in no doubt put the corporation on the right track towards the development of new petroleum reserves in Qatar and internationally, the efficient downstream exploitation of QP’s feedstocks, in meeting local oil and gas demand efficiently, and in supporting QP and the State of Qatar.

BUSINESS DEVELOPMENT
As part of the new QP organizational structure, the Commercial and Business Development Directorate came into existence in 2015. Its main objective is to create a center of excellence that looks after the commercial aspects of the business for the organization as a whole.

The directorate has actively promoted initiatives to deliver profitable growth to QP businesses in line with the corporate strategy and to maintain and strengthen QP’s relationship with its long-term commercial and strategic partners. It has also been involved in the identification and execution of business opportunities in various business sectors.

Commercial and Business Development led projects on restructuring and renewal of commercial and fiscal agreements, the development of QP’s Business Strategy, and mergers and acquisitions (M&A) projects, and supported corporate initiatives for cost reduction and organizational change.

The directorate also manages commercial negotiation and administration of local sales of gas for fuel, feedstock and power generation in a manner that ensures fairness to Qatar’s industrial and power users and adheres to the best interest of QP.
Eight decades of the oil and gas industry in the State of Qatar have been marked by strong and mutually beneficial partnerships with some of the best names in the world.

Qatar Petroleum boasts of impeccable relations with the world’s major players in the upstream, midstream and downstream sectors of the oil and gas industry, resulting in internationally renowned partnerships and joint ventures that virtually cover the industry’s entire spectrum.

Having as much pride in its partnerships as in its achievements, QP placed special emphasis on strengthening its relations with all its business partners and sought various ways for a more fruitful and mutually beneficial relationship.

To this effect, QP reviewed and managed the financial aspects of all new venture agreements and the transfer of QP’s share of any funding opportunity. It also reviewed the budgets and work programs of existing ventures and worked with the operators in order to improve profitability.

Efforts were channeled to better manage International assets by constructively challenging asset operators’ on-going activities, and by focusing on high-value upstream opportunities and recommending proposals for the best-fit options for surface facilities. Most importantly, it placed greater importance on optimizing offshore developments and efficient project executions.

Concerted efforts were exerted to help enhance QP’s international expansion by conducting extensive feasibility studies on investments in various parts of the world.
INTERNATIONAL PARTNERSHIPS

QP currently manages an expanding international upstream presence comprising of a portfolio of exploration and production assets and licenses, and evaluates new business and growth opportunities. It also maintains a principal role as a proactive non-operator internationally but has initiated development of an international basin and hydrocarbon resource-led exploration portfolio.

QP’s corporate strategy will provide guidance to preferred geographies and commercial arrangements for this future organic growth direction. This will require building competencies through people recruitment and development, deployment of advanced technologies and state-of-the-art knowledge management and processes, all which are part of the short- to long-term plans of QP’s International Upstream department.

QPI Upstream O.P.C.

Capitalizing on the strategic acquisition of 15% ownership in Total E&P Congo (TEPC) in December 2013, QP continued its efforts to play an active role to maximize the value and ensure a sustainable growth of TEPC assets in this prolific West African Basin. QP maintains key decision-making influence on all of TEPC activities, including but not limited to development, funding, license re-negotiations and strategy decisions.

TEPC is currently developing the Moho Nord and Phase 1Bis project, which is a major milestone in tapping the country’s deepwater offshore resources. Drilling commenced in early October 2014 and first oil was achieved in December 2015 for the Phase 1Bis wells. TEPC is the operator with a 53.5% interest. The development comprises a total of 20 subsea wellheads tied back to floating production units (FPUs) and with 17 more wells from a new tension leg platform (TLP).

First oil from the Lianzi Project, which is operated by Chevron, was achieved in November 2015; TEPC’s First oil from the Lianzi Project, which is operated by 17 more wells from a new tension leg platform (TLP).

Net working interest is 26.75%. The field uses a development comprises a total of 28 subsea wellheads tapping the country’s deepwater offshore resources.

TEPC is currently developing the Moho Nord and Phase 1Bis project, which is a major milestone in tapping the country’s deepwater offshore resources. Drilling commenced in early October 2014 and first oil was achieved in December 2015. The average 2015 daily production (QP net) from Canadian assets reached 25 Kboe/d.

QPI Brazil Petroleo Ltd

In April 2014, QPI and Shell successfully closed the acquisition of both the Brazilian upstream assets of the BC-10 Concession and the related Tamba JV that owns the FPSO vessel and facilities to support the BC-10 Concession. QP through its wholly owned subsidiary QPI Brasil Petroleo Ltd (QPI BPL) holds a 23% working interest in the Shell-operated offshore fields. QPI BPL has also managed to obtain the necessary export license to lift, export and market its entitlement from BC-10 production.

Throughout 2015, Shell Brazil as operator of BC-10 maintained a high HSE standard, which was supported and continuously monitored by QP. The operator’s project achievements included the successful completion of the subsea campaign, while significantly reducing the development budget due to the re-scoping of topside work and execution efficiencies.

A Final Investment Decision (FID) was sanctioned for the first unit of a new generation of multiphase pump solution to replace the existing separation and boosting modules that had led to lower production efficiencies thus far. The average 2015 daily production (QP net) from BC-10 assets reached 11.1 Kboe/d.

DOWNSTREAM

QP delivers value in the downstream business through strong partnerships in our JV companies, combining knowledge and expertise with Qatar’s hydrocarbon resources and its citizens’ drive to develop Qatar’s economy.

With the integration of QPI’s assets and projects into QP, the partnership family has been extended with a petrochemical venture in Singapore. This Shell-QP JV is part co-owner of the naphtha cracker and polymer production facilities of the Petrochemical Corporation of Singapore (PCS). The company converts naphtha into more than 1,000,000 tons of ethylene, more than 800,000 tons of propylene, and other valuable by-products.

QP has also ventured in an international refinery residue upgrader in Egypt, which post startup will contribute to reduce air pollution in the country while supporting the local Egyptian economy to reduce its dependence on imported fuel products.

The Egyptian Refining Company (ERC) converts atmospheric residue into a high-value cleaner fuel. As part of Qatar’s footprint in the international downstream industry, the project is in line with part of QP’s vision to have a strong international presence. ERC is best described as an “upgrading-refinery,” processing about 90,000 barrels per day of atmospheric residue and producing more than 4 million tons per annum (mtpa) of Euro-V diesel, jet fuel, high-octane gasoline blend-stock, etc. The project has attained substantial construction progress, while the design has already been completed.
**SOLAR POWER**

QP and Qatar Electricity & Water Company (QEWC) signed a memorandum of understanding (MoU) in December 2015 to establish a joint company for the generation of electricity from solar power.

The MoU paves the way for a 40-60 partnership between QP and QEWC respectively, marking an effort to boost sustainable development and to support investment in low carbon and renewable energy such as solar power.

The new partnership is a landmark in Qatar’s endeavors to diversify sources for energy production and to increase reliance on renewable sources.

The new joint venture enhances QP’s strategic goals to achieve the highest international health and safety and environmental protection standards, support sustainable development efforts, and ensure the long-term optimal utilization of our natural resources.

The MoU to establish a company for the generation of electricity from solar power is a continuation of QP’s environmental commitment demonstrated by various environmental projects, such as the reduction of gas flaring and greenhouse gas emissions, and the Jetty BOG Project.

**UMM AL-HOUL**

Um Al-Houl Power is one of the latest additions to QP’s downstream JV and partnership family. Um Al-Houl Power is a new high-efficiency 2500-megawatt (MW) power plant, combined with more than 500,000 m³ of water production per day, to enable Qatar’s long-term GDP growth and economic diversification as well as to provide for the everyday needs of the people of Qatar.

QP owns 5% of the project, which is one of the largest in the Middle East. The other shareholders are QEWC (60%), Qatar Foundation (5%) and Mitsubishi Corporation (30%). The power station is expected to go online in 2017.

**QP AROUND THE WORLD**

QP’s vision is to continue to build its international presence with investments that provide opportunities for QP to build on its core competencies, diversify its portfolio and extract further value for QP and the State of Qatar across the oil and gas value chain.

This portfolio includes joint ventures spanning four continents and the whole oil and gas value chain.

QP’s international assets include upstream (oil & gas exploration), midstream (LNG terminals) and downstream (refining hydrocarbon into derivative products) operations based in the USA, Canada, UK, Italy, Greece, Singapore, Vietnam, Egypt, Morocco, the Democratic Republic of Congo, and Brazil.
OIL AND GAS

Qatar’s onshore and offshore oil and gas fields are of great strategic significance to the country’s overall economic development.

QP is continuously aiming to increase Qatar’s hydrocarbon resources and reserves through aggressive exploration and production activities that are being implemented in partnership with major international oil and gas companies.

QP’s actual annual production of crude oil and natural gas is based on reservoir management requirements. A number of projects have been implemented to ensure that production is sustained for many years to come.

Comprehensive reservoir studies have been conducted using the latest modelling techniques, seismic surveys, and data processing in its effort to re-evaluate the potential of its operated fields. This is part of a comprehensive redevelopment plan currently under implementation to raise the efficiency of producing fields. The plan also includes the implementation of various well drilling programs to increase crude oil production in fields like Bul Hanine and Dukhan.

In addition, studies are ongoing for the redevelopment work already underway in the Dukhan and the Maydan Mahzam fields. Further development plans are being reviewed for Al-Shaheen and Ihhd El-Shargi North Dome (ISND) fields.

The drilling and completion operations for offshore fields (Maydan Mahzam & Bul Hanine) and onshore field (Dukhan) continued its activities in drilling and workover operations in 2015, using the best industry practices in an economical, safe and environmentally friendly manner. Drilling operations and all related services were conducted in accordance with ISO-9001, ISO-14001 and OHSAS 18001.

In 2015, the oil and gas production/injection targets were successfully delivered with significant cost savings realized through the revision of contracts and prudent data acquisition plans. Dukhan field successfully delivered the 2015 production target of 175 million bpd with a voidage replacement ratio (VBR) of 1.0.

All QP oil and gas operations place special emphasis on operational excellence as the cornerstone of our business. QP is committed to optimizing annual production in order to provide the State of Qatar with a reliable and sustainable monetization of our natural resources, and to meet national oil and gas demand. This means maximizing the value of oil and gas production while reducing the associated costs through operational efficiency. We are focused on further improving our operational efficiency and performance by applying world-class standards that allow us to minimize resource waste and operating costs per barrel and to ultimately meet the needs of our customers.

Through its business development activities, QP is strengthening its position as a global player in LNG, promoting a cleaner fuel to aid in achieving environmental targets. QP’s value-added products in all its sectors directly benefit the State of Qatar in its pursuit of development and growth goals. It has achieved a world first in the conversion of a Q-Class LNG vessel diesel engine to be able to use LNG as bunker fuel, thus helping to lower emissions.

Arab D Gas recycled 750 million standard cubic feet per day (mmscf/d) as planned to extract condensate and NGL while maintaining gas injection/production ratio of 0.92 to maintain Gas Oil Contact position. The Khuff reservoir’s production/injection capacities of 600/420 mmscf/d was maintained in 2015. A total of 99 bcf were produced from the Khuff reservoir with a peak rate of 575 mmscf/d to domestic markets, and 52.2 bcf were injected from the North Field with a peak rate 310 mmscf/d. A total of 27 new wells were drilled and 60 wells were worked over to deliver short- and long-term production targets and address well integrity issues.

The Khuff production/injection capacities were maintained to act as a strategic swing gas reservoir to fulfill domestic gas supply and accommodate excess gas production from the North Field.

NORTH FIELD

The State of Qatar holds huge reserves of natural gas, ranking it third in the world. Most of the reserves are concentrated mainly in the North Field, which is considered to be the world’s largest single non-associated gas field.

Discovered in 1971, the North Field covers an area of around 6,000 square kilometers and is located off the northeast shore of the Qatari peninsula.

The optimal development of this vast natural resource is of great strategic significance to Qatar’s overall economic development.

The State of Qatar has established a number of ambitious projects to diversify its energy portfolio business, to maximize the value of the energy resources produced, and to utilize gas from the North Field reaching an LNG production capacity of 77 million metric tons per year. Using the largest fleet of LNG carriers, Qatar has steadily moved from being a major energy supplier to becoming a major energy player.

Field Alpha

The first commercial exploitation of the North Field commenced in late 1991 with the initial gas production from Phase I (Alpha Project), which is known as North Field Alpha (NFA). The gas is supplied to the local market, and the condensate is used for refining or export. A portion of the gas produced from this project is re-injected into the country’s strategic contingency reserve in Dukhan.

In 2015, QP continued progress towards the construction of a new satellite wellhead platform in NFA to sustain current gas production. The main objective of the project is to install a new wellhead platform, WHP-3, at North Field Alpha. WHP-3 will be located approximately 2.2 kilometers northwest from the existing NFA complex, and its installation is aimed at sustaining the capacity of NFA production facilities.

The full well stream (gas, condensate, water) from WHP-3 will be routed to the existing NFA platform via a new subsea pipeline, where it will be merged with production from the existing wellhead platforms and then conditioned for export.

The Front End Engineering Design (FEED) for this project was completed in January 2015 and the project has moved to construction stage.

QP also directed and coordinated the North Field re-development plans and expansions to ensure optimal plateau sustainability and maximum synergy between RasGas and Qatargas. In addition, QP guided and directed Dolphin Energy to enhance production by drilling new wells under its Reservoir Management Optimization Project (RMOP).

The average production in 2015 was 656.9 mmscf/d of gas and 17,433 b/d of stabilized condensate. Total production was 238.9 billion standard cubic feet (bscf) of gas and 6.36 million barrels of stabilized condensate.
Barzan Gas Project

The Barzan Gas Project is located in Ras Laffan Industrial City and will be operated, once completed, by RasGas Company Limited. The project is expected to produce and process gas from Qatar’s North Field, which will then supply sales gas to power stations and industries in Qatar, ethane to the local petrochemical industry, and associated liquid hydrocarbons to the local and international markets. The project is expected to supply 1.4 bscf of gas per day, with the first gas flow expected towards the end of 2016.

The drilling of the wells was completed from 3 offshore wellheads, which were handed over to RasGas operation to get ready for start-up in 2016. The offshore and onshore engineering, procurement and construction (EPC) contracts were awarded in early 2011 to Hyundai Heavy Industries (HHI) and JGC, respectively, and both contracts are currently on the verge of completion. The start-up of Train-1 and Train-2 is targeted for the third quarter and fourth quarter of 2016, respectively.

Barzan’s Joint Venture Agreement and a Development and Fiscal Agreement were signed between QP (93% shareholding) and ExxonMobil (7% shareholding) on January 6, 2011.

Dolphin Project

The Dolphin Project entails the development of North Field reserves for the production of wellhead gas that is sufficient to export 2.0 bcsfd of sales gas to the United Arab Emirates. The project processes gas at Ras Laffan, where condensate, ethane, LPG and sulfur are stripped out and sweet lean gas is then delivered to the UAE through a 48” sub-sea pipeline.

The project’s Development & Production Sharing Agreement (DPSA) was signed in 2001 between QP and the contractor (Dolphin Investment Company with 51% interest, Total of France with 24.5% interest and Occidental Petroleum of the USA with 24.5% interest). The delivery of export gas from the first stream commenced in 2007; the second stream began in 2008; and the lean gas export to the UAE is currently at full capacity.

In 2015, the average sales gas production was 2,000 mmscf/d, in addition to 1.34 million tons (mt) of LPG and 32.6 million barrels of total condensate.
Pearl GTL

A DPSA was signed in July 2004 between QP and Qatar Shell GTL to develop the Pearl GTL project in two phases: Pearl-1 and Pearl-2. This integrated project is aimed to develop about 1,600 mmscf/d of North Field gas to produce approximately 140,000 BPD of synthetic fuels including base oils for manufacturing lubricating oils.

