



ENERGY AS A MAIN DRIVER OF QATARI FOREIGN POLICY

La energía como motor principal de la política exterior de Catar

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Qatar is one of the smallest countries in the world with approximately a quarter million of native population. Despite these geographical and demographic limitations, Doha has established itself as a major player on both regional and international scenes. A major drive behind this ascendancy is the accumulation of massive oil and natural gas revenues. This essay examines the role hydrocarbon assets have played in the internal and external transformation of Qatari policy and the proposed strategies to mitigate the impact of the sharp drop in oil prices since June 2014.



Abstract

Qatar; foreign policy; fossil fuels; liquefied natural gas (LNG); shale gas; energy exports; diversification; Qatar Investment Authority

Catar; política exterior; combustibles fósiles; gas natural licuado (GNL); gas de esquisto; exportación de energía; diversificación; Fondo Soberano de Inversión de Catar



Key words

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Fechas

Catar es uno de los países más pequeños del mundo, con cerca de un cuarto de millón de población autóctona. A pesar de estas limitaciones geográficas y demográficas, Doha se ha establecido como un jugador principal en las escenas regional e internacional. Una medida fundamental tras este ascenso es la acumulación de los enormes beneficios generados por el petróleo y el gas natural. Este artículo examina el papel que los activos relacionados con los hidrocarburos han jugado en las transformaciones interna y externa de la política de Catar y las estrategias propuestas para mitigar el impacto de la fuerte caída del precio del petróleo desde junio de 2014.



Resumen

With an area of under 12,000 square kilometers, Qatar is one of the smallest countries in the Middle East. Equally, the native population, approximately a quarter of a million, is one of the smallest in the Arab world. Despite these geographical limitations Qatar has one of the highest incomes per capita in the world. The country and its people are very rich. This massive national wealth has transformed Qatar into a major regional player and an influential participant in the global economic and political system (Khativ, 2013). In the last few decades Doha has enjoyed good relations with states and non-state actors that see each other as rivals or enemies. These include Iran and Saudi Arabia, Hamas and Israel, among others. Doha has strongly supported the Muslim Brotherhood in Egypt and has been a major player in the Syrian civil war since 2011. The bulk of American troops in the Middle East are stationed in Qatar and the country is home to Al-Jazeera. Finally, Doha has taken the lead in mediation efforts to settle regional conflicts particularly in Sudan, Lebanon and Yemen (Kamrava, 2011).

A major drive behind this active foreign policy is the country's enormous wealth. In the last few decades Doha has accumulated substantial financial assets by developing and exporting oil and natural gas. One can argue that without these oil and gas revenues Qatar's role on the regional and global scenes would have been very limited. Stated differently, Doha's active diplomacy has been backed by promises of generous financial assistance and investment.

This essay seeks to highlight the role oil and gas revenues have played in shaping the Qatari foreign policy in the last several decades. These hydrocarbon resources have had tremendous impact on the internal and external transformation of Qatar into a modern state and a leading regional and global influential player. The first section briefly discusses the history of oil and gas exploration and development and underscores Doha's heavy dependency on oil and gas revenues. The second section examines the country's financial vulnerability due to the fluctuation in oil and gas prices particularly in light of the recent sharp drop in oil prices and the substantial increase in US shale gas. The third section analyzes Doha's efforts to address this vulnerability, mainly by seeking to diversify the economy and invest oil and gas revenues.

With an area of under 12,000 square kilometers, Qatar is one of the smallest countries in the Middle East

1. Oil and gas exploration and development

Earnings from the hydrocarbon sector account for a large share of Qatar's total government revenues and gross domestic product. The country holds massive oil and gas proven reserves. Its share of proven oil reserves is 1.5 % and of production is 2 %. Qatar's gas outlook is much impressive. It holds 13.1 % of proven reserves (world's third largest after Iran and Russia) and its share of global production in 2014 was 5.1 % (the world's third after US and Russia) (BP Statistical Review, 2015). Thus, natural gas is at the center of Qatar's energy sector. Indeed since 2006 Qatar has been the world's largest exporter of liquefied natural gas (LNG).¹

