

profile:

# Qatar – North Field



**ExxonMobil**

Taking on the world's toughest energy challenges.™



The partnership between Qatar Petroleum and ExxonMobil has delivered results that were hardly conceivable just a decade ago. The innovative development and application of new technology has enabled cost-effective commercialization of new gas supplies to a growing world market.

In the 1990s, the State of Qatar faced a major challenge and an enviable opportunity — the development of the world's largest reserve of non-associated natural gas, located far from the world's power plants and industrial markets. Qatar sought a range of options to maximize the value of its gas resources — including liquefied natural gas (LNG), domestic sales and chemicals. Few companies had the breadth of expertise and financial strength to commit to a development concept of the scale and diversity achieved.

Economies of scale provided part of the answer. New technology, and the know-how to apply it successfully, was critical. Equally important, however, was project planning and execution, controlling costs and securing contracts to underwrite the billions of dollars of required investment.

Today, Qatar Petroleum and ExxonMobil have overcome these challenges, designing and building facilities to process the gas and related condensate and gas liquids. A number of major capital projects have been implemented or are in progress, including LNG trains and pipeline sales that will produce more than 25 billion oil-equivalent barrels (gross) of gas.

## domestic gas projects

Qatar Petroleum and ExxonMobil are working together on two domestic gas development and pipeline projects: Al Khaleej Gas (AKG) and Barzan Gas. AKG produces pipeline natural gas for local and regional power generation. AKG-1 started up in 2005. AKG-2 is currently being built and will more than double the production of natural gas. ExxonMobil is also working with the State of Qatar and Qatar Petroleum on further development of pipeline gas through the Barzan project. When operational, Barzan and AKG-2 will produce almost 3 billion cubic feet per day of North Field natural gas to meet Qatar's infrastructure and industrial needs.

## access to markets

To commercialize resources, the partnership needed to find viable gas markets. In cooperation with our partner Qatar Petroleum, ExxonMobil used its experience and knowledge of gas marketing around the world to successfully access traditional LNG markets in Asia, such as Japan and Korea, and develop new opportunities in Europe and the United States. ExxonMobil is proud to have played a role in helping Qatar become the world's largest exporter of LNG.

Together, we are developing two new onshore LNG regasification terminals: South Hook in the United Kingdom and Golden Pass in the United States. Additionally, we are developing the world's first offshore terminal in the North Adriatic off the northeastern coast of Italy. We have access to infrastructure in Europe, including capacity rights in the Fluxys Zeebrugge terminal in Belgium.

## lower costs through technology

Cost reduction throughout the value chain has been a major contributor to Qatar's prominent success in the LNG business. Working together, Qatar Petroleum's and ExxonMobil's series of scale and technology initiatives have made a major contribution to holding cost increases well below industry benchmarks.

The application of large-train LNG technology and "Design One, Build Multiple" strategy has delivered a significant competitive advantage. Larger, more economical trains use state-of-the-art turbines, compressors and heat exchangers uniquely combined to result in greater efficiencies. These four record-setting trains are each designed with a capacity of 7.8 million tons per year.

Larger, more efficient LNG ships are also important to delivering cost savings and economies of scale. Ships with capacities up to 80 percent greater than their predecessors, equipped with an onboard boil-off reliquefaction plant and a modern propulsion system, are reducing the cost of shipping by about 30 percent. The application of ExxonMobil's technical expertise has led to one of the world's largest ship construction programs for a new class of ships that will provide safe and reliable LNG transportation with unmatched cost competitiveness.

## securing project financing

Qatargas II and Ras Laffan III, Qatar Petroleum and ExxonMobil ventures, are the two largest integrated LNG projects ever undertaken. The financing for the \$12 billion Qatargas II energy project involved 57 lenders and took nearly 30 months of intense negotiations to finalize. Our extensive market knowledge and experience reinforced lenders' confidence that risks could be managed, and as a result, a successful agreement was reached.

Qatargas II is also the first LNG project in which the same partners developed and funded the entire chain, from wellheads to liquefaction facilities to LNG ships to regasification terminals. This approach optimizes the profitability of the resource over its full life cycle, and maximizes long-term returns.

The financing package for Ras Laffan Liquefied Natural Gas Companies (RL II and III) earned international recognition. The capital markets portion of that package was the largest for an energy project at that time. Using a hybrid finance model, RL III achieved remarkable ratings (A1/A+/A) and the lowest bank pricing for any long-term energy financing in recent years.

## technology and knowledge transfer

In support of Qatar's vision to grow its knowledge economy, ExxonMobil is establishing a research center at the Qatar Science and Technology Park in Doha. Planned activities for ExxonMobil Research Qatar include addressing challenges associated with the growth of Qatar's gas industry, collaboration with

academic and research institutions, and technology transfer through consulting and training.

## community engagement

For the past six years, we have supported the Social Development Center. A recent example is ExxonMobil Qatar Inc.'s \$300,000 contribution to finance the Social Development Center's career counseling unit, which provides skills training for young Qataris entering the job market. The Career Counseling Unit is an outgrowth of the "First Step Program," which ExxonMobil has been supporting since 2005 to help prepare young Qatari women to join the workforce.



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