Drilling and completion activities on Pearl-1 and Pearl-2 were completed in 2009 and 2010, respectively. First gas from offshore Pearl-1 and Pearl-2 were subsequently produced in 2011 and 2011, respectively. Pearl GTL Phase 1 achieved first wax and first GTL gasoil production in 2011. The first commercial shipment of GTL gasoil departed Ras Laffan in June 2011 and the first GTL base oil shipment was made in October 2011. Pearl GTL Phase 2 achieved first wax production in 2011. In 2015, Pearl GTL produced a total of 18.3 million barrels of condensate and 37.7 million barrels of GTL products.

Al-Khaleej Gas

The Al-Khaleej Gas Project (AKG), which is operated by RasGas, utilizes the North Field’s reserves to supply 2 bscf of sales gas per day to domestic consumers, to export condensate, liquefied petroleum gas (LPG) and sulfur, and to supply ethane to the local petrochemical industry.

The AKG DPSA was signed in 2000 with ExxonMobil, while Phase-I (AKG-1) commenced commercial gas deliveries in 2005. This phase supplies 784 mmscf/d of sales gas to Ras Laffan Power Company Limited, Oryx GTL, Q-Power, Laffan Refinery, Ras Laffan Olefins Company Ltd. and other industries in Mesaieed.

Phase-II development (AKG-2), which started up in 2009, has a nominal design capacity to supply 1,250 mmscf/d of gas to local industries and power generation plants.

During 2015, AKG’s average production was 2,160 mmscf/d of sales gas. AKG also produced around 23.5 million barrels of condensate and 2.06 million tons of LPG in 2015.

QP has installed three 36-inch lean gas pipelines, each with a design capacity to supply 1 bscf of sales gas per day to gas consumers in Mesaieed and Dukhan.
The department achieved budget optimization by managing the direct operating costs of Halul Terminal, Bul Hanine, Maydan Mahzam and North Field Alpha production platforms and installation fields.

On the onshore side, the development of the Dukhan field continued to maximize economic recovery in a safe, environmentally friendly and cost effective manner. Projects included infill drilling and well integrity/reservoir workovers to sustain a production plateau for the next 10 years.

QP's Field Development and Exploration Directorate utilized a fit-for-purpose Reservoir Management Program to optimize and safeguard hydrocarbon reserves.

Furthermore, the new 3D seismic interpretations for Dukhan reservoirs were completed, and new-generation reservoir models were constructed, initialized and history-matched. Work continued to improve operational procedures by developing Best Practice Guidelines, Scorecards and KPIs with Production and Drilling Departments to ensure alignment, performance tracking and consistent processes across QP’s operations.

QP's offshore fields were active contributors to an enhanced QP potential in marine crude production and export from various offshore fields, including the North Field, which is the world’s largest single non-associated gas reservoir, and Halul Island, which serves as the main storage and export terminal for Qatar marine crude.

QP’s Offshore Fields Department placed strong emphasis on sustaining production as per QP’s business plan in line with reservoir management guidelines. During 2015, it completed the Maydan Mahzam redevelopment project feasibility study, which was in pre-FEED stage.

The department also contributed actively to the implementation of the Subsea Cables Project, which has a far-reaching impact on offshore operations, focusing on operational engineering issues. It has also continued to discover new technologies in coordination with joint ventures and affiliates to sustain the corporate production plateau. With the assistance of offshore assets operated by QP as well as by joint ventures, streamlining production targets and cost optimization have contributed in overcoming the impact of low oil price in the global market.

**Al-Shaheen**

Al-Shaheen oil field is located 80 kilometers off Qatar’s shores. It is one of the largest oil fields in the world and the largest oil-producing field in Qatar, producing over one-third of the country’s daily oil production. It is estimated to contain some 45 billion stock tank barrel (stb), of which only 1.6 billion stb has been produced to date.

The field produces around 300,000 barrels of oil per day through 9 platform locations from a well stock in excess of 340 wells. It is operated by Maersk Oil Qatar under a 25-year exploration and development agreement put into effect in 1992. It has gone through many phases of development since 1994, the last of which was the $1.45-billion Field Development Plan of 2012 to increase reserves and sustain the field’s production capacity. The plan comprised of facility debottlenecking and drilling of 50 wells (26 development infill wells, 15 production appraisal wells, 8 standalone appraisal wells, and 1 water disposal well). Drilling operations continued in 2015, at the end of which 44 wells had been completed.

As QP realigned itself in a highly competitive and challenging market and industry, Al-Shaheen became the focus of attention to enhance the added value for the State of Qatar, particularly with the nearing expiry of the agreement with Maersk.

In May 2015, QP issued invitations to a group of leading international oil & gas companies – along with Maersk – to compete for the future operation and development of Al-Shaheen starting in mid-2017.

In announcing the invitations, Mr. Saad Sherida Al-Kaabi, Qatar Petroleum President and CEO, said: “The future operation and development of Al Shaheen oil field is of critical strategic importance to the optimum exploitation of the natural resources of the State of Qatar. Therefore, the selection of our partner in this endeavor will be based on such partner’s ability to offer the best technological solutions for the field’s development combined with the best financial return to the State.”

Al-Shaheen, which was discovered in the 1970s, was once considered a marginal and unattractive offshore oil field. However, by 2015, the field produced 1.5 billion barrels of oil since first production in 1994. The year 2015 alone accounted for 100 million barrels.
Bul Hanine

Bul Hanine is an offshore field that was discovered in 1965 and has been in operation since first oil was produced from the field in 1973. It is located some 120 kilometers off the eastern coast of Qatar.

The field consists of a series of oil and gas bearing heterogeneous carbonate reservoirs of the Jurassic, Triassic and Permian. The Arab A and B are small gas reservoirs that are not developed, while the Arab C is an important oil rim capped by rich gas which has been produced and shut-in for reservoir management. Two wells have been drilled recently in different parts of the field to assess the reservoir productivity and well concept.

In 2014, QP announced plans to invest over QR40 billion in the re-development of Bul Hanine, making it one of the largest to be managed and executed by the corporation. The project is designed to prolong the field’s life by countering its production decline and double its current oil production rate.

A major phased redevelopment program is underway to enhance its production, as follows:

- Phase 1 will stabilize the production of the Arab D reservoir to around 40,000 bpd by 2020;
- Phase 2 will develop additional high-pressure reservoirs and increase production to around 75,000 bpd by 2023.

The feasibility study for both phases had been approved in 2015. Phase 1 has already moved to front end engineering and design (FEED) stage, while Phase 2 is now in concept optimization stage.

Maydan Mahzam

Maydan Mahzam (MM) was discovered in 1963 and started production in 1965. The field consists of a series of oil and gas bearing heterogeneous carbonate reservoirs of the Jurassic and Permian.

The Arab C and Arab D under-saturated reservoirs are the most prolific in the MM field. They are the most developed reservoirs, contributing up to 95% to the field’s production as of the end of 2015.

The produced oil is exported to the Halul Terminal through a 14-inch pipeline. The associated gas is exported to offshore oil production station 1 (PS1) through a 6-inch pipeline and then from PS1 to Mesaieed via a 24-inch pipeline.

Towards the end of 2013, the MM field conceptual study was awarded to Shell. The study began by conducting a review of the existing QP in-house MM viability study. The conceptual study will be completed in the first quarter of 2016, with 2 preferred development scenarios to be proposed. A final decision will then be made on the selected concept to be brought forward into pre-FEED.

To optimize costs under the present market conditions, QP has revitalized the Offshore Operators Forum (OOF) to identify opportunities for harnessing synergy among all offshore operators in Qatar. The Forum includes three subgroups focusing on HSE, Operations & Maintenance, and Logistics, comprising all operator representatives from similar specialized fields.

Karkara & A-Structures

(Qatar Petroleum Development Company - QPD)

The initial Full Field Development Plans including A-South were completed in 2011. New studies had been initiated for additional potential and these next FFDP subsurface/surface and drilling studies were completed in 2015. In light of the low oil price market of 2015, a feasibility study and economic analysis will be carried out and presented in 2016.

QP submitted the concept options study for the new development plan in the fourth quarter of 2015 for QP’s review and concept selection.

Al-Rayyan Field

(Occidental Qatar Energy Company)

In October 2007, Occidental Qatar Energy Company (OQEC) acquired Anadarko’s interest and became the operator of the Al Rayyan field. Life of Field (LOF) geo-science and reservoir studies were conducted in 2014. This study will evaluate any further oil development opportunity in Al Rayyan field.
Idd El-Shargi

Offshore production started in 1966 at the Idd El-Shargi field, which was discovered in 1960 some 85 kilometers east of Doha. The field consists of two elliptical domes: the larger North Dome (which was the first to be discovered) and the smaller South Dome. Idd El-Shargi, both in its north and south domes, is operated under a production sharing agreement with Occidental Petroleum of Qatar Ltd.

Phase V of the development plan for Idd El-Shargi North Dome was approved in June 2013. Its scope included 205 wells, 6 wellhead jackets, 8 minimum facilities platforms, a new main oil line pipeline from PS-1 to Halul with infield pipelines, a new Halul tank included 205 wells, 6 wellhead jackets, 8 minimum facilities platforms for the drilling of 9 wells. Phases 3, 4 and 5 entail the installation of two large wellhead jackets. This phase, however, was put on hold due to current market conditions, and Occidental Petroleum of Qatar has re-submitted a new long-term development plan to extend the production plateau of 85 mbpd for six years up to 2022.

In the Idd El-Shargi South Dome, a new 12” pipeline to PS-1 was installed and commissioned in March 2011. Abandonment of the old 18” pipeline is currently in progress.

A new Phased Full Field Development Plan (PFFDP) was approved in the first quarter of 2011. Phases 1&2 each consist of the installation of minimum facilities platforms for the drilling of 9 wells. Phases 3, 4 and 5 entail the installation of two large wellhead jackets.

PS1 Platform at Idd el-Shargi

Al-Khalij

Al-Khalij Field was discovered in 1991. It is estimated to contain 2.6 billion barrels of oil, of which only 200 million has been produced to date and 0.1 million were produced in 2015. Production from Al Khalij commenced in 1997 and the field is currently producing around 22,000 bpd.

The field’s EPSA expired in February 2014 and it is currently being operated as a joint venture between QP and TOTAL.

Al-Khalij’s development plan and infill drilling were carried out in phases to reduce development risk due to the complexity of the field. The main operational activities in 2015 included workovers aimed at optimizing existing production level, and the drilling of five new laterals (ALK042, ALK047, ALK411, ALK021 and ALK213). Geo-science and reservoir studies continued throughout 2015. A full field 4D seismic processing was completed in June 2015 and the first phase of interpretation continued in the third and fourth quarters of 2015.

A Field Development Plan that was planned to be submitted in 2015 is currently being revised in light of the current economic climate. A new FDP is expected to be submitted in the fourth quarter of 2016.

Dukhan

The Dukhan Field is a large oil and gas field extending over an area of approximately 80 kilometers by 8 kilometers. It consists of three sectors from north to south – Khatiyah, Fahahil and Jaleha/Diyah. The oil and gas produced from the field are separated in four main degassing stations – Khatiyah North, Khatiyah Main, Fahahil Main and Jaleha – all of which are continuously manned. The unmanned satellite stations are Fahahil North and Fahahil South. Khatiyah South is now a manned station. The Diyah manifold at the southern end of the field has no process facilities and its total oil production is sent to Jaleha station for processing. Stabilized crude oil is then transported by pipeline to Mesaieed Port, which is about 100 kilometers east of Dukhan.

The actual annual production of the Dukhan Field is based on reservoir management requirements. Other production facilities on the field include plants for associated gas, non-associated gas, raw natural gas liquids (NGL) production from associated gas, Arab D gas cap, and a recycling plant to produce NGL and condensate. In addition to these, facilities for injection of North Field gas into the Khuff reservoir and injection of water into the main oil reservoirs of Arab C and Arab D and Uwainat for pressure maintenance are also operated on a continuous basis in Dukhan.

The Dukhan Field has around 319 oil producing wells, 180 water injection wells and 61 gas producer and injector wells. According to the latest well status, Dukhan has 598 wells, including production, injection, observation, closed-in and top holes well. A total of 156 wells have been abandoned.

Business Continuity Management (BCM) and Enterprise Risk Management (ERM) studies have been completed on the Dukhan Field. The focus of BCM was on safeguarding the achievements of Dukhan Operations’ business objectives, as highlighted below:

- Ensure safe, efficient, and reliable operations of the Dukhan Field to meet the oil and gas production and export targets in line with the Operations Directorate’s objectives;
- Manage and maintain the Dukhan Township and provide firefighting services even outside the concession area.

Dukhan Operations has its storage and export facilities at Mesaieed Terminal. The Terminal and Export Department receives, stores, schedules and exports crude oil and naphtha.

The production support activities comprise facilities for receiving and distributing power, potable water distribution, a power station, workshop facilities and a communication network across the Dukhan Field. In addition to the above production/process facilities, various housing and recreational facilities as well as clubs, catering, medical services and security services are provided to Dukhan residents.
Marketing and Development Plans

The main products earmarked for export from the Dukhan Field are crude oil, condensate, NGL and stripped associated gas (SAG).

The following projects are currently under construction or in progress:
- An acid gas recovery plant
- Drilling of new wells
- Abandonment of unsafe wells

Historical Background of Dukhan Field Development

The development of the Dukhan Field took place in various stages. The first well was drilled in 1939-1940, confirming the presence of commercial quantities of oil, but further work was suspended due to World War II. The development of Khatiyah sector was subsequently started in 1947 and oil was exported for the first time ever from Mesaieed Port on 31 December 1949.

The development of the other two sectors – Fahahil and Jaleha/Diyab in Dukhan – was undertaken in various stages, starting with Fahahil in 1954 and then Jaleha in 1955. The Dukhan Power Station was commissioned in 1958, and the Khuff non-associated gas reservoir was discovered in 1959 at an average depth of 10,000 feet. In 1974, the Fahahil Stripping Plant was also commissioned to recover raw NGL from associated gas. In 1976, the first development well in the Khuff reservoir was drilled and eight Khuff wellhead treatment plants were commissioned in stages from 1978 to 1982.

Major Customers

The following products from Dukhan are distributed to various internal and external customers:
- Crude oil, which is exported through Mesaieed’s Terminal Operations Department, is supplied to the QP Refinery in Mesaieed.
- Condensates are also sent to the QP Refinery.
- Arab D NGL is supplied to NGL-4 in Mesaieed.
- FSP Raw NGL is sent to NGL-1 and NGL-2 in Mesaieed.
- SAG is supplied to the Dukhan Desalination Plant, Qatar National Cement Company (QNCC), QAPCO and QAFCO via QP’s Gas Distribution System.

To maintain reservoir pressure at both Arab C and Arab D reservoirs, powered water injection was implemented in stages starting from 1989, and the last phase was completed in 1998. Powered water injection at the Uwainat reservoir commenced in 2009.

The pressurization of the Khuff reservoir with surplus North Field gas was initiated in 1992 with the commissioning of a compressor station in the Fahahil area.

The Arab D Gas Cap Recycling Plant, which processes 800 mmcf/d of Arab D Cap Gas and recovers 38,000 b/d of stabilized condensate and 750 b/d of NGL, was commissioned in 1998. The residue gas is re-injected back into the same reservoir. A major project to upgrade the Arab D plant facilities to recover C2+ Raw NGL (about 5,600 t/d of NGL) and supply it to NGL-4 Project in Mesaieed was completed in 2003.