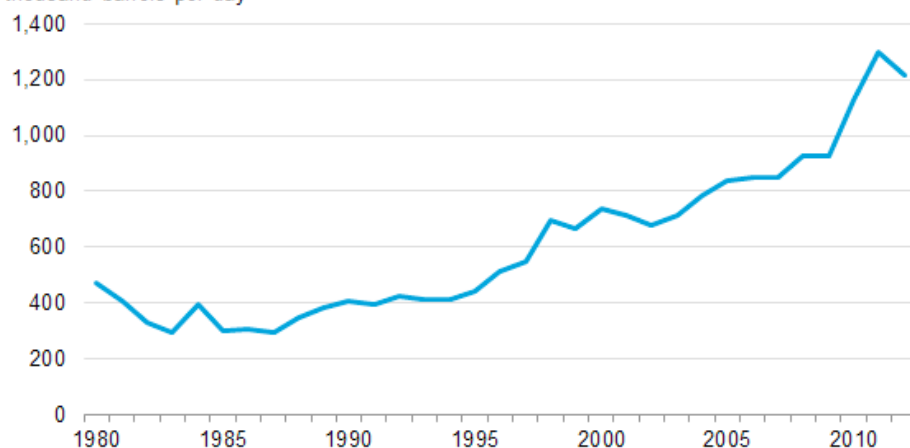
This transformation of Qatar into a major player in the global hydrocarbon market has occurred in the last one hundred years. Exploration of oil started in 1923 around the time when the pearl fishing industry was being extinguished by the introduction of cultivated pearls from Japan (Chaddock, 2008). The first oil discovery was made in late 1930s when oil deposits were found in Dukhan field. However, the outbreak of World War II delayed the development till late 1940s. It was then that the first shipment of Qatari crude bound for Europe was made from the newly

1 Liquefied natural gas is the gas that has been liquefied by reducing its temperature at atmospheric pressure. In this way, the space requirements for storage and transport are reduced.

completed terminal at Umm Said (El Mallakh, 1979). Since then other fields were discovered and developed. Currently most of the country's production comes from four fields – Al Shaheen, Dukhan, Idd al-Shargi and Bul Hanine. In 1974 the national oil company, Qatar Petroleum, was founded (Qatar Petroleum). The company is the primary operator of all oil fields but international oil companies such as ExxonMobil, Occidental Petroleum and Total are major partners in developing and expanding production. In recent years Qatar exports almost all of its crude and petroleum products to Asian markets. In the last several decades both the volumes of production and export have soared. Though, since the early 2010s they seem to have peaked and started declining. The authority increasingly relies on enhanced oil recovery techniques to boost production.

Qatar historic crude oil and lease condensate production, 1980-2012

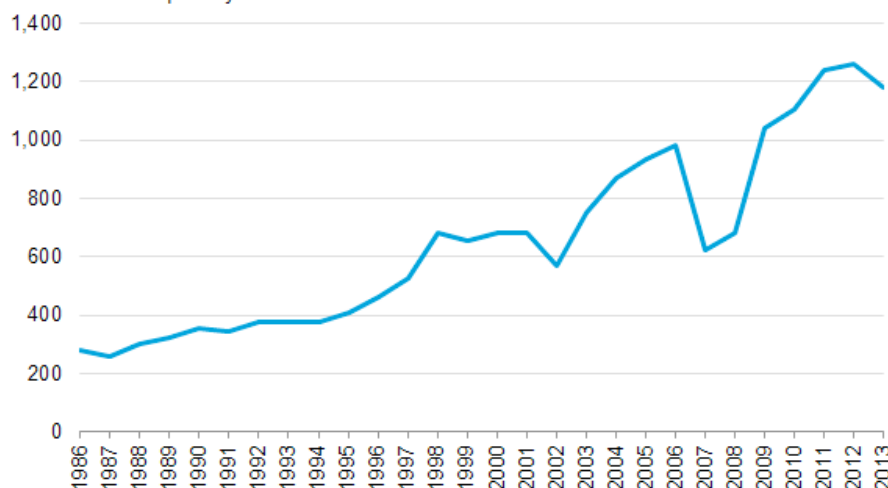
thousand barrels per day



Source: U.S. Energy Information Administration, *International Energy Statistics*

