

A REPORT OF THE CSIS
ENERGY AND NATIONAL
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A DISCIPLINED APPROACH TO FORWARD-LOOKING POLICYMAKING

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SAUDI ARABIA'S ENERGY POLICY

A DISCIPLINED APPROACH TO FORWARD-LOOKING POLICYMAKING

*Hisham Akhonbay*¹

The oil market has long been dominated by the Kingdom of Saudi Arabia (KSA) because of its ability to produce and export large quantities of crude oil, a valuable globally traded commodity. Saudi Arabia's role is further enhanced by its ability to maintain a surplus capacity that can act as a strategic cushion during times of market tightness, allowing production to be expanded in relatively short order. For that reason the kingdom has been crucial to the stability of the oil markets. This pivotal role was highlighted in the previous decade as future expectations of demand growth had been increasing while supply growth expectations were cut. Lately, however, the importance of being the supplier of last resort seems to have come into question, as both the International Energy Agency (IEA) and the Energy Information Administration (EIA) have cut their demand forecasts while increasing their projections of supply growth. Other factors that may be contributing to this notion are slower economic growth² due to the 2008 financial crisis, better energy efficiency measures in the transportation and industrial sectors, and burgeoning supply prospects in Canada, the United States, and abroad with the advent of new technologies.

To Saudi Arabia, energy is the source of life. The country derives 80 percent of its national budget revenue from the sale of crude oil and natural gas liquids (NGLs) in the international market.³ The government views its resources as both economic and strategic. So it comes as no surprise that the country has invested much in ensuring that it is able to maximize the utilization of those riches.

At the same time, given the slower economic growth and the prospects of new unconventional oil supplies, Saudi Arabia now finds itself in the precarious position of being the largest exporter in a market that is potentially facing an oversupply situation. It has not escaped policymakers that the

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² International Energy Agency (IEA), *World Energy Outlook 2011* (Paris: IEA, November 2011), <http://www.worldenergyoutlook.org/publications/weo-2011/>.

³ Central Intelligence Agency (CIA), "World Factbook 2011," <https://www.cia.gov/library/publications/the-world-factbook/index.html>.

role of oil has been largely confined to the transportation sector.⁴ They are also monitoring the progress of urban planning in emerging economies like China and India and the advancement in alternative transportation vehicles.

The shift in the oil market in particular and the energy market in general generates questions about the implications for Saudi Arabia's role as the market stabilizer. A close look at the country's evolving energy policy reveals that the kingdom is a dynamic player. KSA has put in place factors that will help it adapt to changes and, to a certain extent, help shape those changes.

The recent price hike for crude oil has given pause to policymakers in the kingdom. The country's policymakers are worried that higher prices could stifle economic growth, which might then lead to much lower prices (the 2008 experience). They are also keenly aware that high prices tend to accelerate the development of alternative fuel options, promote efficiency, and support the development of unconventional fossil fuel. This is precisely the reason the kingdom continues to assert its commitment to meeting world demand and to a more reasonable price.

It is difficult to discuss the kingdom's energy policy without discussing Saudi Aramco, the country's national oil company (NOC). With the execution of setting production volumes for the kingdom, Saudi Aramco's operations are generally held at arm's length from the government's political mechanism. This is done via the Supreme Council for Petroleum Affairs, which represents the country's interest in the company. The council, which was established in January 2000, oversees national oil and gas policy, as well as general policies for Saudi Aramco.⁵ In part, this buffer mechanism has allowed Saudi Aramco to maintain its independence and run its operations as would any major international oil company (IOC). This autonomy has allowed it to become a world class upstream company. It has also made it a center of excellence in the country. Because of its expertise, Saudi Aramco has increasingly been called on to help build and develop projects deemed necessary to the kingdom's economic infrastructure but which sometimes are perceived to be beyond the company's core business. These projects include King Abdullah University for Science and Technology, King Abdul-Aziz Center for World Culture, and the Jazan economic city.⁶ Indeed many of the experts and policymakers who are involved in the long-term economic planning for Saudi Arabia have been affiliated with Saudi Aramco.

Saudi Aramco has been actively seeking opportunities for joint ventures outside of Saudi Arabia to secure demand for its exports while building a high-value petrochemical industry within country. This move is concurrent with Saudi Arabia's move to develop and diversify into a manufacturing-based economy in order to promote the small and medium-size enterprises (SME) necessary to create employment opportunities for local youth. Saudi Arabia has a growing young population

⁴ IEA, *World Energy Outlook 2011*, p. 82.

⁵ Ministry of Petroleum and Minerals Resources website: http://www.mopm.gov.sa/mopm/detail.do?content=sp_policy.