A major project for a gas lift system to artificially raise the oil for enhancing production and increasing ultimate recovery from the field was commissioned in 2003.
## MAJOR ACHIEVEMENTS UNTIL 2015

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Year(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling of the first well in Dukhan</td>
<td>1939/1940</td>
</tr>
<tr>
<td>Shipment of the first crude oil from Dukhan</td>
<td>1949</td>
</tr>
<tr>
<td>Discovery of non-associated gas in the Khuff reservoir</td>
<td>1959/1960</td>
</tr>
<tr>
<td>Commencement of power water injection in Dukhan reservoirs for pressure maintenance</td>
<td>1989</td>
</tr>
<tr>
<td>Commissioning of Arab D Gas Recycling plant to recover condensate and NGL from Arab D Reservoir Gas Cap</td>
<td>1998</td>
</tr>
<tr>
<td>Commissioning of NGL-4/DKADU to recover 5600 t/d of NGL from Arab D Cap Gas</td>
<td>2003</td>
</tr>
<tr>
<td>Commissioning of the gas lift project</td>
<td>2003</td>
</tr>
<tr>
<td>Central Office Building for Dukhan Operations completed</td>
<td>2005</td>
</tr>
<tr>
<td>Well Integrity Department established to ensure the safe operation of oil and gas wells</td>
<td>2009</td>
</tr>
<tr>
<td>Completion of a new sewage treatment plant</td>
<td>2009</td>
</tr>
<tr>
<td>Completion of the Dukhan Umm Bab – Salwa Road</td>
<td>2010</td>
</tr>
<tr>
<td>Mesaieed tank farm upgraded, with the rehabilitation of tanks, construction of new tanks, increase in storage capacity and change in tank farm philosophy; multi-product berth in final stage of completion</td>
<td>2011</td>
</tr>
<tr>
<td>Significant reduction in gas flaring achieved</td>
<td>2011</td>
</tr>
<tr>
<td>Two new fire stations constructed and commissioned at Fahahil and Umm Bab</td>
<td>2011</td>
</tr>
<tr>
<td>Completion of the Cuban Hospital in Dukhan</td>
<td>2011</td>
</tr>
<tr>
<td>Completion of additional offices, warehouses and laboratories</td>
<td>2011</td>
</tr>
<tr>
<td>Commissioning of fiscal meter and meter prover for crude oil, NGL and condensates</td>
<td>2012</td>
</tr>
<tr>
<td>Attained Integrated Management Systems Certification for the entire Dukhan Operations</td>
<td>2013</td>
</tr>
<tr>
<td>Installation of new control room and automation upgrade in all degassing stations</td>
<td>2014</td>
</tr>
<tr>
<td>Re-injection facilities for produced water</td>
<td>2014</td>
</tr>
<tr>
<td>Sweet fuel gas project</td>
<td>2014</td>
</tr>
</tbody>
</table>

### HALUL ISLAND

Halul Island lies at the center of the Arabian Gulf and is located approximately 96 kilometers northeast of Doha. With a total area of 1.5 square kilometers, Halul serves as the main storage and export terminal for Qatar Marine Crude (QMC) oil, and it is equipped with major oil terminal facilities that meet all international standards.

The island has 11 large crude oil storage tanks with a total capacity of 5 million barrels. An additional storage tank is currently being designed for Halul Island to cater to the future increased in oil production from the Bul Hanine and Maydan Mahzam fields.

Halul Terminal complies with the International Ship and Port Security Code (ISPS) and follows the recommendations set out by the International Safety Guide for Oil Tankers and Terminals (ISGOTT). Its tanker-loading facilities comprise of two single mooring buoys (SMB) that can load two tankers simultaneously. Halul Island has a loading capacity of over 100,000 barrels per hour and has the capability to export more than 2.5 million barrels of crude oil in one day. In 2015, the Halul Terminal exported an average of 189,800 barrels per day.

The crude oil exported from Halul is a blend of oil produced from five oil fields: Bul Hanine and Maydan Mahzam which are operated by QP, and three others that are operated by QP’s joint venture partners on a production sharing arrangement. Crude oil from the producers is transported to Halul via sub-sea pipelines.

The three joint venture producers are Occidental Petroleum of Qatar Ltd. (OPQL) operating PS-1 (Idd El-Shargi field – North and South Domes), Total Exploration & Production Qatar (TEPQ) operating the Al-Khalij field, and Qatar Petroleum Development - Japan (QPD) operating the Al-Karkara and A-Structure fields.

Halul’s infrastructure includes power generation plants, water desalination facilities, a harbor for supply boats, a heliport, a waste management facility as well as staff accommodation and all related facilities like restaurants, a clubhouse and recreational facilities.

For over five decades now, Halul Island has been playing a key role in the continued development of Qatar’s economy and in helping meet the world’s rising energy demand.

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EXPLORATION ACTIVITIES

The following summarizes the exploration activities and achievements through 2015:

EXPLORATION PROJECTS

<table>
<thead>
<tr>
<th>AREA</th>
<th>OPERATOR</th>
<th>SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abruk</td>
<td>QP</td>
<td>The AK-3 well had been spudded, and drilling is ongoing since the end of 2015.</td>
</tr>
<tr>
<td>Al-Khalij South</td>
<td>QP</td>
<td>The AKJS-1 well has a Mishrif oil objective and is scheduled to spud in February 2016.</td>
</tr>
<tr>
<td>Block - A</td>
<td>JX Nippon</td>
<td>The JXQA-1 well was completed as a pre-Khuff (Unayzah, Jauf) gas discovery. A second well is planned to be spudded in late 2016.</td>
</tr>
<tr>
<td>Bunduq Deep</td>
<td>Bunduq Company (QP-50%, ADNOC-50%)</td>
<td>Preparation work is ongoing to drill the E-1 well, which is designed to test the Khuff and pre-Khuff potential of the Bunduq Field structure. The well is to be spudded in April 2016.</td>
</tr>
<tr>
<td>Najwat Najem</td>
<td>QP</td>
<td>Preparation work to drill the appraisal well NN-5 is ongoing. This well is scheduled to spud in the first quarter of 2018.</td>
</tr>
<tr>
<td>Unconventional Project</td>
<td>QP</td>
<td>The preparation work to drill the JAB-2 well is ongoing and is scheduled to spud in the second quarter of 2017.</td>
</tr>
</tbody>
</table>

In addition to the above, a variety of additional studies continue in the evaluation of the hydrocarbon potential of Qatar. These concentrate in oil-prone reservoirs in the eastern and northern offshore areas of the country.

DRILLING

Three offshore drilling rigs were in operation throughout 2015.

- Successfully drilled 127,480 feet with remarkable cost per foot of QR 2,827 compared to the target of QR 2,909
- Significantly maintained 21% NPT
- Successfully worked over/abandoned 17.2 wells (refer to the below chart)
Carried out 434 bottom hole pressure surveys
Completed logging campaign involving 79 wells
Acidized and production tested 40 wells
Carried out production testing of 194 wells with Mobile Test Separator and Multi Phase Flow Meter
Carried out rigless perforations in 3 wells
Installed 78 gas lift valves

DRILLING NON PRODUCTIVE TIME (NPT)

Production Figures:

Crude Oil Production
Qatar Land Crude (QLC)  175,800 bpd
Qatar Marine Crude (QMC)
PS-1  106,700 bpd
PS-2  21,300 bpd
PS-3  34,500 bpd
Al-Khali  19,600 bpd
Al-Karkara & A-Structures  7,700 bpd
Total Production  189,800 bpd

Gas & Condensate Export (QP Operated Fields)

Condensate
PS2 + PS3  NIL
PS4  42 bpd

Gas
PS2 + PS3  13 mmscf/d
PS4  800 mmscf/d

Halul Terminal & Export
Oil Export  189,800 bpd
PETROLEUM TECHNOLOGY

In May 2015, QP’s reorganization program resulted in the merger of the former TR Research Lab with the Core Lab, which has thus been rebranded as the Core and Petroleum Laboratory.

The planned extension for the core store has been deferred to 2017. However, other safety and business-critical initiatives were followed through, such as the upgrade of the fire sensing and extinguisher system in the core store, which is currently in the tendering process, and the implementation of the Laboratory Information Management System (LIMS) sample manager client software and Core Inventory Management System (CIMS) for the Core and Petroleum Laboratory.

New Technologies

In 2015, approximately 57,000 feet of cores were laid out for studies and evaluation for both QP and its partners. Additionally, the Core and Petroleum Laboratory provided exploration, offshore & onshore operated assets with oil and water detailed analysis such as fingerprinting, deposit and sludge analysis, etc.

Among QP’s many successful projects was the Dukhan Khuff Well Design Optimization Project, whereby an improved well design was delivered and approved. The project addressed current and future issues relating to well integrity, production/injection operations, and workovers. A feasibility study was also completed for the Dukhan Observation Well Design Optimization, which improved the well design and reduced cost from current practice. For Dukhan’s powered water injection wells, a GRE-Lined Tubing Pilot Project was implemented to reduce tubular corrosion, scale deposition, well integrity problems and expensive workovers.

For the Dukhan CO₂ Pilot Wells Design and Material Selection Project, a study was completed with ConocoPhillips to provide recommendations for oil production, CO₂ water alternating gas (WAG) injection and observation wells material selection for the Dukhan field CO₂ enhanced oil recovery (EOR) pilot project. Under Shell TSA, a Dukhan Powered Water Re-Injection (PWRI) FRAC Study was completed, thus providing a set of operating guidelines or envelope for its PWRI surface facility design. On the geochemistry side, the different oil and gas fingerprinting studies and stage 1 of the Geochemistry Database Project for the Bul Hanine oil field were completed.

Furthermore, a new ongoing initiative is the introduction of a new procedure for stimulating Tararat Wells in the Bul Hanine and Maydan Mahzam fields, while the definition of lab protocols for the core-flooding evaluation is at its final stage. Another new technology to QP is the introduction of Well Tracer Technology in both Dukhan, and Maydan Mahzam and Bul Hanine fields in order to get a more proactive and efficient management of the gas lift well and tubing/casing integrity.

On the software front, the gas lift surveillance and optimization tool, WinGLUE, was introduced to improve production and operational efficiency in QP’s gas-lifted wells. The software will also be used for CO₂ Well Tracer interpretation.

Intelligent Oil Field (IOF) Program

The QP Intelligent Oil Field (IOF) Program was established in 2010. The IOF technology includes real-time reservoir management (RTRM), employing well surveillance instrumentation, located at the wellhead and downhole, which is linked to reservoir simulation models. This tool will enable optimization of critical reservoir performance including voidage replacement ratio (VRR), reservoir pressure maintenance and water/gas sweep efficiency.

The installation of the wellhead SCADA (supervisory control and data acquisition) system also progressed. This system will be powered using solar energy, subsea composite cables, and umbilical cables. The IOF business process pilot will start in March 2016 with an objective to develop a scaled model of a working IOF system or virtual Real Time Operation Center (ROTC) to serve as a baseline for the deployment of IOF throughout QP. The pilot will be completed in the first quarter of 2017.

Work on the RTOC process design and development was initiated in 2014, with the business process mapping (BPM) and the initial process rollout for gas lift optimization and water flood management. Work process design and rollout for the two drilling processes commenced in 2015. QP had already completed a field trial to host real-time data transmission from the drilling rigs to the QP headquarters in Doha.
Qatar Petroleum’s vision to become one of the best NOCs in the world, enabling us to be at par with leading international oil & gas companies has meant a stronger commitment to delivering superior integrated products and services across the entire oil and gas value chain.

In this endeavour, QP remains focused as responsible producer of oil & gas products. Its efforts to maximize production from its assets are coupled by resolute determination to ensure economic and environmental sustainability, particularly with regards to reducing greenhouse gas (GHG) emissions.

Ras Laffan Port continues to be one of the largest supply sources of clean energy to the world primarily LNG condensates and GTL products. It provides security of energy supplies in addition to contributing towards the reduction of the global carbon footprint.

Another important port, Mesaied, continues to be one of the largest supply source for fertilisers in the world and supports the growing demand for food in major markets in the world such as India and China.

**DOWNSTREAM DEVELOPMENT**

Qatar Petroleum is committed to helping meet the growing global demand for downstream products through environmentally responsible ways. We continually work to increase environmental awareness at all levels within QP and across all our contractors in an effort to minimize the environmental impact of our activities and continuously improve environmental performance.

QP’s downstream business is focused in five industry sectors covering a wide range of assets that are mainly located in Qatar, namely cracker & derivatives, metals, refining & gas-to-liquids (GTL), fertiliser & methanol, and power & water.

In this venture, QP is currently involved in the construction of a 2500 tpa site plant for ammonia and urea. Downstream business production in a variety of products is around 10 mtpa, which meets Qatar’s local demand as well as those from 120 different countries, thus supporting their economies and impacting people’s lives.

QP’s downstream ventures operate crackers, refineries, petrochemical plants, and the world’s largest single-site plant for ammonia and urea. Downstream business production in a variety of products is around 10 mtpa, which meets Qatar’s local demand as well as those from 120 different countries, thus supporting their economies and impacting people’s lives.

**UTILITY RECYCLING**

All of QP’s downstream businesses continue to provide impetus to the development and diversification of Qatar’s economy by harnessing the country’s oil and gas resources.

Natural gas resources allow the Umm Al-Houl Power Station to be self-reliant. The Laffan Refinery 2 project, once operational, will process crude condensate into high-value products such as jet fuel. As Qatar’s population grows, QP is reviewing various options on how to meet the expected demand growth for gasoline. Options to convert raw materials currently exported to Asian customers (including petrochemical producers) are being reviewed with emphasis on maximizing added value to Qatar’s natural resources.

All of QP’s downstream business uses natural gas either as a raw material or as fuel gas to meet the needs of Qatar population and to export high-value products. Given QP’s portfolio of assets, expertise and raw materials, the corporation is well placed to continue to be a successful partner in meeting the world’s energy and downstream needs.

**ADDITIONAL VALUE**

QP’s downstream ventures operate crackers, refineries, petrochemical plants, and the world’s largest single-site plant for ammonia and urea. Downstream business production in a variety of products is around 10 mtpa, which meets Qatar’s local demand as well as those from 120 different countries, thus supporting their economies and impacting people’s lives.

QP’s downstream business produces a wide range of low-density polyethylene (LDPE) grades that are suitable for all thermoplastics processing techniques used for various applications. These include, food packaging, agricultural films, extrusion and coating lamination films, high-clarity films, injection moulding, cables, wires, foam and other products that are widely used all over the world.

**Qatar Petrochemical Company (QAPCO) Q.S.C.** is one of the largest producers of LDPE in the Middle East. LDPE also plays a key role in the development of green building solutions.

In Qatar Steel, the production of rebar makes substantial contributions to Qatar’s construction sector, road and rail infrastructure, as well as many industrial facilities.

QP is also involved in electricity generation and water production for the development of Qatar. Qatar Electricity & Water Company (QEWOC), in partnership with QP, produces around 5500 MW of electric power and about 100 million imperial gallons per day (mig/d) of water to meet Qatar’s requirements. Furthermore, QP is currently involved in the construction of a 2500 MW and 132 mig/d production facility in the south of Doha to meet future requirements. QP is also engaged in developing renewable energy projects based on Qatar’s solar resources, to not only reduce the country’s carbon footprint but also to utilize saved natural gas for other value-added products.

In Qatar Aluminium (QATALUM), the high quality cast-house products are a result of exacting standards maintained in the reduction process. The company has a total production capacity of 640,000 tonnes per year, of which extrusion ingots amount to around 340,000 tonnes per year and primary foundry alloys approximately total 300,000 tonnes per year.
QP’s Refinery in Mesaieed has an overall capacity to process 137,000 barrels per day (bpd), consisting of 80,000 bpd of Dukhan land crude, 27,000 barrels bpd of North Field condensate, and 30,000 bpd of Dukhan stabilized condensate. The refinery produces gasoline, Jet A1, light gas oil (LGO) and LPG for the local market. Other products, such as petrochemical naphtha and decant oil, are exported.