Qatar historic crude oil exports, 1986-2013

thousand barrels per day



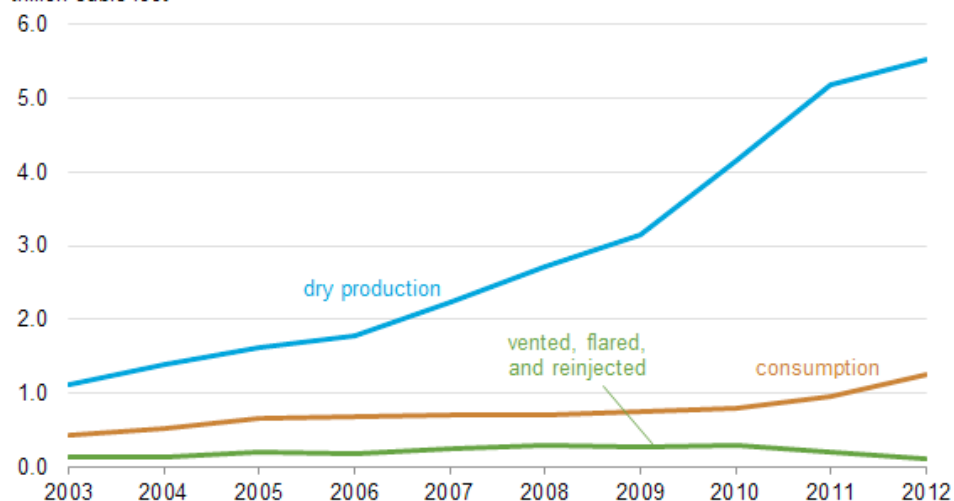
Source: U.S. Energy Information Administration, *International Energy Statistics*, Lloyd's List APEX

In 1971 exploration engineers from Shell discovered natural gas off the north-east coast of Qatar. At the time, however, no one knew quite how important the find was. Only after 15 appraisal wells had been drilled over a period of 14 years was it realized that the North Field, as it had been named, was one of the largest non-associated natural gas fields in the world, with recoverable reserves of more than 900 trillion cubic feet or approximately 10 % of the world's known reserves (Ras Gas).² To exploit this remarkable 6,000 square-kilometer field (equivalent to almost half of the country's land area) Qatar Petroleum has built 14 liquefied natural gas (LNG) trains. Qatargas and its sister company, Rasgas,³ each operates seven of these LNG trains.⁴ Nearly all of Qatar's natural gas production comes from the North Field.

Qatar meets all of its internal natural gas demand from domestic sources. Natural gas consumption has grown quickly over the past several years. The electricity and water (desalinization) sectors account for most of the gas consumption. Still, given its small population the level of demand is relatively low. Thus, the country is able to export nearly all of its gas production. Most of Qatar's exports go to markets in Asia in the form of LNG, while the country sends a small amount of natural gas via the Dolphin Pipeline to the United Arab Emirates and Oman. With two operational facilities, Qatar is also at the forefront of gas-to-liquids (GTL) technology, which processes natural gas into liquid fuels as low-sulfur diesel and naphtha, among other products.

Qatar natural gas flows, 2003-2012

trillion cubic feet



Source: U.S. Energy Information Administration, *International Energy Statistics*

Historically, most of Qatar's LNG exports were part of long-term, oil-indexed contracts, but in the past few years Doha started to shift to more short-term contracts and spot-market sales. Qatar has over 90 % of its LNG production volumes committed as part of supply purchase

² Non-associated natural gas is the gas that is not in contact with significant quantities of crude oil in the reservoir.

³ Qatargas was established in 1984 and Rasgas in 1993.

⁴ The equipment used in the preparation of LNG is often referred to as a train as it is a series of units linked together, like the carriages of a train.

arrangements (SPAs) between 2014 and 2020 (Energy Information Administration, Qatar). LNG production growth elsewhere in the world over the next few years may challenge some of Qatar's remaining spot volumes, although with the majority of its LNG already sold, the impact on Qatar's natural gas export should be limited in the near term. In the long term, however, the sharp drop in oil and gas prices and projected rise in LNG export from the United States, due to the utilization of shale gas, may pose a serious challenge.

2. The global energy outlook

In late 2014 oil prices dropped by more than 50 percent. This sharp decline is particularly significant, given political instability in a number of oil producing countries such as Libya and Iraq and the sanctions on Iranian oil sector. Several years ago these geopolitical factors would have pushed prices higher. In 2014 they had little, if any, impact due to the steady improvement in energy efficiency, which leads to lower consumption, and rising production, particularly from the United States.