⁶ Kate Dourian, "Petrodollars," *Oilgram News* 90, no. 169 (August 27, 2012), p. 8.

that is in the prime employment age, and the country will need create 5 million jobs by 2030⁷ in order to absorb them into the labor force. According to the CIA, 67 percent of the kingdom's population of 26 million are between the ages of 16 and 54 (i.e., working age), and unemployment officially stands at 15 percent.⁸

Saudi Aramco's policy is to continue to offset oil usage by replacing its reserves. It also implemented a master gas system to meet the demand of the kingdom's growing power sector. In addition, Saudi Aramco embarked on several joint ventures to explore and produce nonassociated gas in the Empty Quarter of Saudi Arabia.⁹ The company started producing gas from its first nonassociated gas field (Karan) in 2011. This field is expected to produce 1.8 billion cubic feet (BCF) per day by the end of 2013.¹⁰ Saudi Aramco is committed to increasing its oil and gas reserves by 100 billion barrels in the next 10 years.¹¹

Saudi Arabia also grapples with its own domestic consumption of oil, which has been growing faster than the economy (7 percent annually).¹² This increase is because of the recent economic boom and population growth, coupled with the lack of market price signals that normally help moderate consumption. Indeed, Saudi Arabia spends as much as \$33 billion a year to subsidize the cost of electricity and desalination.¹³ It is more difficult to estimate the amount that the country spends on gasoline and diesel subsidies. It is estimated that Saudi Arabia consumes 2.8 million barrels a day of oil,¹⁴ with about 40 percent going to the transportation industry at a retail price of \$0.12 per liter.¹⁵ As a result, demand has increased to a rate that is unsustainable in the long run. There have been studies warning that Saudi Arabia is on a trajectory of declining exports in the future should internal demand continue to grow unchecked.¹⁶

⁷ Gala Riani, "Saudi Arabia Pledges to Tackle Unemployment Crisis," *IHS Global Insight*, January 26, 2011.

⁸ Please see Ministry of Labor of Saudi Arabia website: <http://www.mol.gov.sa>.

⁹ The Empty Quarter (or *Rub Al-Khali*) is the largest sand desert in the world, encompassing most of the southern third of the Arabian Peninsula, including most of Saudi Arabia and areas of Oman, the United Arab Emirates, and Yemen.

¹⁰ Saudi Aramco, "Company Operations: Gas," <http://www.saudiaramco.com/en/home.html#news%257C%252Fen%252Fhome%252Fnews%252Flatest-news%252F2011%252Foffshore-karan-gas-field-launched.baseajax.html>.

¹¹ "Saudi Arabia Review: Broadening Its Horizons," *Oil & Gas News* 29, no. 15 (April 9–15, 2012), <http://www.oilandgasnewsworldwide.com/pages/article.aspx?aid=32699>.

¹² Yosuf Al-Hamadi, "Dr. Abdullah Al-Shirhi, Governor of ECRA," *Al-Sharq Al-Awsat*, July 9, 2011.

¹³ "The Politics of Saudi Subsidies," *The Middle East*, no. 425 (August–September 2011), p. 21.

¹⁴ Energy Information Administration (EIA), "Saudi Arabia," January 2011 <http://www.eia.gov/countries/cab.cfm?fips=SA>.

¹⁵ "Saudi Subsidies Incur Huge Costs, Threaten Oil Exports," *Energy Daily*, October 4, 2010, http://www.energy-daily.com/reports/Saudi_subsidies_incur_huge_costs_threaten_oil_exports_999.html.

¹⁶ Glada Lahn and Paul Stevens, *Burning Oil to Keep Cool: The Hidden Energy Crisis in Saudi Arabia* (London: Chatham House, December 2011), http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/1211pr_lahn_stevens.pdf.

One possible outcome that Saudi Arabia is preparing for is the tripling of the country's domestic demand in the next few years.¹⁷ Current demand stands at approximately 2.5 million barrels of oil equivalent per day (Mboe/d).¹⁸ Domestic demand is expected to exceed 8.0 Mboe/d.¹⁹ Most of the increased demand will come from the transportation sector and the power generation sector, with most of the power in the form of electricity going to the residential sector. According to the *BP Statistical Review of World Energy*, Saudi Arabia produced 11.16 Mboe/d in 2011.²⁰

Saudi Aramco estimates that the country spends \$8 billion per year on fuel subsidies. This figure could grow dramatically as the country's electricity needs are increasing at a reported annual rate of 6 to 8 percent. This increase is driven by population and economic growth.²¹

The surge in domestic consumption means that the country would be selling its oil domestically at a fraction of the price it can garner globally, forgoing significant revenue from its valuable hydrocarbon resources. It also creates a huge financial strain on the Gulf state as it subsidizes much of the energy. HSBC estimates that Saudi Arabia spends as much as \$35 billion every year on water and electricity subsidies.²² All of the electricity and desalinated water generated in Saudi Arabia involved the burning of fossil fuel. In the western region the fuel option is crude oil.