The refinery also supplies raw material, utilities and other services to SEEF, QAPCO and QAFCO. It also owns and operates an 18-inch, multi-product pipeline to Woqod’s terminal in Doha, a 16-inch Jet A1 pipeline to Hamad International Airport, a 6-inch LPG pipeline to Woqod’s bottling plant and Berth 6 at Mesaieed Port for import/export of petroleum fuels. A 24-inch Jet A1 pipeline from Ras Lafan to Hamad International Airport is under implementation to meet the increasing demand for Jet A1.

The Refining Operations Department has lived up to its mandate by managing all refining and related operations in a safe and environmentally friendly manner, ensuring that the market demand is met without any interruption.

**QP REFINERY OPERATION HIGHLIGHTS**

**Processed Feedstock**
- Dukhan Land Crude: 28.44 million barrels
- NF & RG Condensate: 7.03 million barrels
- Dukhan Stabilized Condensate: 6.47 million barrels

**Main Products:**
- Gasoline 90R: 5.29 million barrels
- Gasoline 97R: 9.48 million barrels
- Jet A1: 7.88 million barrels
- LGO: 8.82 million barrels

**Imports:**
- Jet A1: 12.80 million barrels
- LGO: 3.04 million barrels

**Exports:**
- Gasoline 97R: 1.18 million barrels
- Petro Naphtha: 4.35 million barrels
- Decant Oil: 1.02 million barrels
- FO: 1.14 million barrels

**MESAIEED OPERATIONS**

Mesaieed Operations manages QP’s major oil and gas assets in all parts of Qatar, including the gas processing complex and crude oil tank farm in Mesaieed, the countrywide hydrocarbon transmission and distribution system, as well as the cross-country pipelines and pipeline corridors. In doing so, it ensures the optimum processing of multiple feed streams at multiple plants to maximize product yields and to ensure delivery of gas and gas liquid products as per targets (volumes) according to annual and shorter-term plans.

Mesaieed Operations has a two-way operational linkage, as producer/processor and as fuel/feedstock supplier, with almost the entire hydrocarbon industry in the State of Qatar. There are four NGL plants producing propane, butane and condensate, which are mainly produced for export. In addition, sweet gas is supplied to power plants and other industries in Mesaieed.

As part of QP’s reorganization program, many changes had taken place in the department, including the change of its name from the former Gas Operations Department to the current Mesaieed Operations Department. Within 4 months of restructuring, Mesaieed Operations successfully faced external surveillance audit for re-certification, carried out by the British Standards Institution (BSI) for ISO 9001 (Quality Management), ISO 14001 (Environmental Management) and OHSAS 18001 (Occupational Health and Safety Management).

Safe, efficient, and reliable operations were carried out in 2015 for all facilities under Mesaieed Operations. Fuel supplies were maintained with 100% reliability for various power plants and industries in the State of Qatar. Exports were implemented in line with the schedules of Qatar International Petroleum Marketing Company Ltd. (Tasweeq). Local feedstock deliveries (ERG to QAPCO and Q-Chem, butane to QAFCO, and QLC/NFC to QPR) were maintained, as per customer demand.
Production 2015

<table>
<thead>
<tr>
<th>Product</th>
<th>2015 mtpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>2,974</td>
</tr>
<tr>
<td>Butane</td>
<td>2,140</td>
</tr>
<tr>
<td>NGL Condensate</td>
<td>1,113</td>
</tr>
<tr>
<td>North Field Stabilized Condensate</td>
<td>19.5</td>
</tr>
<tr>
<td>LPG + Condensate</td>
<td>90.3</td>
</tr>
<tr>
<td>NF Lean Gas</td>
<td>580 mmscf/d</td>
</tr>
<tr>
<td>OFFSAG</td>
<td>42 mmscf/d</td>
</tr>
<tr>
<td>Ethane Rich Gas</td>
<td>3,917</td>
</tr>
<tr>
<td>Sulfur</td>
<td>143</td>
</tr>
</tbody>
</table>

2015 Exports & Key Local Deliveries (Fuel/Feedstock)

<table>
<thead>
<tr>
<th>Description</th>
<th>2015 mtpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Land Oil (QLC)</td>
<td>100 mbdp</td>
</tr>
<tr>
<td>Crude Oil Net Delivery to Refinery</td>
<td>76 mbdp</td>
</tr>
<tr>
<td>Full Range Naphtha</td>
<td>12 mbdp</td>
</tr>
<tr>
<td>Propane</td>
<td>2,945 mtpd</td>
</tr>
<tr>
<td>NGL Condensate</td>
<td>1,127 mtpd</td>
</tr>
<tr>
<td>ERG Supply to Q-Chem</td>
<td>2,468 mtpd</td>
</tr>
<tr>
<td>ERG Supply to QAPCO</td>
<td>1,441 mtpd</td>
</tr>
<tr>
<td>NFC Supply to QP Refinery</td>
<td>20 mbdp</td>
</tr>
<tr>
<td>Sulfur Supply to QAPCO</td>
<td>143 mtpd</td>
</tr>
<tr>
<td>Fuel Gas to Power Plants</td>
<td>947 mmscf/d</td>
</tr>
</tbody>
</table>

Mesaieed Operations Production

<table>
<thead>
<tr>
<th>Product</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF Lean Gas (mmscf/d)</td>
<td>787</td>
<td>774</td>
<td>723</td>
<td>580</td>
</tr>
<tr>
<td>Offshore Stripped Associated Gas (OFFSAG) (mmscf/d)</td>
<td>77</td>
<td>61</td>
<td>67</td>
<td>62</td>
</tr>
<tr>
<td>Ethane Rich Gas (ERG) (mtpd)</td>
<td>4,103</td>
<td>4,508</td>
<td>4,151</td>
<td>3,917</td>
</tr>
<tr>
<td>Propane (mtpd)</td>
<td>3,519</td>
<td>3,643</td>
<td>3,214</td>
<td>2,974</td>
</tr>
<tr>
<td>Butane (mtpd)</td>
<td>2,690</td>
<td>2,671</td>
<td>2,366</td>
<td>2,140</td>
</tr>
<tr>
<td>NGL Condensates (mtpd)</td>
<td>1,322</td>
<td>1,353</td>
<td>1,295</td>
<td>1,113</td>
</tr>
<tr>
<td>North Field Stabilized Condensates (NFC) (mbpd)</td>
<td>23.2</td>
<td>23</td>
<td>21.3</td>
<td>19.5</td>
</tr>
<tr>
<td>Sulfur (mtpd)</td>
<td>182</td>
<td>0</td>
<td>86</td>
<td>143</td>
</tr>
<tr>
<td>LPG + Condensate Production (mbpd)</td>
<td>109</td>
<td>110</td>
<td>99</td>
<td>90.3</td>
</tr>
</tbody>
</table>

NGL OPERATIONS

The Gas Processing Department is the operating entity of the NGL plants complex at Mesaieed Industrial City. The production of lean gas and associated by-products decreased moderately from 2014 to 2015. The production of lean gas dropped by 20%, while the production of North Field Stabilized Condensate (NFC) fell by 7%. The production of butane, propane, and ethane also decreased by 10%, 7%, and 6%, respectively.

HSE performance improved significantly in 2015, with Mesaieed Operations successfully achieving 10 million man-hours of operations without a lost time incident (LTI). The Total Recordable Case Frequency (TRCF) significantly improved from 1.75 in 2014 to 0.696 in 2015. The Leak Detection & Repair (LDAR) program has been implemented in NGL-1 and S&L facilities and is ongoing for other plants. A total 3,245 MT waste (hazardous/non-hazardous of 14 different types) was safely handled and transported to the designated waste disposal facility at NGL-3 in 2015.

In an effort to enhance NGL production during the summer months when demand is high, QP ran three recycle compressors, instead of two, for extra cooling capacity, thus improving production by 6,000 bpd. NGL processed 100% of the available feed, while product losses stayed at only ~ 0.3% of the total feed, well within the allowed 1%. Unscheduled outages were within the allowed 2.74% (10 days in a year) for all plants, except for NGL-2 (unplanned outage in mid-December 2015 due to E-2402 tube leak).

Work continued on the Sulfur Recovery Upgrade (SRU) Project at the NGL-3 plant to achieve 99.5% sulfur recovery by installing a new Acid Gas Enrichment Unit (AGEU) and Tail Gas Treatment Unit (TGTU). This project will bring environmental benefits in terms of reduced sulfur emissions to the atmosphere, and increase the sulfur available for export.
ORyx GTL Limited has been operating since 2006 and is the world’s first large scale gas-to-liquids (GTL) plant to use low temperature slurry bed Fischer-Tropsch technology. Located in Ras Laffan Industrial City, the plant has a design capacity of 32,441 barrels per day (b/d). The plant converts natural gas into high-quality GTL products, including GTL diesel and GTL naphtha. The shareholders of ORyx GTL are QP (51%) and Sasol (49%).

Gas to Liquids (GTL) takes natural gas and converts it to very low-sulphur environmentally friendly diesel, naphtha, and LPG.

The GTL diesel from the “ORyx GTL” plant has a better environmental and performance profile than conventional diesel. The GTL diesel is compatible with existing fuel distribution infrastructure and GTL diesel can be used in both current and envisaged future diesel engines.

GTL naphtha is highly paraffinic with a very low sulphur, napthenic and aromatics content, which makes it suitable as a quality feedstock for cracking to produce ethylene for supply to the polymer industry.

Collaboration with RasGas to Achieve Full Utilization of QP Condensate Refinery Capacity

QP’s condensate refinery has been operating at less than its full capacity for a long period due to the decline of North Field Condensate (NFC) production (23,000 barrel per stream day (bpsd) actual production versus 27,000 bpsd designed production). To achieve full utilization of the refinery and optimize production, QP initiated a study to process condensate from RasGas along with NFC from the QP condensate refinery. A project was developed and implemented to inject RasGas’ condensate in the NFC pipeline to Mesaieed by tie-in connection at Ras Laffan through RasGas. As a result of this study, QP achieved utilization of the refinery’s designed capacity by processing additional condensate, which reduced dependence on imported diesel and LPG. In the future, QP will seek to maximize utilization of the condensate refinery capacity by utilizing RasGas’ condensate.

The Helium Story

Helium is essential to many applications such as magnetic resonance imaging (MRI), fiber optics and semiconductor manufacturing. It is used for high altitude lifting of scientific research balloons as well as other advanced applications.

With such a wide spectrum of uses, global demand for helium has been increasing at an average rate of 2.7% per annum and is expected to continue to grow in the foreseeable future.

As QP sought innovative ways to capture and optimize Qatar’s natural resources from the North Field, helium stood out as a unique opportunity.

In 2005, Qatar’s first helium plant came on-stream with a design production capacity of 700 million cubic feet a year. In 2013, the Helium 2 plant (which is twice the size of the Helium 1 plant) produced the first liquid helium for delivery to contracted customers.

The Helium 2 plant was an important milestone in the very close collaboration between Qatargas and RasGas, which started from the planning stages through to design and operations. It incorporates a highly complex and advanced technology that captures, extracts and refines crude helium from six liquefied natural gas (LNG) processing mega trains: RasGas’ trains 6 and 7, and Qatargas’ trains 4, 5, 6 and 7.

In 2015, RasGas announced the signing of a helium Sales and Purchase Agreement (SPA) and of an Engineering, Procurement and Construction (EPC) contract for the Helium 3 Project, thus reasserting Qatar’s position as one of the world’s leading helium producers and exporters.

The Helium 3 Project would contribute towards meeting the continuously growing global demand and would enhance Qatar’s leadership in helium production by enabling it to meet 30% of the world’s helium requirements.
Qatar Petroleum, through its Industrial Cities Directorate provides the critical infrastructure, utilities and other services required to deliver QP’s corporate strategy with respect to its upstream, downstream and LNG businesses. As part of QP’s reorganization program in 2015, the directorate’s functions were realigned to focus on QP’s core business by specializing on the role of providing land, infrastructure, utilities, ports and other services to QP and its affiliates.

In this context, the directorate took over responsibility for industrial city functions in the Dukhan Concession Area, and sought further strategic outsourcing as part of cost optimization measures, resulting in significant reduction in operating costs. It also adopted strategies to exit functions that are not core to QP’s oil and gas business, including managing Ras Laffan Emergency & Safety College and the light and medium industries areas in Mesaieed.

In its quest to be one of the world’s leading industrial cities, and with a revised scope of functions, the Industrial Cities Directorate is now focused on supporting the business requirements of QP and its affiliates in Qatar.

All three industrial cities are currently equipped with adequate infrastructure and facilities to meet their ongoing requirements, while the requirements of new projects being studied by QP will be accommodated in the future.

The Industrial Cities Directorate adopts a two-pronged approach to health, safety, and the environment with primary accountability being on QP’s own operations, in addition to facilitating and promoting effective risk management by all industries operating in Ras Laffan, Mesaieed and Dukhan.

The collective safety and environmental risks posed by the operations of the various industries continue to be managed effectively through the enforcement of QP’s standards, which will ensure sustainability of the three industrial cities. The directorate has also successfully facilitated the industries’ adoption of the Ministry of Municipality and the Environment’s Zero Liquid Discharge regulations, which will contribute towards the conservation of water and the marine environment in Qatar.
In addition to being the gateway for the export of hydrocarbon products, Ras Laffan Port also handled the imports of plant and equipment for the Barzan Gas Project and the Laffan Refinery 2 Project. Ras Laffan Port is also the hub for the supply of services for the offshore oil and gas industry in Qatar. In addition, the Ras Laffan Common Seawater Facility is the largest in the world and provides a highly reliable supply of competitively priced cooling water to industries in Ras Laffan.

MESAEIED INDUSTRIAL CITY

Mesaieed Industrial City (MIC) is located some 40 kilometers south of Doha on the east coast of Qatar. The city has transformed itself over the years from a simple port facility exporting crude oil into Qatar’s main industrial city and center for petrochemical and oil refining activities.

MIC’s industrial area accommodates an oil refinery, a fertiliser complex, petrochemical complexes, natural gas liquids plant and a steel mill, in addition to oil receiving terminal and export facilities. The existing infrastructure and utilities network is being completely upgraded to ensure state-of-the-art facilities and services in support of existing as well as new industries.

Mesaieed Port continues to support QP’s downstream business strategy by enabling the export of oil and other domestically produced value added hydrocarbons such as petrochemicals and fertilisers to international markets. In addition, Mesaieed Port handles all the import of primary building materials required in the State.

In line with QP’s direction to focus on its core oil & gas business, the Industrial Cities Directorate undertook a rigorous review of its functions and opted to transfer a number of activities to other entities in the State. In Mesaieed, this meant exiting all municipal functions and the light and medium industries areas. Once these transfers are completed during 2016, the Industrial Cities Directorate will be solely focused on supporting QP’s core business.

In addition to being the gateway for the export of hydrocarbons such as petrochemicals and fertilisers to international markets. In addition, Mesaieed Port handles all the import of primary building materials required in the State.

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Mesaieed Port continues to support QP’s downstream business strategy by enabling the export of oil and other domestically produced value added hydrocarbons such as petrochemicals and fertilisers to international markets. In addition, Mesaieed Port handles all the import of primary building materials required in the State.
The various operations and activities in the Dukhan oil field, which extends over an area of approximately 640 square kilometers, are managed and conducted by QP’s Operations Directorate.

Fire and rescue services operate from four strategically located fire stations in Dukhan, Zakreet, Fahahil and Umm Bab. The division provides fire cover and emergency response service delivery to QP’s oil and gas plants and other facilities in the entire Dukhan area, including accommodation for QP personnel and their families, workshops, QP administration facilities, etc.

QP’s medical clinic in Dukhan continues to provide a high standard of comprehensive primary health care, occupational health and dental services. It also provides pharmacy, pathology, x-ray, ultrasound and physiotherapy services for a population consisting of QP staff and their families, local residents, police and other servicemen, and government officials. A 24-hour emergency service with full-fledged ambulatory care is in operation linking with the State’s Emergency Medical Services. The Dukhan Medical Clinic is equipped with a mobile clinic and a Mass Casualty Incident Vehicle, which will enable QP to deliver prompt and effective medical services in emergencies.