Energy efficiency can be defined as the delivery of more services for the same energy input or the same services for less energy input. For a long time, the contribution of energy efficiency to energy security was not fully appreciated and was identified as "the hidden fuel". In recent years efficiency has attracted more attention and has been labeled by the International Energy Agency (IEA) analysts as "the first fuel" (IEA Energy Efficiency Report, 2014). A recent report by the IEA stated that investment in efficiency has helped to lower energy consumption in the 18 member states by 60 percent. Stated differently efficiency helped to avoid over 1,700 million tones of oil-equivalent from being consumed (IEA Energy Efficiency Report, 2014). Thus, in addition to improving energy security, efficiency is a good business that offers high returns on investments, increases the sustainability of energy sources and reduces pollution.

To further appreciate the significance of improving efficiency and reducing consumption it is important to note that the 2002-2012 decade recorded the largest ever growth of energy consumption in volume terms over any 10 year period (BP Energy Outlook, 2014). Both the IEA and the British Petroleum (BP), among others, project a steady increase in the global energy consumption. However, this rise in consumption varies by region and by fuel. Energy demand in most developed countries (mostly member states in the Organization for Economic Cooperation and Development, OECD) has peaked and in some countries has started a steady decline. On the other hand, global demand for energy is led by Asian emerging markets (China, India, South Korea, and Japan) and the Middle East. Indeed, these two regions account for nearly all of the net global increase in consumption. According to the IEA, for each barrel of oil no longer used in OECD countries, two barrels more are used in the non-OECD (IEA World Energy Outlook, 2014). China has already surpassed the United States as the world's largest oil importer and the Middle East is projected to overtake the US to become the largest per capita consumer of oil in 2033 (IEA World Energy Outlook, 2014).

Similarly, there is a variation in the demand for different fuels. Fossil fuels will maintain their dominance of the energy mix with natural gas making the fastest growing rate. In addition, the advanced technology and declining prices of setting up liquefied natural gas (LNG) facilities are slowly helping against the risk of supply disruptions and reducing the costs of exporting. Oil consumption will grow but its share will decline and coal will grow faster than oil but slower than gas.

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Growing concern about greenhouse gas (GHG) emissions, particularly carbon dioxide from the combustion of fossil fuels, has created renewed interest in the basically carbon-free nuclear power. For decades nuclear power has been seen as a non-intermittent and readily expandable source of energy. On the other side, the industry has continued to face daunting challenges and risks that need to be addressed. The list includes the high construction costs, safety, waste, and the close connection between civilian nuclear power and military applications. Thus, despite Fukushima disaster nuclear power capacity is projected to substantially increase. This increase, however, adds a little to its share of global electricity generation due to the impressive rise of renewable energy.

Like nuclear power, renewable energy sources have been the topic of continued interest in both developed and developing countries. This interest is driven mainly by concern over energy security and climate change. Renewable energy is any form of energy that is replenished by natural processes at a rate that equals or exceeds its rate of use. Some renewable energy resources such as hydropower are technically mature and have been deployed at a significant scale. Others, such as wind, solar, and geothermal, are in a nascent phase of technical maturity and commercial production and deployment. The strong interest in renewable energy in many countries raises its share in global power generation to one-third by 2040 (IEA World Energy Outlook, 2014). Low natural gas prices (due to shale revolution) might reduce incentives in investing and developing renewable energy.

This variation in the current and projected consumption of fossil fuels, nuclear power, and renewable energy has had significant impact on trading relationship. Generally North America is emerging as a net exporter, instead of net importer, while Europe's and Asia's already heavy dependency on foreign supplies will further deepen.

Long before the current tight oil boom, the United States has sought to diversify its sources of foreign crude oil. Generally, the share of US imports from the Persian Gulf has declined while that from Western Hemisphere has risen. Furthermore, the combination of increased production (mainly tight oil) and reduced consumption leads to substantial decline of imports. In 2005 the US imported approximately 60 percent of its demand. This rate is projected to fall to 10 percent by 2035 (BP Energy Outlook, 2015). Even more impressive, the United States is emerging as a net natural gas exporter. These fundamental changes mean that the energy supplies that were previously destined for the US market are being re-directed to other markets in Europe and Asia.

The increase in shale gas and tight oil supplies is helping Europe to diversify its energy import sources away from Russia. European officials have been concerned over their heavy oil and gas dependency on Russia. The recent crisis over Ukraine has further deepened Europe's sense of vulnerability. The projected decrease in the transportation costs of LNG and the rise of its share in global gas trade are likely to contribute to Europe's energy security. Meanwhile, in recent years, Asian economies, particularly China, India, South Korea, and Japan, have grown more dependent on imported energy supplies, mostly from the Persian Gulf. This trend is projected to persist in the foreseeable future.