Since much of the increase in oil and gas consumption goes to the power generation sector, Saudi Arabia has launched a new public awareness program called Tarsheed²³ ("rationalization" in Arabic) to educate and encourage rational use of power in the residential and commercial sectors. In the pursuit of a sustainable and cost-efficient source, the kingdom has invested heavily in research and development programs to study renewable energy options for power generation and desalination.

The kingdom's domestic energy policy is evolving to a multipronged one. The use of alternative energy in power generation is being seriously pursued. A major move toward the adoption of alternative forms of energy was the establishment of King Abdullah City for Atomic and Renewable Energy (KA-CARE), which is tasked with developing the energy strategy and energy mix for Saudi Arabia (including the introduction of civil nuclear energy). Saudi Arabia aims to meet the growing

¹⁷ King Abdullah City for Atomic and Renewable Energy (KA-CARE), "A New Era of Sustainable Energy," <http://www.kacare.gov.sa/default-en.htm>.

¹⁸ EIA, "Saudi Arabia," January 2011, <http://www.eia.gov/countries/cab.cfm?fips=SA>.

¹⁹ Khalid A. Al-Falih, "Saudi Aramco and Its Role in Saudi Arabia's Present and Future" (speech to the MIT Club of Saudi Arabia, 11th Annual Dinner Meeting, Riyadh, April 19, 2010), <http://www.mitsaudi.org/site/mr-alfalih%e2%80%99s-remarks-11th-annual-dinner-meeting/>.

²⁰ BP, *BP Statistical Review of World Energy, June 2011* (London: BP, June 2011), http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGI%20NG/local_assets/pdf/statistical_review_of_world_energy_full_report_2011.pdf.

²¹ Al-Falih, "Saudi Aramco and Its Role in Saudi Arabia's Present and Future."

²² John Tottie et al., "Scarcity Amid Plenty: The Middle Eastern Fuel Paradox," HSBC Saudi Arabia Limited, June 2011.

²³ Please see the program's website: <http://www.trasheed.gov.sa>.

demand for energy domestically with alternative sources of energy so that it can free up much of its production for export instead of domestic consumption. The kingdom recognizes that its ability to displace oil and gas from domestic consumption will have a positive impact on the revenue it generates and the excess capacity it is able to maintain, which is vital to a stable world oil price. Saudi Arabia is also working toward connecting its grid with neighboring countries in order to develop a regional trading network.

Saudi Arabia has also recognized the need to have thought institutions and scientific research institutions to elevate the debate domestically and be able to contribute to the global dialogue. Several universities, research institutions, and even a think tank have been established. Recently, the kingdom inaugurated the King Abdullah University of Science and Technology (KAUST). KAUST has several research programs underway in the area of solar energy and water desalination that could yield results that will benefit those sectors in Saudi Arabia.²⁴ On the economic policy front, Saudi Arabia embarked on a project to establish a first of its kind energy think tank in the capital, Riyadh. The King Abdullah Petroleum Studies and Research Center (KAPSARC)²⁵ will be dedicated to energy studies in Saudi Arabia with a focus on environmental and policy impacts.

Saudi Arabia's role in the energy market will continue to be vital in the future, as it has been in the past few decades for many reasons. The Middle East, and Saudi Arabia in particular, is still the home of the cheapest and most abundant supplies of fossil fuel in the world. Fossil fuel will continue to be part of the world energy mix for the foreseeable future. And while technological advances have unlocked the code to more resources, they continue to be more expensive and face several environmental and policy challenges globally. In the face of unexpected disruptions globally, strategic stocks and production surges from Saudi Arabia are still the first line of defense against large shortages and runaway prices.

Saudi Arabia is a supporter of open collaborative relationships between producers and consumers. It does this in a multilateral way, as in the case of the International Energy Forum (IEF), or on a bilateral basis with major consuming economies. The kingdom's policy has been to strengthen the global economy and ensure the prosperity of the global community, as evidenced by its role in the G-20 and International Monetary Fund (IMF).

Saudi Arabia recognizes the importance of having a stable oil market by ensuring adequate, dependable supplies and combating higher than necessary oil prices. The kingdom also recognizes that the global energy market is shifting and dynamic. Events such as the disaster in Fukushima, Japan, the development of tight oil in North America, and the global economic downturn of the past few years indicate the level of uncertainty about the future. That is why the evolution of Saudi Arabia's domestic energy policy to continue to ensure the robustness of its hydrocarbon production and consumption, as well as to introduce alternative energy options to enable it to maintain its

²⁴ Please see the university's website: <http://www.kaust.edu.sa>.

²⁵ Please see the center's website: <http://www.kapsarc.org>.

export capability, is important to the global market as it embodies the country's commitments to the international community.



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