QP’s medical clinic also operates an ambulance station at Umm Bab. This station covers QP’s concession area and provides emergency care and patient transportation to those at the industrial and non-industrial sites.

**Dukhan Township**

The Dukhan Township is home to more than 5,000 residents made up of QP employees and their families. It is equipped with all modern facilities such as an international school, a cinema, recreation center, fitness center, golf club and a water sports club. A business plaza is also available in DCA, and it comprises of supermarkets, restaurants, pharmacy and other related sales outlets, banks, money exchange firms, a post office and other government service offices.
INTEGRATING SUSTAINABILITY IN OUR BUSINESS

At the end of 2015, the global oil and gas industry remained focused on the continuing weakness in oil prices. While there are clear indications that the market is adjusting and that it will gradually rebalance, the adjustment process is likely to be challenging, and energy companies must adapt to endure. The current low oil prices are, therefore, a force for powerful innovation in the way oil is developed and produced. The current environment is about achieving greater efficiency, doing more with less, and finding new market opportunities to make better use of our resources and maximize the potential of our people and assets. We believe that oil and gas companies that weather this period will be stronger, leaner and more sustainable.

As the custodian of Qatar’s oil and gas reserves, active in all phases of the oil and gas value chain both nationally and internationally, QP plays a leading role in responding to both near- and long-term challenges in the industry as well as in capitalizing on new opportunities for smart growth.

Sustainable Steps Taken in Managing the Decline of Oil Prices

International oil prices have declined by around 60% since the middle of 2014. Although most analysts expect prices to recover over the coming years from their recent lows of around $30/barrel, none of them expect the high prices experienced from 2010 to 2014 to be repeated in the foreseeable future.

QP has taken prompt and decisive actions to adjust its strategy in order to compete in the lower price era. This has involved reducing the cost base of our operations, while at the same time continuing to protect the safety of our workforce and our communities, avoiding damage to the environment, continuing to develop the reserves entrusted to us, and ensuring that we employ and develop an increasing number of well-qualified Qatari nationals.

Capital and operating budgets had been scrutinized and prioritized to an exceptionally high degree and there have been significant savings in QP’s operating and capital costs resulting from these reviews.

This annual review will describe how QP has continued to deliver on its main strategic objectives while taking these actions to position itself for a period of lower oil and gas prices.

Our Sustainability Framework

QP’s sustainability framework, based on the pillars of sustainable development, provides the scaffolding for the organization to measure and manage its impacts in an integrated way as well as to find and capitalize on opportunities for smart development. Captured in the framework are our most material issues: the issues that matter most to our stakeholders and our business and where we can make the most positive impact. They are based on years of experience leading the Qatar Energy and Industry Sector Sustainability (QEISS) Program, internal bespoke sustainability studies, consultation with assigned sustainability focal points across QP, as well as best practice international guidance. We have focused our 2015 reporting on these issues.

Our Stakeholders

QP has an impact on almost every aspect of Qatar’s economy. The integrated and expansive nature of our corporation means that constant engagement with all stakeholders is imperative. Understanding our stakeholders’ needs and expectations allows us to determine the most material issues to be managed and reported on.

MANAGING THE ENVIRONMENT AND CLIMATE CHANGE

QP generates energy resources for millions of people across the planet and is committed to protecting our shared natural environment by applying world-class environmental standards and practices. Through our partners and joint ventures, QP supplies products that generate lower emissions. This is an approach that makes good business sense, particularly in a region suffering from water scarcity, low air quality and fragile natural habitats. To achieve this, we use proactive environmental management, implement optimization programs and invest in leading technologies.

Protecting the environment has always been a holistic commitment in everything Qatar Petroleum and its joint ventures do.”

Saad Sherida Al-Kaabi, QP President and CEO
Governance and Strategy

QP’s Corporate Health, Safety & Environment and Quality (HSE&Q) Department is mandated with directing the development and implementation of QP’s corporate HSE and sustainability strategy and governance frameworks. In addition, it oversees and monitors the effectiveness and quality of HSE and sustainability programs within the corporation to achieve goals and standards, and it represents QP’s interests in local, regional and international HSE and sustainable development forums.

HSE&Q governs environmental management throughout the corporation, while operational business units implement it on a day-to-day basis. The department inspects and addresses major accident hazard risks and ensures that HSE risk management responsibilities and accountabilities are cascaded in a coordinated and structured manner across QP. The corporation has an HSE management system, and ISO 14001 (environmental management) certification, which has been achieved at the operational level and is planned to be made corporation-wide with the rollout of additional corporate HSE procedures.

A quarterly internal reporting process addressing HSE compliance is also followed, and we are in the process of strengthening our integrated HSE audit function by providing the required technical expertise and granting due authority. QP has issued a corporate procedure on HSE legal requirements and made all the relevant information on national, corporate and other legal and regulatory requirements available on the QP Intranet. Reports are provided to the national regulatory bodies, government institutions and other relevant entities, in accordance with the requirements of the pertinent authority.

In 2014, we developed a business plan with 14 HSE strategic objectives and an action plan to be implemented over five years from 2015 to 2019.

QP shares public concerns about climate change risks and recognizes that the use of fossil fuels to meet the world’s energy needs is a contributor to rising greenhouse gases (GHGs) in the atmosphere. We, therefore, continually seek opportunities to mitigate and address the critical challenge of climate change with greater emphasis on the environmental qualities of natural gas as a cleaner form of energy.

**Actions Taken by QP**

QP has provided technical inputs in the preparation of Intended Nationally Determined Contribution (INDC) submitted by the State of Qatar to the United Nations Framework Convention on Climate Change (UNFCCC) to tackle the problem.

In addition, we participated in the Climate Change Conference that was held in Paris in December 2015 and contributed in the process of climate change negotiations that resulted in the Paris Agreement. We are also in the process of developing a medium- and long-term climate change strategy and action plan based on the Paris Agreement and implementing short-term initiatives, such as streamlining our GHG inventory and developing best practices and standards, including an energy efficiency procedure.

QP is engaging with other regional payers in the collaborative effort by the oil and gas industry to effectively address the challenges and threats posed by climate change.

As the leading oil and gas corporation in Qatar, with significant investments across the oil and gas value chain, QP aims to set an example for energy efficiency and climate change mitigation in its own operations and to encourage its partners to do the same. Continuously striving for greater energy efficiency allows us to minimize our environmental impact while maximizing the energy available to support development locally and internationally.

**Reducing GHG Emissions**

Our approach to reducing greenhouse gas (GHG) emissions in our operations is focused on three key strategies: reduction of energy consumption, reduction of methane emissions from upstream operations, and investment in carbon management technologies. QP’s HSE strategy for 2015-2019 includes several actions to enhance carbon and energy management over the coming five years, such as establishing the baseline on energy and GHG profiles across the corporation, validating emissions and energy inventories, setting SMART targets and goals related to GHG emissions and energy consumption levels, providing training and awareness programs to QP employees, energy conservation/efficiency, and organizing implementation and monitoring programs such as routine inspections and data validation and verification.

QP uses the SANGEA™ software to enhance reporting of greenhouse gas (GHG) emissions across all its operations and to measure compliance with the parameters of regulatory requirements. The system is based on both the Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry published by the American Petroleum Institute in 2009 and the related subparts of the US Environmental Protection Agency (EPA) Mandatory GHG Reporting Regulation.

**Al-Shaheen Oil Field Gas Recovery and Utilization Project**

QP’s Al-Shaheen Oil Field Gas Recovery and Utilization Project, which is aimed at reducing associated gas flaring, has been accredited as a Clean Development Mechanism (CDM) project since 2007 within the framework of the Kyoto Protocol, which established mechanisms for reducing GHG emissions at the international level. The project has received approval from the UNFCCC for the next seven-year crediting period from 2014 to 2021, and it is expected to abate approximately 1.2 million tons of CO2 each year during that period. The amount of CO2 reduced is equivalent to 21% of QP’s 2015 Scope 1 GHG emissions.
For oil and gas producers, the flaring of gas during extraction and operational processes is a critical safety matter. Flaring also consumes valuable resources, and it is a significant source of GHG emissions and a contributor to climate change. QP, therefore, seeks to minimize flaring, wherever operationally feasible, to improve our energy efficiency and to reduce emissions.

In 2015, QP reduced its flaring generally by 6% in comparison to 2014. Focused efforts reduced the flared gas volume from development and production operations at the Dukhan field by 43% from 2014 to 2015. In addition, we also closely monitored our Production Sharing Agreement (PSA) and joint venture (JV) partners to ensure that they implemented their agreed flare reduction plans.

**Air Emissions**

Nitrogen oxides (NOx) and sulfur dioxide (SO2) are generated through flaring and the combustion of oil and gas. A smaller volume of volatile organic compounds (VOCs) and methane (CH4) are also emitted by these processes. QP seeks to manage these emissions to meet air emission standards and guidelines designed to protect the environment and the local community.

To comply with these regulations, we have installed a number of Continuous Emissions Monitoring Systems (CEMS) at our facilities to increase the quality of emissions monitoring. In addition, QP is currently undertaking several initiatives to reduce SO2 and NOX emissions.

QP’s Ongoing Flare Reduction Initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Period of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery of heavy ends from flare gas at the Gas Recycling Plant in the Dukhan field</td>
<td>Ongoing since 2012</td>
</tr>
<tr>
<td>Upgrading of gas sweetening facilities in Dukhan and Mesaieed to reduce acid gas flaring and achieve 99.5% recovery of sulfur</td>
<td>Ongoing since 2009, commissioning stage</td>
</tr>
<tr>
<td>Demolition of eight burn pits in Dukhan and upgrading of the existing flare systems at all Khuff Waste Heat to Power Plant (WHPP)</td>
<td>Will enter commissioning stage in 2016</td>
</tr>
<tr>
<td>Reduction of flaring low pressure (LP) associated sweet gas and its utilization as fuel in Halul Island</td>
<td>Ongoing since 2008</td>
</tr>
</tbody>
</table>
Water and Effluents

Given that QP operates in one of the most water-stressed regions in the world and that water scarcity is an increasingly urgent global issue, water conservation is of great importance to our business. In 2015, we continued the implementation of our water management strategy, which includes building a water consumption baseline, establishing a reduction plan with SMART targets and goals, and setting up implementation and monitoring programs. The introduction of more efficient water use measures has allowed QP to consume less water and thereby decrease the final discharge of industrial treated water. Produced water is the most significant liquid discharge associated with exploration and production operations. QP’s Operations Directorate has adopted a policy of downhole re-injection of produced water, so that there is almost no discharge of this significant stream to the surface environment. Offshore operations re-inject produced water to the Umm er-Radhuma aquifer, while Dukhan’s onshore operations re-use 81% of their produced water for enhanced oil recovery (EOR). The remaining produced water in Dukhan is re-injected to the Umm er-Radhuma aquifer for disposal.

With respect to effluent management within our downstream operations, the QP Refinery reuses some of the wastewater for cooling purposes after initial treatment, and the remaining wastewater is pretreated in the existing wastewater treatment plant before being discharged to the sea. QP continues to invest in improving how we manage this wastewater. A new wastewater treatment plant will be operational for Mesaied Operations and for the refinery by 2018, with a wastewater treatment capacity of 500 m3/day. The additional tertiary treatment of wastewater will allow complete reutilization of wastewater for irrigation and other purposes and reduce general water offtake from Qatar General Electricity and Water Corporation (KAHRAMA).

To further protect the Gulf’s marine life, the Ministry of Municipality and Environment (MME) is introducing a new policy of near-zero liquid discharge of industrial treated water to the sea from 2017 onwards. In preparation for the implementation of this policy, QP has implemented its Treated Industrial Water Project.

Produced Water Re-Injection (PWRI) in Dukhan

As an oil field matures, as is the case with the Dukhan field, the volume of produced water progressively increases. It is vital from both an environmental and cost perspective to find an effective approach to handle this produced water. Consequently, in 2010, a technical committee was formed to select a suitable produced water treatment technology. The committee selected Walnut Shell Filters as an appropriate technique to meet Dukhan’s injection requirements and to reduce water consumption from the Umm er-Radhuma (UER) aquifer, which is used for secondary oil recovery. The technology was implemented in 2012, and by 2013, all of QP’s produced water stations were commissioned. Since then, the project has enabled QP to minimize its environmental impact associated with water disposal and to improve the Dukhan field’s economies by utilizing a “fit-for-purpose” water treatment facility and by drilling less injectors to achieve reservoir management goals. By the end of 2015, the project had eliminated 86% of the produced water disposal that occurred prior to implementation and reduced 35% of UER source water requirements.

Waste Management

In 2015, QP’s operations generated a total of 49,011 tons of waste, 2% of which was subsequently recycled. Having established its baseline waste management performance, QP is focused on identifying and implementing strategies to reduce the volume of waste generated and to increase the percentage that it recycles or reuses.

At the QP Refinery, various types of catalysts are utilized in its day-to-day operations. After being used, some of these catalysts are sent abroad for regeneration before being utilized again in the production process. Catalysts not suitable for reuse in the refinery process are sent to the Qatar National Cement Company for them to use the material extracted from the catalysts in the cement production process. QP also reuses the metal and plastic containers in which the catalysts or other materials are supplied.

This program brings both environmental benefits and monetary savings in terms of avoided waste management costs. Currently, Qatar Steel is testing the potential to utilize the catalysts in their production process, which would further contribute to the reutilization of this hazardous waste from QP Refinery.

Effluent Drainage Upgrade, Effluent Segregation and a New Waste Water Treatment Plant at the QP Refinery

Efforts are ongoing to improve the quality of treated water at the QP Refinery’s facilities through the adoption of a new project that involves the segregation of effluents at source, an upgrade of the pipe size and material for effluent drainage, and the addition of a new train of biological waste water treatment plants including an API oil-water separator, a dissolved air flotation unit, a bio aerator tower, clarifiers, sand and activated carbon filters, and sludge treatment.

A second phase of the project involves the further clean-up of the treated effluent through membrane filtration and reverse osmosis for maximum reuse of the treated water for cooling, demineralization of plant feed, and landscaping. The Front End Engineering and Design (FEED) for the project has been completed, and the project is expected to commence in 2016. Once implemented, the project will significantly improve the quality of treated water and thereby enable greater recycling and reuse.

Biodiversity

Qatar is rich in habitats that serve as home to a wealth of biodiversity. These habitats include barchan dunes, seagrass beds, coral reefs, and mangrove swamps. Several key species with recognized international conservation significance live either as residents or
itinerants on a seasonal basis within the Gulf. Qatari waters are home to five of the seven sea turtle species recorded globally, six species of Odontoceti (including the common bottlenose dolphin), and Mysticeti (baleen whales). On the other hand, the Arabian Oryx and gazelles are found in the Shahaniya wildlife park area, Ras Oshairij and Al Mas-habiyya areas. Khor Al-Odaid is another biodiversity hot spot and a natural habitat for a large number of mammals, birds and reptiles, including gerbils, hedgehogs, snakes, foxes, iguanas, ospreys and scorpions.

In alignment with Qatar’s National Biodiversity Strategy and Action Plan (NBSAP) as well as the guiding principles of the Qatar National Vision (QNV) 2030, we recognize the urgent need to safeguard the country’s plant and animal life, and we acknowledge the disruption to natural habitats resulting from oil and gas activities. To that end, we invest in a number of initiatives to protect wildlife and enhance biodiversity in Qatar.