To sum up, the global energy mix is becoming more diverse. Fossil fuels are projected to provide the majority of the world's energy needs. However, the mix will shift. Renewables and unconventional fossil fuels will take a larger share, along with gas, which is set to be the fastest growing fossil fuel, as well as the cleanest, meeting as much of the increase in demand as coal

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and oil combined (BP Energy Outlook, 2015). Meanwhile the fall of demand in the OECD countries and the rise in Asia have accelerated the re-direction of oil and gas trade. The shale gas in the United States should be seen as part of this emerging global energy landscape.

3. Shale gas and tight oil revolution in the United States

The use of horizontal drilling and hydraulic fracturing in the United States has greatly expanded the ability of producers to profitably recover natural gas and oil from complex geological plays. Generally, under the combination of these technologies water, sand and chemicals are injected into the horizontal borehole of the well at very high pressure to fracture the shale rocks and release the gas. This has allowed wider access to oil and gas in shale and tight formations where the density of the rock has blocked migration of hydrocarbons to conventional oil and gas reservoirs. Although experimentation dates back to the 19th century (first well was fracked in the United States in 1947) (Stevens, 2012), efforts were intensified in the mid-1970s with a partnership of private companies, Department of energy and research institutions. This partnership helped to commercially produce gas and oil from shale rock. One of the earliest successful applications was led by Mitchell Energy and Development Corporation in Barnett Shale in North Central Texas. As producers gained confidence in the profitability of the emerging technology, other regions such as Fayetteville, Haynesville, Marcellus, Woodford, Eagle Ford, and others have been explored and developed. Since the mid-2000s, this combination of hydraulic fracturing and horizontal drilling has been widely recognized as a “game changer” in the United States and around the world (Energy Information Administration: Review of emerging resources, 2011).

The application of these technologies has led to a steady impressive increase in oil and gas production, the largest in the nation’s history. In 2013 tight oil production averaged 3.22 million barrels per day (m p/d), pushing the nation’s overall production to an average of 7.84 m b/d, more than 10 percent of total world production (Energy Information Administration: Tight Oil Production, 2014). The Department of Energy (DOE) projects that crude oil production will rise from 6.5 m b/d in 2012 to 9.6 m b/d by 2020, a level not seen since 1970. Tight oil production growth accounts for 81 % of this increase and its share of national crude oil production will grow from 35 percent in 2012 to 50 percent in 2020 (Energy Information Administration: Tight Oil-Driven Production, 2014).

The figures for shale gas are even more impressive. In 2007 shale gas production was 1,293 billion cubic feet (bcf), by 2012 it soared to 10,371 bcf. Proven reserves rose from 23,304 bcf. (2007) to 129,396 bcf (2012) (Energy Information Administration: Natural Gas). This skyrocketed shale production has pushed the national gas production to a new high of 82 bcm in 2013 (Energy Information Administration: Shale Gas, 2014). The British Petroleum projects that shale gas output will grow by 4.3 percent between 2012 and 2035, enabling US gas production to rise by 45 percent (BP Energy Outlook, 2014).

The current and projected soaring of tight oil and shale gas has significantly improved the nation’s energy trade outlook. The United States has emerged as a net natural gas exporter and the share of imported oil to the overall consumption is declining. These key changes have opened a debate about relaxing export restrictions. Current policy effectively bans crude oil exports through the Energy Policy and Conservation Act of 1975 (exports of petroleum products are generally permit-

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ted). There is more scope for exports of natural gas, although the Natural Gas Act of 1938 requires DOE authorization to import or export natural gas to or from the United States (Arora, 2014).

The large and growing body of academic literature and industry projections suggests four conclusions. First, the International Energy Administration and Department of Energy, among others, project that the tight oil output will level off in the early 2020 and production will start to fall back. These projections, however, underestimate how far technological innovations can go. It is important to note that estimates of proven and recoverable shale gas and tight oil have continued to be revised upwards since the mid-2000s. Technology is not static. Accordingly more reserves are becoming accessible at lower prices. Second, it is important neither to over-estimate nor under-estimate the shale revolution. The United States is moving closer to a state of “self-sufficiency”, meaning more balance between consumption and production. On the other hand, “energy-independency: the ability to act freely without reference to the rest of the world” (Mitchell, 2013) is an attractive political rhetoric, but is unrealistic in today’s global economy. The United States will always be affected by oil prices and policies in other countries.

Third, there is significant uncertainty about shale revolution outside the United States. On one hand, the resources are available in several countries. A study issued by the DOE in 2013 surveyed 41 countries outside the United States and estimated the number of formations at 137, technically recoverable shale gas at 7,299 trillion cubic feet and 345 billion barrels of tight oil (Energy Information Administration: Analysis and Projections, 2013). On the other hand, a combination of individual property rights, legal systems, and government-private sector partnership has been the main drive behind shale gas revolution in the United States. Many countries lack such combination. As a result, the United States is becoming more self-sufficient, while Europe and particularly Asia are becoming more dependent on foreign supplies.

Finally, undoubtedly significant and rising volumes of oil production from shale resources that are economically recoverable have exerted pressure on the global price of oil. Oil producers, inside and outside OPEC, are under pressure to cut production. The price of oil, like any other commodity, reflects the equilibrium between supply and demand. There has been a widespread view that at around \$85 or \$90 a barrel extracting tight oil from shale would no longer be economical. However new analysis finds that 80 percent of new tight oil production would be economic between \$50 and \$69 a barrel (Yergin, 2014). In addition, companies will continue to improve technology and drive down costs.

To sum up, Qatar, like other major oil and gas producers, faces fundamental challenges due to the drop in prices due to rising production and slowing demand. These key changes in the global energy landscape have prompted Doha to re-adjust its broad energy strategy.

Qatar, like other major oil and gas producers, faces fundamental challenges due to the drop in prices due to rising production and slowing demand

4. Qatar Investment Authority

Unlike the prices of most commodities, oil and gas prices have experienced extreme fluctuation in the last several decades. These fluctuations have reflected both the balance between supply and demand as well as political upheavals in producing countries. Against this background of price instability, Qatari leaders, like leaders of other major producers, have pursued several strategies to maintain internal economic prosperity and active and independent foreign policy. A key part of these strategies has been investing oil and gas revenues. Another major avenue is to diversify the economy and reduce the heavy dependency on oil and gas sectors.

Sovereign wealth funds (SWFs) are government-owned investment entities, set up for a variety of macroeconomic purposes. They commonly take the form of long-term investments of foreign exchange assets in overseas holdings. Their portfolios typically involve more diverse and riskier asset allocations than traditional reserve holdings. These SWFs are not new; they have been active in the international financial system since the 1950s. Since the turn of the century, however, they have assumed a more prominent role as high oil prices, sustained impressive economic growth in several Asian nations, and economic slowdown in Europe and the United States have seen oil exporters and a number of Asian nations (particularly China) running massive current account surpluses while some major western economies have accumulated substantial deficits.

This marked global imbalance, with rapid revenue accumulations on one side and economic slowdown on the other, has given an impetus to the SWFs, which have been increasing fast in both size and number since the early 2000s. The rise in the number and size of SWFs represents a dramatic increase in the role of governments in the ownership and management of international assets (Truman). Consequently, the management of these funds and their potential impact on economic systems, domestic as well as international, have come under increasing scrutiny. In contrast to traditional reserves, which are typically invested for liquidity and safety, SWFs seek a higher rate of return and may be invested in a wider range of asset classes. However, most of these funds do not provide information on their holdings.

In the early 2000s oil prices more than tripled. In 2008 crude oil exceeded the previous all-time inflation-adjusted high of \$99.04 per barrel reached in April 1980 (Cambridge Energy Research Associates). Little wonder, then, that several oil-exporting countries have established oil funds since the early 2000s. The general justification for these funds is that “some share of government revenues derived from the exploitation of a non-renewable resource should be put aside for when these revenues decline” (Davis et al., 2001). Such a decline might come about through fluctuation of prices or depletion of resources (or both). Thus, generally speaking oil funds are classified into two categories – stabilization funds and saving funds. The former are designed to reduce the impact of volatility in revenue flows on the government and the economy. When oil prices are high, the fund receives resources; when prices are low, the fund pays out to the budget. Saving funds are intended to ensure that not only current but also future generations enjoy the benefits of oil wealth by saving and investing a proportion of oil revenues. Most oil funds seek to achieve both purposes (stabilization and saving) simultaneously.