In line with international marine pollution (MARPOL) conventions, the Arabian Gulf including Halul Island has been categorized as a Special Area. Halul Island, which serves as QP’s main storage and export terminal for Qatar marine crude, has a rich ecological environment that has developed around the island. Despite the undersea pipeline infrastructure and harbor activities, the reefs have proved highly successful in enhancing the area’s marine biodiversity.

The artificial reef balls deployed on the southwest of Halul Island represent our response to potential risks to coral reefs. We regularly monitor these reefs to measure and record the marine life that has developed around the reefs. The results of these monitoring activities demonstrate that the reefs have proved highly successful in enhancing the area’s marine biodiversity.

We also strive to protect wildlife species on Halul Island. Turtle nesting sites are being planned and efforts are being made to protect the birds, plants and fish in the area. To enhance greenery and landscaping, a variety of flowering plants, trees and shrubs are being planted on the island. As part of a new strategy for tree planting, we have planted more than 400 trees with high salt tolerance.

ENVIRONMENTAL MANAGEMENT IN INDUSTRIAL CITIES

QP plays an important role in ensuring that all projects in its industrial cities implement the appropriate environmental management procedures. Together with the Ministry of Municipality and Environment (MME), QP examines the Environmental Impact Assessments (EIA) of any new project before approving its implementation. In addition, the Industrial Cities Directorate conducts extensive monitoring of water, air quality and flaring to ensure compliance with the standards set by the MME. Upon discovery of any non-compliance incident, QP issues an alert to relevant parties, and measures are then taken to address the issue.

The Laffan Environmental Society (LES) was established jointly by Ras Laffan Industrial City (RLIC) and industries located in the area to monitor and provide services in the area of environmental management. Its primary services include the operation and maintenance of the ambient air quality monitoring stations, conducting marine ecological surveys, and handling the related data acquisition systems.

In addition to monitoring environmental performance to ensure all companies are operating in compliance with State laws and regulations, the Industrial Cities Directorate also coordinates several citywide environmental initiatives.

Water and Effluent Management

Industrial water is generated through the various operations of companies based in the industrial cities. The MME has proposed that the maximum treated industrial water be reused, thus avoiding the discharge of this water into the sea.

As a result, the Industrial Cities Directorate, in collaboration with the MME, has developed the Treated Industrial Water (TIW) master strategy. This strategy encourages industries to employ advanced treatment technologies to remove contaminants from the water, in order to reach water quality standards that will allow it to be reused in multiple ways.

In the past, TIW from different industries was collected and reused for peripheral applications, such as city landscaping. Based on the results of a study, RLIC has provided alternative options for treatment and reuse of TIW beyond these peripheral recycling uses. As a result, industries have been advised to enhance the treatment of industrial water to reach desalinated water quality standards through the installation of individual reverse osmosis plants, which will allow for internal process reuse of industrial water.
Eleven RLIC industries are now upgrading their industrial water treatment facilities accordingly for an approximate cost of USD 750 million through 2018. The upgrade will allow about 80% of TIW to be reused and will reduce costs to industries for the purchase or production of desalinated water. As a result, increased volumes of desalinated water presently supplied by KAHRAMAA to industries will be available for other purposes.

In MIC, QP operates a Domestic Wastewater Treatment Plant (DWTP) facility, which treats all sanitary water collected from industrial facilities. The treated water from DWTP is then used for irrigation purposes in MIC landscaping. Previously, the treatment plant did not have the capacity to treat all wastewater collected, and the excess was transported to the Ashghal Treatment Center in Doha. However, a new facility is currently in the commissioning stage, with partial operation already in place.

Waste Management

Operational and residential facilities situated in the industrial cities generate non-hazardous and hazardous waste. Both MIC and RLIC operate various facilities that receive this waste and manage disposal and recycling to minimize the environmental impact of the waste collected.

RLIC operates a non-hazardous Waste Management Facility (WMF) to deal with non-hazardous waste. The facility includes waste recycling and waste reduction equipment including an industrial-type paper/cardboard shredding machine, light bulbs and fluorescent tube equipment, and a heavy-duty drum crushing and compacting system. On the other hand, QP’s new marine waste reception facility at the Ras Laffan Port safely disposes of oily waste from ships, in accordance with international marine pollution (MARPOL) standards.

At MIC, non-hazardous waste is collected by a waste management company and delivered to a landfill that lies outside the MIC area. Prior to sending the waste to the landfill, MIC first segregates wood, paper, plastics, metals and tires for recycling. Wood mulch is removed from waste and reused to produce the water retention material used in landscaping. MIC has also introduced an initiative to segregate paper in schools and the community, and this effort is estimated to recycle 8,000 kg of paper per month once it is fully implemented.

Mesaieed’s Hazardous Waste Treatment Center (HWTC), the only facility of its kind in Qatar, has been designed to treat, inactivate and immobilize contaminants prior to disposal by evaporation or landfilling. The facility serves the waste treatment requirements of all industries in Qatar. The center recycles several hazardous waste streams, including recovered oil from the Oily Waste Treatment Facility, crushed metal drums, shredded plastic from empty plastic drums, and drained lead acid batteries. In the future, the HWTC aims to recycle non-hazardous wastes such as batteries, plastics and metals. In 2015, the HWTC received a total of 27,520 tons of waste, of which 846 tons was recycled.

To effectively manage waste at the industrial cities, a Hazardous Waste Management System is in place to enable our joint venture partners and QP end-users to raise online requests for processing agreements that are required to treat hazardous wastes within the facilities of the industrial cities. Business users within the industrial cities are also provided with several online reports for monitoring and tracking areas such as approvals, agreements and requests.

Energy and Emissions Management at Industrial Cities

RLIC has formed an energy saving committee and installed meters to monitor and optimize power consumption among industries. It has also worked closely with the MME and the resident companies of RLIC to establish a GHG emission accounting and reporting (A&R) system based on European guidelines. In 2014, RLIC completed Phase I of its Ambient Air Carrying Capacity (AACC) study of the Ras Laffan air shed for criteria pollutants SO2 and NOx across the city. Phase II of the AACC will focus on modeling volatile organic compounds (VOCs), ozone effects and particulate matter. Ultimately, the results of this study will be used to assess the impact of air pollutants generated by industries in RLIC and to propose additional control measures as required to guide industries in developing the necessary monitoring, management and mitigation measures.
Biodiversity in Industrial Cities

RLIC is also responsible for managing a number of wildlife conservation programs, including the flagship marine turtle conservation initiative. RLIC diligently monitors eight turtle breeding grounds across Qatar to ensure that they are not disturbed especially during the nesting season, thereby ensuring the survival of this indigenous species. The initiative also involves tagging, nesting and hatching monitoring, DNA testing and satellite tracking for turtles. Other conservation programs in place are mangrove conservation, reef cultivation, and restoration of seagrasses. Additionally, breeding programs to increase the population of the gazelle, houbara and ostrich are also in place. A mango plantation that is successfully fruiting is the cornerstone of a greenbelt program in the conservation area.

Personal Safety

In our commitment to the goal of zero injuries, we continuously seek to develop a strong culture of safety to deliver a solid safety performance. We realize that this can only be achieved by having a knowledgeable, committed and skilled workforce and a strong safety culture.

In 2015, we implemented a new HSE recognition process, particularly for our offshore operations, which involves awarding HSE certificates to a number of deserving individuals who have displayed an exemplary attitude towards safety and made outstanding contributions to our HSE programs.

Several HSE workshops were also held in Mesaieed and Dukhan to further improve the HSE culture at QP. A particular focus was placed on training to increase our senior staff’s ability to interpret safety performance requirements and assess the effectiveness of safety tools and techniques in their line of work. Up to 70% of senior staff in Mesaieed participated in the training.

We carried out a number of initiatives over the course of the year to improve delivery of HSE training to both employees and contractors. These included conducting 17 audits on the delivery of HSE courses by our own employees and by external HSE course providers, increasing the list of accredited HSE courses from four external HSE training providers, and improving the competency of 11 safety trainers.

QP’s HSE&Q has also embarked on a program aimed at systematically enhancing the HSE competence of QP staff across our operations. As part of this program, an “HSE Competency Assurance” document is currently under development, and this will provide a system through which QP staff will maintain and improve their HSE competence. A key objective of this program is to provide assurance to QP’s line and senior management that QP employees are competent to perform the assigned HSE tasks.

Promoting Health and Safety

Ensuring health and safety is a top priority in everything that Qatar Petroleum does, both in the workplace and in the communities where we operate. Our health, safety and security programs as well as the people and policies that oversee them are critical to providing a safe and healthy environment for all. Our programs build a safety culture and recognize those who exhibit exceptional commitment to health and safety practices.

Our approach to managing safety and operational risks builds on our experience and is based on best industry practices, including lessons learned from incidents and audits. Please refer to the “Management Approach” section in the “Environment and Climate Change” chapter for more information about our HSE governance and strategy.
HEALTH AND WELFARE

We endeavor first and foremost to protect every employee from any occupational health risk posed by day-to-day activities, and we further encourage our employees to make healthy choices beyond their work environment, recognizing that healthier employees are more engaged and productive employees.

Comprehensive health checks have been implemented at all points of entry into QP’s offshore sites to ensure that all employees working there are fit for the demands of offshore activities and have no pre-existing conditions that may pose an immediate risk to their health. We also provide specific training for all individuals to address any identified health risks for particular jobs; for example, all personnel in Dukhan receive Naturally Occurring Radioactive Materials (NORM) training in order to ensure that they take the appropriate precautions to protect their health.

First aid boxes are distributed across all QP locations, and designated employees take part in first aid training, which includes basic life support, cardiopulmonary resuscitation (CPR) and the use of an automated external defibrillator (AED).

As part of QP’s health outreach program, health promotion events and awareness sessions are regularly held to promote health and wellness among our employees, their families and community residents. These events target common health issues such as obesity, diabetes, and smoking. We also have a dedicated weight management clinic that supports our employees and their families in making healthy lifestyle choices.

In 2015, our Healthcare Department was awarded the “Gold-Level Accreditation” by Accreditation Canada for meeting international standards of excellence in quality care and service for the benefit of our employees and their dependents.

Heat Stress Events

QP recognizes that heat stress is a major health concern for employees working outside during the summer months. Our operations have, therefore, established heat stress management procedures in line with the Heat Stress Management Guideline created by QP’s HSE Regulations and Enforcement Directorate in 2013. We have developed a heat stress awareness course based on these procedures, and this course has been offered since mid-2014. As a result, we have noticed a significant decrease (92%) in the number of heat stress events recorded among employees from 2014 to 2015.

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat stress events</td>
<td>97</td>
<td>91</td>
<td>88</td>
<td>7</td>
</tr>
</tbody>
</table>

Process Safety and Asset Integrity

Process safety provides a framework for managing the integrity of operating systems and processes that handle hazardous substances. It deals with the prevention and control of events that have the potential to release hazardous materials and energy, and it relies on good design principles, engineering, operating and maintenance practices. Asset integrity, which is critical to process safety, encompasses the reliability, efficiency and general fitness for service of our physical assets. To ensure process safety within its operations, QP is focused on supporting the challenge of asset integrity management for aging facilities and applying inherent safe design principles for new projects.

We seek to optimize production without compromising safety through an integrated approach to asset management. Our IT-based asset management tools and approaches consider wider sustainability issues and are designed to help embed new modes of thinking and sustainability practices. All our assets are currently registered in a robust SAP planned maintenance system. To comply with the safety critical element (SCE) preventive and corrective maintenance scopes and schedules, we have created an SCE asset register, developed performance standards for identified SCEs, and implemented an SCE compliance plan. We are also working to ensure that drilling contractors implement a software-based preventive maintenance management system.

In 2015, QP’s Facilities Management Department ensured no loss time injury (LTI) during the huge movement of offices, especially during the relocation to the new headquarters to the World Trade Center in Doha’s West Bay area, and the evacuation of all QP facilities in Ras Abu Aboud.

The department is focused on establishing a safe and healthy working environment by promoting maximum adherence to all applicable QP safety rules and procedures. Emergency response plans for QP facilities under the department have been developed and all stakeholders have been targeted for induction and awareness.
BUSINESS CONTINUITY MANAGEMENT

The implementation of QP’s Business Continuity Management System (BCMS) ensures that the corporation is prepared to handle and mitigate the effect of major disruptive events affecting critical business activities. The system brings a holistic management process that identifies the potential threats and the impacts that might result from these threats to our business operations. BCMS provides QP with the framework to build organizational resilience with the capability of an effective response that safeguards the interests of our key stakeholders, cash flow, reputation, brand and value-creating activities. BCMS covers both the immediate responses to an incident (such as emergency preparedness and response as well as crisis management) and the more measured pre-planned responses to a prolonged disruption (i.e. business continuity planning and IT resilience and recovery).

QP’s directorates and corporate departments have a Business Continuity Plan (BCP) in place, with more than 180 Business Continuity Response Plans (BCRPs) implemented and maintained across the corporation, aiming to protect our critical assets and processes against major disruptions.

In 2015, QP standardized and systemized the approach to business continuity through the development of the Business Continuity Management Policy, Business Continuity Management Framework and other relevant governance documents. A network of BCM coordinators and BCP focal points were trained on the BCM system, reaching almost 300 staff members. Going forward, we seek to achieve BCM certification under ISO 22301 to maximize the quality of our BCM program and to promote continuous improvement. We also plan to reach out to our joint interest companies (JICs), affiliates, key suppliers and Qatar’s government authorities, so that we can align ourselves and raise our joint BCM readiness.

Crisis Management

Crisis management within QP is aligned with the Societal Security - Business Continuity Management Systems - Requirements of ISO 22301 on Crisis Management – Guidance and Good Practice Requirements of BS 11200:2014. Understanding crises and how to manage them in the best way possible is the main objective of our Crisis Management System (CMS). QP has developed crisis management capabilities to prepare for, anticipate, respond to, and recover from any crisis. This capability is not considered a normal part of routine organizational management, and so it is consciously and deliberately built and sustained through capital, resources and time investment throughout the corporation.

During 2015, the Corporate HSE&Q Department developed the corporate governance crisis management requirements and the QP Crisis Management Plan (CMP), thus establishing the foundation for managing a crisis, in case it occurs. The establishment of the QP Crisis Management Committee (CMC) will ensure the strategic oversight and provide the high-level corporate directives and support. In view of this, facilities have been set up at the QP Headquarter, establishing the Crisis Control Centre (CCC).

The implementation of the best industry practice in crisis management provides assurance that we understand the implications of the nature of crises and that we will be ready to manage potentially extreme disruptive incidents that could have immediate strategic implications to the corporation and to subsequently recover from such incidents.

Emergency Preparedness and Response

Emergency management is a dynamic process of preparing for, mitigating, responding to, and recovering from an emergency. Planning, though critical, is not the only component. Training, conducting drills, testing equipment and coordinating activities with the community are other important functions. This is to ensure that in the event of an incident, there is a swift and effective response with the goals to preserve life, protect assets and mitigate environmental impact. Continuous efforts are being made to reduce and prevent emergency incidents. We work closely with industry peers on the prevention of major accidents and emergency preparedness.

QP’s Emergency Management System focuses on the implementation of governance requirements resulting from State legislation and relevant regulations to achieve appropriateness and effectiveness of the emergency response arrangements.

Contractor and Supplier Management

Our commitment to achieve world-class standards in health, safety and environmental protection, cannot be achieved without the active involvement of contractors who carry out a portion of our work. We seek to work with contracting companies that share the same commitment to ethical, safe, and sustainable working practices, and we set clear and consistent expectations for our contractors when it comes to health, safety, security and environmental requirements as well as human rights.

As a result, we have developed the HSE Regulations for Contractors to ensure that they demonstrate the same commitment to HSE as we do. The document establishes processes to ensure that contractors are aware of our safety expectations and to verify their capability to meet these expectations before starting work. Suppliers of procurement services and products to QP are also required to comply with these regulations, and non-compliance can result in the suspension of the supplier.