Against this background the Qatar Investment Authority (QIA), the country’s sovereign wealth fund, was established in 2005 and was headed by, then, Prime Minister Sheikh Hamad bin Jassim al-Thani. Its origins trace back to the establishment of the Supreme Council for the Investment of State Reserves for the purpose of investing Qatar’s revenue surplus (Qatar Investment Authority). The main mission of the fund is to achieve a “superior and sustainable rate of return” (QIA Investment Approach) This goal has been pursued mainly by investing in a diverse asset classes including:

- Equities
- Credit and Fixed Income Securities
- Private Equity, such as off-market transactions in non-listed companies
- Real Estate
- Real Assets (QIA Investment Framework)

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Since its inception, the Fund's investment targets have included several high-profile companies in Europe and the United States, including Credit Suisse, the London Stock Exchange, the Nordic bourse operator OMX, the British supermarket chain J. Sainsbury, the European Aeronautic, Defense and Space Company, and Nasdaq. In recent years the QIA has focused on Asia as it looks to diversify its portfolio of assets away from Europe. In the next five years (2015-2020) it aims to invest between \$15 billion and \$20 billion in Asia. In November 2014 it signed an agreement with China's state-owned conglomerate CITIC Group Corp to launch a \$10 billion fund that will invest in Asia (Reuters, 2014).

Since his ascendance in 2013 Emir Tamim bin Hamad al-Thani has appointed two chief executive officers of the QIA – Ahmad Mohamad al-Sayed (July 2013), who was replaced by the Emir's half-brother Sheikh Abdullah bin Mohamed bin Saud al-Thani (December 2014). It is hard to assess the exact connection between the QIA and the country's foreign policy. But, it is fair to assume that these huge investments bring significant influence and prestige to the country and can serve to reward friends and punish rivals.

5. Diversification

In the last several decades the GCC governments have used oil and gas revenues to increase public sector employment and spend on infrastructure, health, and education. This generous public spending has helped raise standard of living and support creating a broad economic prosperity. As a result, the business climate has been improved, education has been expanded, financial sector has been strengthened, and trade and foreign investment have been liberalized. These significant achievements aside, much more is still needed. The share of non-hydrocarbons output in GDP is highly correlated with oil prices and progress with export diversification has been limited (Callen et al., 2014).

The Qatar National Vision 2030 (Issued in July 2008) states that the country "is enjoying a period of unparalleled prosperity, with exceptional economic progress being evident in the increasing standard of living of its people. Major advances in economic, human and social developments continue to occur" (General Secretariat for Development Planning). Within this context the government has sought to diversify the economy through innovation and entrepreneurship. It has increased spending on research and development and provided a supportive environment for growing private-sector technology firms and building a world-class educational and skills-training system for Qatari citizens (Engelke, 2015). Despite this optimism Qatari leaders have been aware of their country's vulnerability to the fluctuation in oil and gas prices. Having fluctuated in a narrow range of about \$100-120 a barrel in the early part of the 2000s prices have unexpectedly fallen by more than 50 % since June 2014. Future markets project that a significant part of this decline is likely to persist in the medium term. With approximately 90 % of its budget revenues and exports being tied to the hydrocarbon sector, Qatar's economic prosperity, domestic and foreign policies are severely impacted. The price of the country's LNG is linked to the price of crude oil.

A recent report by the IMF suggests that the large drop in oil prices will lead to a substantial deterioration in fiscal and external balances. In sharp contrast to recent years, the government budget is projected to fall into a deficit from 2016 onwards. The current account surplus will drop from 30 % of GDP in 2013 to 2 % of GDP in 2020 (IMF Staff Report, 2015). The short-

The Qatar National Vision 2030 states that the country "is enjoying a period of unparalleled prosperity, with exceptional economic progress"

term growth outlook is positive, but lower oil prices will lead to a substantial deterioration of the fiscal and external balances. The budget will be in deficit from 2016 onward and the current account surplus will largely be eliminated (IMF Staff Report, 2015). Stated differently, Qatar's economic growth will gradually slow in coming years. The Qatari leaders, like leaders in other major oil and gas exporting countries, have acknowledged the shrinking external surplus and the potential broad social, economic and political impact. Different strategies have been considered to mitigate this unfolding challenge.

The authorities are executing a large public infrastructure program to advance economic diversification and prepare for the FIFA 2022 World Cup. The prospects of persistent low oil prices and slow medium-term growth underscore the necessity to intensify the diversification efforts. There is scope for further improving the business environment and promoting diversification, including the simplification of business registration, improving enforcement of contracts, and enhancing the quality of educational curricula. Efforts should be made to further increase non-hydrocarbon revenue, contain expenditure growth, control the public wage bill, reduce subsidies and prioritize investment projects (IMF Qatar, 2015).