The framework within which we work with our contractors to achieve compliance to these rules and regulations is in line with that of the International Association of Oil and Gas Producers (IOGP). Our contractors report on their HSE performance on a monthly basis, which is then integrated into our HSE performance report.
In 2015, the Projects, Engineering & Procurement Services Directorate completed the development of an Integrated Quality, Health, Safety and Environmental (QHSE) management system based on international standards; ISO 9001, ISO 14001 and OHSAS 18001. The directorate’s safety approach focuses on process safety, which covers the reliability, integrity, efficiency and general fitness for service of our projects’ deliverables.

The cumulative number of man-hours worked on our projects exceeded 36 million hours without fatalities. This was mainly due to the 9,590 inspections that were conducted on our projects and contractors, in addition to the 33,190 employees and contractor personnel who were trained on HSE and sustainability.

**Safety, Health and Welfare in Industrial Cities**

QP’s Industrial Cities Directorate recognizes its responsibility to protect the labor rights of workers in its areas of operations. These include, but are not limited to, the abolition of forced labor and child labor, the right to just and favorable remuneration, the right to a safe work environment, the right to rest and leisure, and in the case of migrant workers residing in the industrial cities, the right to an adequate standard of living, including food, housing and access to medical services.

To ensure occupational health and safety, MIC, RLIC and DCA provide safety monitoring and auditing and they implement safety policies, standards and safe working practices to ensure the adherence of all industries. They also investigate accidents and are responsible for firefighting and emergency response coordination. In addition, they seek to cover the medical needs of all residents and workers by providing health facilities with primary care as well as emergency services.

QP recognizes the challenge for its industrial cities to ensure decent and safe working conditions for all employees and contractors and to achieve sustainable development in compliance with the guidelines set by QNV 2030. QP cares about the well-being of its staff and all laborers working within the industrial cities and has set a Worker Welfare Strategy in place.

The corporation has also developed a Worker’s Welfare Awareness Program, through which monthly awareness and joint camp inspections are being done to make sure that the facilities comply with QP standards. The program also includes quarterly meetings through sub-committee worker welfare working group meetings to share cases related to workers’ welfare as well as biannual awareness activities through forums and events, such as the Healthy Lifestyle Forum and food hygiene presentations.

QP’s corporate social responsibility (CSR) initiatives are designed to create a positive impact on key economic, social, human and environmental areas relevant to our country and to the various communities in alignment to the objectives of QNV 2030 and the National Development Strategy (NDS).

In 2015, we invested in community initiatives including sports, educational and training scholarships, civil defense activities, forums and conferences, and educational sponsorships.
Community Engagement in Industrial Cities

QP works closely with the host communities of our industrial cities to help us understand and address their concerns and expectations. The Industrial Cities Directorate maintains open and frequent communication and engagement with all stakeholders of each city, most importantly the resident industries and individuals working there. The directorate has put a number of mechanisms in place to ensure that it can respond to stakeholders’ needs quickly and effectively.

Engagement with Resident Companies

Ras Laffan Industrial City (RLIC) has established an interface with the CEOs of all resident companies to discuss high-level projects and issues of common interest. In support of this interface, three functional committees covering HSE, Operations, and Projects bring senior managers together to share information, to work on common interest projects and to discuss standards and procedures. Additionally, various sub-committees have been established to drive common initiatives, such as workers’ health and hygiene, road safety, risk management, the Laffan Environmental Society, contractor safety management and emergency response.

Local Community Outreach

RLIC and the major industries in Ras Laffan have been implementing a joint Community Outreach Program (COP) to support the community in the northern area of Qatar. The COP aims to address specific social and environmental needs in the community as identified through discussions with members of the local community. The COP office, which was established in Al Khor in late 2011, serves as the base for building a closer relationship with the local community and for establishing an open dialogue to build meaningful partnerships that meet the community’s needs. The COP administers surveys to collect community feedback on ways to make RLIC and its neighborhood a better place to live in, and it conducts quarterly meetings between members of RLIC and community representatives.

The COP has identified the following three strategic areas where its contribution can have maximum impact: education and capacity building; health, safety, and environmental awareness; and cultural heritage. The major initiatives currently being implemented include environmental awareness and road safety training. RLIC issues a quarterly newsletter called “Biatouna” to raise environmental awareness in the northern communities. In addition, monthly HSE awareness campaigns are carried out using a number of electronic and strategic notice boards and leaflets in three different languages.

Local Procurement

QP is constantly exploring ways to rework contracts and invest resources in local procurement development to help maximize long-term local content value.

Considering the large scale of our supply chain, we recognize the significant impact our procurement process can have on the development of the Qatari community. As a result, we are committed to working with suppliers to build local capacity to meet our procurement requirements and to enhance both the efficiency and reliability of our supply chain to ensure the quality and sustainability of the goods and services that we procure. To that end, we have introduced several initiatives to build the capacity of suppliers in Qatar and the Arab region. We constantly work to ensure our supply chain meets our own standards of protecting people and the environment. We aspire to apply “green procurement” principles and develop “green specifications” in the near future.

Chartered Institute of Purchasing and Supply (CIPS UK)

In 2015, QP commissioned the Chartered Institute of Purchasing and Supply (CIPS UK) to undertake a sustainability assessment of the Supply Chain Department’s procurement processes and their relevance to international sustainable practices.

Moreover, as part of this process, a selected number of Qatari national employees have been trained by CIPS and now understand the fundamental principles of suitable procurement requirements.

We are committed to the development of Qatari enterprises including small and medium enterprises with the aim of prioritising, maximizing or empowering local products, works and/or services and encouraging the creation of sustainable market resources consistent with QNV 2030.

Al-Shaheen Workshop: Building Local Supplier Capacity

Since QP has a large quantity of equipment produced by General Electric (GE), we partnered with GE to establish the Al Shaheen Workshop to conduct maintenance and repair of this equipment in Qatar. The workshop provides shutdown support services and repairs high-value capital parts three times before procuring a replacement, thus avoiding the unnecessary purchase of new parts and saving costs in the process. Through the workshop, local engineers have been trained in the overhauling of gas turbines, compressors and control valves. This project is a unique example of supplier-offtaker cooperation, guaranteeing timely replacement of critical components and ensuring continuous operation.
ENABLING PEOPLE

OUR PEOPLE

Qatar Petroleum seeks to provide an attractive working environment, offers challenging and meaningful job opportunities, and presents opportunities for professional development to attract and retain the best talent at the local and international levels.

With the completion of the restructuring program, which included the integration of Qatar Petroleum International (QPI) into QP, we now have the right organization structure to deliver QP’s strategic objectives.

DIVERSITY

QP takes special pride in its diverse and talented workforce, which covers a spectrum of 84 nationalities from around the world.

Viewed as a source of strength, QP’s diversity brings together different perspectives and experiences to jointly contribute to achieving the best results. QP seeks to cultivate this diversity and to create an inclusive and respectful work environment. Our Code of Ethics requires employees to treat all persons fairly regardless of such factors as race, color, national origin, sex, marital status, age, religion, creed or political belief, physical handicap or disability, or status.

QP’s diversity is driven by its growing attractiveness as an employer. In 2015, QP was named one of the “Top 20 In-Demand Employers” in the Middle East and North Africa (MENA) region at the LinkedIn Talent Awards 2015.

WOMEN

QP supports initiatives to encourage young women to pursue a career in engineering and science. Since 2011, QP has been increasing its engagement with young women in universities to provide them with an opportunity to see for themselves what the industry has to offer through sponsorships of female professionals.

HUMAN RIGHTS

QP is committed to upholding the United Nations Guiding Principles on Business and Human Rights. Additionally, the corporation has adopted the United Nations Global Compact (UNGC) principles. To this effect, QP ensures the welfare and human rights of our employees through our Code of Ethics and our policies. QP is in the process of finalizing its Human Rights Policy and dedicating a section in our Code of Ethics on Human Rights.

No complaints were received from our employees pertaining to labor or employment grievances in 2015. A Complaint and Grievance Procedure is in place for employees to voice their grievances and receive resolution within a set period.

TRAINING AND DEVELOPMENT

Through a structured training and development process, QP ensures that its workforce is suitably equipped with the required knowledge and skills. It offers a wide array of training and development opportunities for all our employees. QP employees are given the opportunity to enhance their competency levels through various professional training programs conducted in-house, within Qatar and overseas. A total of 3,073 training courses were offered in 2015. More than 200 short technical and non-technical programs are run in-house. Our employees have access to more than 3,000 up-to-date online courses through QP’s e-learning system, as well as opportunities for external training when not available in-house.

In 2015, over 200,000 hours of training were provided to QP employees, amounting to an average of 22 hours per employee.

Table x: Training

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average hours of training provided per employee</td>
<td>24</td>
<td>23</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>Total hours of training provided to employees</td>
<td>275,208</td>
<td>268,975</td>
<td>299,321</td>
<td>201,810</td>
</tr>
</tbody>
</table>
RETAINING TALENT

QP pays special attention to retaining talent and relies on having attractive working conditions that are competitive in relation to the energy and industry sector. To that end, QP’s human resources policy, compensation, and recruitment process is benchmarked across industry peers to ensure consistencies and competitiveness.

In 2015, QP held its annual Continuous Service Awards (CSA) ceremony, during which QP President and CEO Saad Sherida Al-Kaabi honored a total of 225 employees who have served the corporation for durations of 20, 25, 30, 35 and 40 years. Another ceremony was also held to recognize 629 employees for reaching career milestones of 10 and 15 years of service with QP.

QATARIZATION

The implementation of QP’s new organizational structure provided an opportunity to place increased emphasis on quality Qatarization at all levels of the organization. We remain dedicated and committed to further advancing Qatarization within our workforce. We have a long-term Qatarization target of 50%, and each directorate and corporate department has a specific Qatarization target.

In 2015, QP continued to meet its Qatarization targets by identifying and preparing Qatari employees to enter the workforce at all levels. At the end of 2015, the Qatarization percentage was 37%, a 4% increase from 2014. Almost 80% of Qatari nationals take on managerial positions within QP.

To advance Qatarization throughout its operations, QP has its own Qatarization plan, which takes a multi-pronged approach to the development of the national workforce. This includes vocational training, university scholarships, work experience, personal development plans and experienced recruitment.

A total of 85 Qatari employees completed different e-learning courses during 2015. QP’s in-house training and development programs remain a key attraction point for new Qatari employees. Professional training courses for a total number of 1,395 national staff members under a development plan were delivered, representing 48% of the total training provided to Qatari staff.

In 2015, QP managed a total 522 University Program students attending university courses in petroleum as well as engineering, geology, sciences, and a wide range of other specialized fields. Of these 522 students, 383 were QP employees and UP (University Program) trainees allocated to QP, with the remaining 139 students being employees of other companies but whose academic progress is monitored by QP. Throughout the year, QP’s Learning and Development Department closely monitored their academic performance in order to ensure that they have the required support to successfully complete their degrees and join the workforce. A total of 126 students started their sponsored university studies in 2015, while 145 students graduated, of whom 93 reported to work in QP and 52 joined other energy & industry companies.

The internship program for QP-sponsored university trainees continued to provide future employees with essential work experience in their target departments. The Learning and Development Department facilitated the internship program for 14 QP trainees across 11 departments and the positive feedback provided by all participants confirmed the value of the program.

QP continued to review and improve its vocational training programs based on the conclusion of survey analysis and feedback received from stakeholders. The whole TAFE (Technical and Further Education) program has been reviewed in collaboration and consultation with industry partners to come up with a new program that is specifically tailored to the requirements of Qatar’s oil and gas industry.

Out of 704 vocational trainees, 321 were allocated to QP and 383 were allocated to other energy and industry companies. The intake for vocational programs in 2015 reached 134 trainees, compared to only 104 trainees in 2014, and the increase was mainly due to our awareness program targeting students at Qatar’s secondary schools.

### QP’s Approach to Advancing Qatarization

<table>
<thead>
<tr>
<th>Vocational Training and University Program</th>
<th>Work Experience</th>
<th>Development Plans</th>
<th>Experienced Qatari Recruitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qatari secondary school graduates can enroll in one of several vocational and university training programs to prepare them to enter the QP workforce. These include the Technician Program, Diploma Program (formerly TMP, CPP), Fire Preparation Program, and University Program.</td>
<td>University students can apply for internships. Work terms and workplace learning are applicable to vocational programs. These programs provide the opportunity to gain valuable on-the-job experience.</td>
<td>Some Qatari graduates join QP as developers. A Personal Career Plan (PCP) is designed for them to prepare them to take over a position through on-the-job activities and assignments, technical and non-technical training courses, and sometimes attachments to other departments or organizations.</td>
<td>Experienced Qatari nationals can join QP in specific areas such as Engineering, Finance, Administration and Human Resources.</td>
</tr>
</tbody>
</table>

### Vocational Programs

<table>
<thead>
<tr>
<th>Vocational Programs</th>
<th>QP</th>
<th>Other E&amp;I Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma Program (DP)</td>
<td>185</td>
<td>24</td>
</tr>
<tr>
<td>Technician Preparation Program (TPP)</td>
<td>107</td>
<td>359</td>
</tr>
<tr>
<td>Fireman Preparation Program (FPP)</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>Sub Total</td>
<td>321</td>
<td>383</td>
</tr>
<tr>
<td>Grand Total</td>
<td>704</td>
<td></td>
</tr>
</tbody>
</table>
Development of Qatari Nationals

In 2015, QP—in cooperation with representatives of other energy & industry companies along with the College of the North Atlantic-Qatar (CNA-Q)—formed the Energy & Industry Vocational Steering Committee to provide guidance on the design and delivery of the vocational training programs. Guidance is provided through monitoring of the vocational training delivery and evaluating its effectiveness and efficiency in coordination with CNA-Q. The main goals of the Steering Committee are to improve the TPP cycle optimization, enhance the foundation program, reduce the overall duration of the program, provide earlier employee status, improve the technical curriculum concentration, and enhance the English language skills of the participants.

To augment the quality of its learning and development programs, QP continued to partner with IOCs in order to maintain Centers of Training Excellence such as Tamayoz and Tafawoq, which provide a wide range of courses for Qatar’s energy industry sector. In 2015, a total of 122 Qatari employees participated in these initiatives.

**Tamayoz Program**

Tamayoz is a program led by ExxonMobil that provides professional and personal development opportunities to QP and its joint ventures RasGas and Qatargas. The training courses offered cover essential and diverse areas including safety, health, leadership, operational excellence, technical and project management. More than 50 courses have been offered to ExxonMobil partners and joint ventures, and nearly 1,600 individuals have already received training since the launch of the program.

**Tafawoq Program**

Tafawoq, which means “excellence” in Arabic, is a successful partnership between QP, Qatar Shell, and Hamad bin Khalifa University. Tafawoq is a fully accredited Association for Project Management (APM) training provider and focuses on developing project management competencies. The courses include virtual learning, work-based activities, and face-to-face training that is based on the internationally recognized and accredited Shell Project Academy “Pentagon model” curriculum.

The future development of Qatari nationals is managed according to the guidelines laid down by the QP Qatari Development Strategy. Accordingly, 396 national employees are being coached to assume senior staff positions. In addition, 80 national employees are being developed to assume employee level positions, and 34 employee level and 123 senior staff nationals were confirmed in their target positions across QP in 2015.

**QP PEOPLE AGENDA**

In 2015, work started on a number of interdependent initiatives, which support the achievement of QP’s vision and strategic objectives. Together, they form the QP People Agenda. Examples of initiatives are the introduction of a leading-edge Leadership Framework, a Human Capital Service Centre, and an employee survey. Each initiative is allocated to one of the following focus areas:

- **Growing Talent and Resourcing** — Growing a highly capable and motivated workforce, with emphasis on Qatari development;
- **Driving Organizational Excellence** — Driving sustained performance of QP’s organization, its structure, processes, systems, policies, people and culture; and
- **Enhancing Employee Welfare & Engagement** — Enhancing the affiliation of employees to QP and their commitment to collaborate, leading to increased performance.
BUSINESS SUPPORT

The swift and decisive reorganization of Qatar Petroleum was made possible by the immediate and precise alignment by all its directorates, departments and business divisions to the corporation’s strategic objectives.