6. Energy and Qatari foreign policy – the way forward

In the last several years Qatar has gained regional and international influence largely, but not exclusively, due to its massive gas revenues. Without this substantial wealth, one can argue, Doha would not have had such leverage and prestige. The authority has used these financial tools to “put Qatar on the map”. Investments by the QIA have been made to boost economic and diplomatic relations with different countries. Diversification and efforts to build a solid human capital have sought to create sustained economic prosperity at home and credible foreign policy abroad.

The recent sharp drop in oil and gas prices poses a serious challenge to Doha's rising role on the international scene. The most recent projections of the global natural gas markets suggest several trends:

- Natural gas is the fastest growing fossil fuel 1.9 % annually, with oil 0.8 % marginally ahead of coal. In other words, gas will gain share steadily, while the shares of both oil and coal will fall.
- Shale gas production is dominated by North America, which currently accounts for nearly all of shale gas supply and continues to account for around three-quarters in 2035.
- The expansion of trade is driven by Asia Pacific, where net imports nearly triple and account for almost 50 % of global gas net imports by 2035. Asia Pacific overtakes Europe as the largest net importing region in early 2020s. The growth of shale gas means North America will switch from being a net importer to a net exporter in the next few years.
- A vast majority of the increase in gas traded across regions reflects increased supplies of LNG. Pipeline supplies grow at much slower rate. Qatar, which has the largest market share today, is overtaken by Australia, Africa and the US.
- Asia is the largest destination for LNG. By 2035, China becomes the second largest LNG importer, just behind Japan. Almost three-quarters of Europe's gas needs are met by imports by 2035 (BP Energy Outlook, 2015).

In the last several years Qatar has gained regional and international influence largely, but not exclusively, due to its massive gas revenues

These projections suggest five trends that are likely to shape Qatari foreign policy in the foreseeable future. First, the growing global demand for natural gas means that gas revenues will continue to be a major drive for economic prosperity at home and active foreign policy abroad. Second, given the strong demand for gas in south Asia, and Europe's efforts to reduce its energy dependency on Russia, Doha's economic relations with these two regions are likely to expand. Third, the projected prolonged low oil and gas prices underscore the need for a broad strategy of diversification, knowledge-economy, and human capital. Fourth, Qatar shares its major gas field (the North Field) with Iran's South Par. This structure is the largest dry gas field in the world. The continued utilization of gas deposits by the two countries requires relatively friendly relations between Doha and Tehran. Fifth, strategically, relations with the United States are not likely to be impacted by shale gas. Historically, there has never been an "oil for security" bargain between the two nations. Rather, Washington and Doha share mutual security concerns in the broader Middle East.

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Appendix I

Oil production and export (thousand barrels per day)

Year	Production	Export
1980	483	NA
1981	430	NA
1982	361	NA
1983	321	NA
1984	423	NA
1985	332	NA
1986	331	35.277
1987	319	44.134
1988	378	48.100
1989	406	54.615
1990	448	66.044
1991	447	73.040
1992	480	75.196
1993	470	60.485
1994	467	58.834
1995	499	56.189
1996	563	57.549
1997	623	53.418
1998	783	57.667
1999	779	60.027
2000	879	92.330
2001	880	81.211
2002	871	78.109
2003	1,019	103.211
2004	1,162	92.774
2005	1,254	92.519
2006	1,284	60.648
2007	1,351	62.671
2008	1,484	53.235
2009	1,573	54.763
2010	1,788	437.120
2011	1,936	NA
2012	2,033	NA
2013	2,067	NA

Appendix II

Natural gas production and export (billion cubic feet)

Year	Production	Export
1980	184	NA
1981	157	NA
1982	186	NA
1983	174	NA
1984	209	NA
1985	191	NA
1986	193	NA
1987	198	NA
1988	207	NA
1989	215	NA
1990	276	NA
1991	328	NA
1992	401	NA
1993	477	NA
1994	477	NA
1995	477	NA
1996	484	NA
1997	614	101
1998	691	169
1999	779	286
2000	1,028	496
2001	954	567
2002	1,042	649
2003	1,109	678
2004	1,383	853
2005	1,617	957
2006	1,790	1,098
2007	2,232	1,536
2008	2,719	2,005
2009	3,154	2,408
2010	4,166	3,370
2011	5,198	4,230
2012	5,523	4,267
2013	NA	NA