It was made possible by the high level of commitment of all QP directorates and departments towards maximizing potential and contribution, both in terms of achieving corporate excellence and maintaining production flow and meeting energy demands.

The completion of QP’s reorganization program has placed the corporation on track to meet its strategic objectives. It has also meant that a more dynamic and efficient QP will now be able to focus on its core business as it faces the challenges of an increasingly competitive business environment.

All business support units were on hand to make the reorganization exercise a full success in terms of cost, effectiveness, and productivity, and without compromising the safety and the integrity of our operations. Their commitment to this success was demonstrated by the actions they have taken and the milestones they have achieved in 2015.

PROJECTS, ENGINEERING & PROCUREMENT SERVICES

Capital projects and supply chain management excellence is essential for our business to support a reliable and efficient production and distribution, to deliver sustainable income for our corporation and the State, and to maximize existing energy resources for economic development.

In this context, QP’s Projects, Engineering & Procurement Services Directorate has adopted an enhanced business model that focuses on core business in oil & gas and civil infrastructure projects to leverage the staff’s competencies and provide a more effective project and business delivery model.

The Directorate played a pivotal role in creating an optimized list of projects that are oriented towards the corporation’s core business. A total of 14 projects were either deferred or completely/partially cancelled. It completed several projects in 2015 and is currently involved in major projects such as the Bul Hanine Redevelopment Project and the project to install a new wellhead platform for North Field Alpha.

The directorate was also involved in providing facilities for government and security services within the Ras Laffan area. This project included the construction of 23 buildings and site development with a total of 19,758 m2 of built-up area at three sites.

A supply chain strategy that supports local content through the development of SMEs is in the process of being developed. The main objective is to develop local manufacturing capabilities that would ensure the continuity of the supply chain through the acquisition and delivery of cost-effective, quality-assured materials and equipment on time.

COMMERCIAL & BUSINESS DEVELOPMENT

The Commercial and Business Development Directorate was established in 2015 with the objective of building a center of excellence that looks after the commercial aspects of the business for the organization as a whole. Its main role is to:

- Capture, maximize, and preserve long-term value for QP and the State of Qatar in all commercial negotiations and agreements;
- identify and evaluate commercial opportunities relating to existing and new potential assets, both within Qatar and internationally;
- Recommend and implement QP’s LNG marketing and sales strategy, identify and capture LNG market opportunities, safeguard QP’s LNG interests;
- Market gas and ethane to local customers and prepare and manage local sales agreements;
- Assess, on an ongoing basis, QP’s portfolio based on a standard methodology to be developed by the directorate and approved by CEO; and recommend portfolio actions to maximize long-term value for QP.

In 2015, Commercial and Business Development took major steps towards reducing the carbon footprint of our operations by:

- Continuing to sponsor the use of LNG as bunker fuel. Rashida, the Q-Max LNG vessel, which was originally designed to burn diesel, was retrofitted with a new LNG propulsion system so that the ship can burn LNG as well as diesel. This is the world’s first vessel in which a low-speed marine diesel engine was converted to use LNG as a fuel.
- Continuing to support Ras Laffan ventures to reduce operational flaring and encouraging them in finding commercial solutions for the same. The year 2015 was the first full-year for using the Jetty Boil-Off Gas (JBOG) facilities for the recovery of flared gases during the loading of LNG ships. More and more ships are being modified to comply with the JBOG project. There has been a marked reduction in the amount of flaring because of the full use of JBOG facilities.
- Being involved in developing and setting in place agreements between QP and other gas producing and processing ventures in an effort to reduce flaring and arrest pollution. This is in line with the commitment of QP to deliver measurable flare reduction projects, in partnership with World Bank-led Global Gas Flaring Reduction (GGFR).
- Playing a key role in steering Qatargas to promote the use of LNG in merchant ships. Qatargas has entered into MOUs with Shell, Maersk and United Arab Shipping Company (UASC) to develop the infrastructure and associated business models for locating LNG bunker facilities in the Middle East.
HEALTHCARE

The Healthcare Department, under QP’s HSE & Business Services Directorate continues to provide quality-assured and value-added medical, dental, occupational, and emergency health services across all QP operating locations.

The department provides helicopter emergency medical services and medical evacuation (Medivac) at offshore locations for the benefit not only of QP staff but also of employees from QP’s joint venture partners, subsidiaries, and contractors. Under an agreement with most of these companies, the Healthcare Department also provides them with occupational health services, as per the standards and guidelines in the oil and gas industry.

The department actively pursues a comprehensive health & wellness agenda as its primary commitment to QP employees and their dependents. Industrial hygiene is also associated with occupational health in programs related to office ergonomics program and monitoring programs like hearing conservation.

Healthcare also works closely with HSE entities in conducting health risk assessments and consequent medical surveillance and health promotion programs. In addition, it plays a significant role in human capital management; its Occupational Health Case Management effectively supports the Employee Assistance Program, sickness absence management, medical re-allocation and release, etc. Health Performance Reports are now periodically added to HSE Industrial Performance Reports.

The department’s occupational health services and initiatives continue to raise QP’s image as an industry leader in occupational health and safety standards. The corporation’s standards in occupational health services rank top in the country and the highest among industry peers in the GCC.

Highlighting the corporation’s commitment toward academic development, students from Qatar University’s post-graduate program in pharmacy completed their professional internship with QP’s Healthcare Department in 2015. The department also continues to support and encourage participation in professional health presentations and publications, and it robustly supported the development of the country’s National Health Strategy.

ICT AND CYBER SECURITY

Both the Cyber & Information Security Department and the Information and Communication Technology Department are under QP’s HSE & Business Services Directorate.

The Cyber & Information Security Department was established in June 2015 to initiate QP’s efforts towards achieving a structured and sustainable cyber and information security maturity, focusing on the continuously increasing risks in this area.

The department’s team currently focuses on four areas of cyber and information security: governance, compliance management, risk management, and assurance. The team is currently composed of seven QP employees (including five Qataris) and is complemented by a team of consultants to deliver a Cyber and Information Security Program. The transfer of knowledge and skills to Qatari human resources will further enhance their skillset to develop and grow in this competitive arena.

Cyber & Information Security is focused on increasing QP’s preparedness to deal with cyber and information security threats and risks in an increasingly connected and exposed world. In 2015, the department undertook the following activities in support of QP’s corporate strategy:

- 1) Creating the basis for structuring the governance of Cyber and Information Security.
- 2) Defining the supporting requirements for Information Security Risk Management.
- 3) Increasing QP’s preparedness regarding Cyber and Information Security.

The department has taken steps to prepare for a broad and comprehensive information security risk assessment project, which will take place between April 2016 and October 2017 and will focus on QP’s core business, including the assessment of most of the critical corporate Industrial Automation and Control Systems (IACS). This project will define the required controls to be implemented to reduce QP’s exposure to risks and to improve the existing security measures.
The Information and Communication Technology Department (ICT) has been delivering specialized systems and solutions to support QP’s operations in end-to-end processes. Optimization is a key principle followed by the department in the selection of solutions, strategic designs, as well as in the rollouts and usage of technology platforms.

In 2015, the ICT Department rolled out the Electronic Permit to Work (e-PTW) system. QP’s e-PTW system is based on an industry standard software and facilitates the ability of operational staff to work more efficiently, safely and in a controlled environment. The Command Support System was also extended in 2015 to operational areas in Dukhan and Mesaieed to enable "on scene" resource management during an incident.

Another system, the Geographic Information System (GIS), has inducted web services under its technology stack and mapped business functions against corresponding GIS technology, resulting in growth and diversification in terms of technology and penetration into wider business realms within QP. In the Industrial Cities Directorate, for instance, GIS is used to maintain and distribute data for planners and land lease managers. GIS also plays a key role in the Bul Hanine Re-Development project, particularly for site planning (relocating jackets, etc.), designing the layout of pipelines, and pipeline routing, among others.

ICT also supports over 250 business and technical applications (both purchased and developed in-house) that are critical for QP’s operations. In addition, it supports e-IC Services that are used by over 250 business and technical companies requesting for services from the Industrial Cities Directorate.

ICT provides IT solutions and support to seven QP subsidiaries and joint ventures, including financial ERP (enterprise resource planning) systems. The department also interfaces with QP subsidiaries, joint ventures and other business partners with regards to the sharing of resources, especially in offshore locations and other hard-to-reach areas.

**FACILITIES MANAGEMENT**

The Facilities Management Department is part of QP’s HSE & Business Services Directorate, and its main contribution towards the corporation’s core business is in ensuring the reliability and functionality of all QP assets that are under the department’s jurisdiction.

The department supports the corporation’s strategies and plans to rationalize business services and expenditure through the optimization and consolidation of its services. It has optimized the utilization of all available resources by adopting a rationalization strategy to reduce the overhead expenditure and by implementing a cost mitigation plan across various services contracts, manpower contracts and building lease agreements.

Facilities Management has achieved service continuity and sustainable results during the execution of restructuring by selecting the ideal workforce, managing the redundancy program, and managing, controlling or mitigating identified potential hazard or losses. It has also finalized the demarcation between directorates to enable the efficient delivery of mandated services and support business continuity. In addition, it provided engineering support for upgrading existing non-operational facilities and developing new facilities in all QP locations.

**LEGAL**

QP’s Legal Department led a very busy schedule in 2015 as it dealt with the various reorganizational and integration issues that followed, including the Al-Shaheen field evaluation and transition as well as QPI’s Integration into QP. It developed documents and procedures to facilitate and regulate the conduct of a competitive evaluation process for the selection of the future operator and developer of Al-Shaheen field in view of the expiry of the current license in mid-2017.

The department supported the comprehensive diligence review of QPI’s investment portfolio and the development of options for optimization and divestment of underperforming or unsuitable assets, and it effectively assumed legal oversight and functions related to them. Furthermore, it drafted and supported the negotiation of agreements for the acquisition of participating interests in new international upstream investments. It also undertook a comprehensive review of the contractual models used to grant licenses for the exploitation of Qatar’s petroleum resources.

During 2015, the Legal Department developed an improved model tax and royalty production license agreement providing, among other things, for the strengthening of regulatory controls and the establishment of a comprehensive regime for implementing and funding decommissioning and abandonment activities.

The department itself was the subject of reorganization as of a new section dedicated to compliance and corporate governance was created.

**INTERNAL AUDIT**

The Internal Audit Department’s mandate is to “provide independent and objective assurance to the Board Audit Committee on the effectiveness of QP’s governance, risk management and control practices including the compliance framework/processes through a structured program of risk-based internal audits”. The audit assignments include audits of HSE and sustainability processes.

The department’s contribution in this area provides assurance that relevant governance, risk management and control practices are ready to support the achievement of its mandate.

Internal Audit is staffed by internal auditors from a variety of backgrounds (i.e. internal auditors, accountants, engineers, IT professionals, lawyers, etc.), most of whom are members of their governing certification professional body. Each of these professional bodies has standards relating to “continuing professional development/education”. All Internal Audit staff are required to undertake training to maintain their professional certifications.

The department has a mindset of “continuous improvement”. In 2015, and as part of its continuous improvement processes, the department started and completed the comparison of its “old” auditing methodology to the Committee of Sponsoring Organizations of the Treadway Commission (COSO) audit controls framework, and it then implemented improvements to align its practices, as far as practical, with the COSO methodology.
**2015 HIGHLIGHTS**

**JANUARY**
26 January – Qatar Petroleum’s Board of Directors announced its decision to integrate Qatar Petroleum International (QPI) within QP in an effort to further expand the corporation’s development and international presence.

**FEBRUARY**
10 February – Mr. Saad Sherida Al-Kaabi, President & CEO of QP, led the corporation’s celebration of National Sport Day 2015, which featured a wide range of activities to promote the importance of a healthy lifestyle.

16 February – The third Middle East Turbomachinery Symposium (MET 2015) was formally inaugurated at the Sheraton Doha, with QP once again serving as the host sponsor of the biennial event.

**APRIL**
28 April – His Excellency Sheikh Abdullah bin Nasser bin Khalifa Al-Thani, Prime Minister and Minister of Interior of the State of Qatar, officially inaugurated the Jetty Boil-Off Gas Recovery (JBOG) Project in Ras Laffan Industrial City.

**MAY**
6 May – QP issued invitations to a group of leading international oil & gas companies to compete for the future operation and development of the offshore Al-Shaheen oil field starting in mid-2017.

18 May – The President & CEO attended the 15th Annual Qatarization Review Meeting, which was held to discuss the energy and industry sector’s accomplishments in the field of Qatarization.

18 May – QP’s Industrial Cities Directorate, in partnership with the corporation’s Healthcare Department, held the fourth Occupational Health Forum, which focused on the theme “Worker’s Welfare.”

**JUNE**
2 June – QP, along with several of its major joint ventures and subsidiaries including Qatargas and RasGas, participated in the 26th World Gas Conference (WGC), which was held in Paris, France, by the International Gas Union (IGU).

23 June – QP’s President & CEO announced at a press conference the completion of the corporation’s reorganization program, which included the integration of Qatar Petroleum International (QPI) into QP.

24 June – QP’s Healthcare Department was awarded “Gold-Level Accreditation” by Accreditation Canada for “meeting international standards of excellence in quality care and service” in its activities for the benefit of QP employees and their dependents.

**AUGUST**
5 August – Employees from various QP directorates and corporate departments started moving to their new offices at the World Trade Center Doha in West Bay, with the 48-floor tower now known as the new QP Headquarters.

**OCTOBER**
24 October – The President & CEO ended a working visit to Japan, during which he held talks with top executives of major Japanese corporations and discussed the business relations between Qatar and Japan, particularly in the LNG trade.

27 October – QP together with Nakilat, Qatargas and RasGas showcased Qatar’s gas activities and LNG achievements at the Gastech 2015 Conference and Exhibition, which was held in Singapore.

**NOVEMBER**
5 November – QP’s Industrial Cities Directorate held the fourth Annual Food Safety & Hygiene Awareness Session at Mesaieed Industrial City (MIC), with the event organized by the Municipal Services Department of MIC Operations.

10 November – QP was an active participant and one of the major sponsors of the Abu Dhabi International Petroleum Exhibition & Conference (ADIPEC 2015), which was held with the theme “Innovation and Sustainability in a New Energy World.”

17 November – QP held its annual Continuous Service Awards (CSA) Ceremony for 2015, during which QP’s President & CEO honored a total of 225 employees who have served the corporation for the past 20, 25, 30, 35 and 40 years.
22 November - Under the patronage of the President & CEO, QP gave recognition to 629 employees who have reached career milestones of 10 and 15 years of service with the corporation.

25 November – QP was named as one of the “Top 20 In-Demand Employers” in the Middle East and North Africa (MENA) region at the LinkedIn Talent Awards 2015. The corporation was also a finalist in the “Best Employee Value Proposition” category and the “Best Career Page” category.

DECEMBER

7 December – Under the patronage of His Highness Sheikh Tamim bin Hamad Al-Thani, the Emir of the State of Qatar, the 9th International Petroleum Technology Conference (IPTC) officially opened at the Qatar National Convention Center, with QP serving as the host organization of the event.

16 December – QP’s President and CEO honored 124 Qatari nationals who had successfully completed their academic studies and training programs under QP’s scholarship program.

23 December - In the presence of H.E. Sheikh Abdullah bin Nasser Al-Thani, Prime Minister and Minister of Interior of the State of Qatar, QP and Qatar Electricity & Water Company (QEWC) signed a memorandum of understanding to establish a joint company for the generation of electricity from solar power.