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SAUDI ARAMCO: NATIONAL FLAGSHIP WITH GLOBAL RESPONSIBILITIES

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ABOUT THE POLICY REPORT

THE CHANGING ROLE OF NATIONAL OIL COMPANIES IN INTERNATIONAL ENERGY MARKETS

Of world proven oil reserves of 1,148 billion barrels, approximately 77% of these resources are under the control of national oil companies (NOCs) with no equity participation by foreign, international oil companies. The Western international oil companies now control less than 10% of the world's oil and gas resource base. In terms of current world oil production, NOCs also dominate. Of the top 20 oil producing companies in the world, 14 are NOCs or newly privatized NOCs. However, many of the Western major oil companies continue to achieve a dramatically higher return on capital than NOCs of similar size and operations.

Many NOCs are in the process of reevaluating and adjusting business strategies, with substantial consequences for international oil and gas markets. Several NOCs have increasingly been jockeying for strategic resources in the Middle East, Eurasia, and Africa, in some cases knocking the Western majors out of important resource development plays. Often these emerging NOCs have close and interlocking relationships with their national governments, with geopolitical and strategic aims factored into foreign investments rather than purely commercial considerations. At home, these emerging NOCs fulfill important social and economic functions that compete for capital budgets that might otherwise be spent on more commercial reserve replacement and production activities.

The Baker Institute Policy Report on NOCs focuses on the changing strategies and behavior of NOCs and the impact NOC activities will have on the future supply, security, and pricing of oil. The goals, strategies, and behaviors of NOCs have changed over time. Understanding this transformation is important to understanding the future organization and operation of the international energy industry.

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SAUDI ARAMCO: NATIONAL FLAGSHIP WITH GLOBAL RESPONSIBILITIES

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INTRODUCTION

The Saudi state oil firm, Saudi Aramco, is undeniably the most influential oil company in the world. Saudi Aramco is the world's largest oil producer, supplying more than 10 percent of global oil demand, and it manages 98 percent of the kingdom's oil reserves, which comprise 25 percent of the world's total oil reserves. The country's proven oil reserves are estimated at 259.9 billion barrels, plus approximately 2.5 billion barrels in the Neutral Zone. Probable and possible reserves have been estimated at a further 103 billion barrels. The company extracted roughly 8.9 million barrels a day (b/d) of crude oil in 2006 and 9.1 million b/d in 2005, according to the Saudi Aramco annual report. The company operates refineries, markets oil internationally, and distributes it domestically. Saudi Aramco operates a fleet of oil tankers and invests in refineries and

distribution networks in other countries; it also owns 248.5 trillion cubic feet of gas reserves (Tcf) and operates a thriving petrochemical business.

But the size of Saudi Aramco's asset base is not the only reason for its importance. Because the petroleum sector in the kingdom accounts for about 40 percent of Gross Domestic Product (GDP), Saudi Aramco truly is the cornerstone of the Saudi economy. Oil accounts for more than 80 to 85 percent of the country's total export earnings and between 70-80 percent of government revenues.

The immense size of Saudi resources and its importance to the Saudi economy influences the strategies and policies for Saudi Aramco. In developing its corporate plans, the company must not only consider corporate commercial goals but also respond to the Saudi government's immediate foreign policy requirements and economic goals as well as the kingdom's long term economic future.

As will be discussed, Saudi Aramco's transition from a privately-held consortium of American oil companies to a pivotal national monopoly has greatly affected its operations and structure and the manner in which it fulfills its responsibilities inside the kingdom and in the world market. The company, by virtue of its private company beginnings, revolves around a commercial organization similar to private industry, with a relatively independent senior management committee bringing its commercially-evaluated decisions to a board of directors. But this structure tells only part of the story of Saudi Aramco, whose rich history involves a journeyman's labor as the implementer of Saudi foreign and economic policy against the backdrop of dramatic historical events.

As the discussion in this paper will elaborate, despite its seeming commercial independence in day to day operations, the organization and leadership of Saudi Aramco

and the Saudi energy sector in general must be understood in the context of the overriding power of the King of Saudi Arabia. Ultimate authority for all decisions related to oil policy rests with the King of Saudi Arabia, and Saudi Aramco has no authority or formal institutional mechanism to question the King's decisions. The monarchy of the al-Saud family is the "key source of power at every level in the Saudi Arabian government." King Abdullah, in fact, has final decision-making power on all matters involving oil production, investments, external policies, including those related to OPEC, and domestic energy pricing and subsidies.

However, key senior members of the Al-Saud family continue to weigh in on important matters and they are unlikely to go along with any sudden dramatic shift in any government policy without first offering their opinion. As noted by Nawaf Obaid in his monograph, *The Oil Kingdom at 100: Petroleum Policymaking in Saudi Arabia*, "Because oil policy has such an enormous effect on the health of the Kingdom, it is set not by the whim of any individual but instead by consensus among the influential ruling family members after considerable debate and consultation with Saudi experts."¹ It is this practice of seeking consensus that gives Saudi Aramco the wiggle room to try to influence its role and mandate.

Saudi Aramco serves many functions in Saudi society. One important element of its mission is to play a redistributive role in managing Saudi Arabia's oil assets. Domestic fuel supplies are subsidized by the firm to the benefit of Saudi consumers and domestic industry alike, and Saudi Aramco remains a major employer and center of training for the Saudi workforce. The state oil firm employs more than 51,356 people, of which 87

¹ Nawaf Obaid, *The Oil Kingdom at 100: Petroleum Policymaking in Saudi Arabia*, Policy Paper 55 Washington DC: The Washington Institute for Near East Policy, 2000.

percent are Saudi workers and professionals, and it is headquartered in Dhahran. The firm also supplies cheap natural gas feedstock to important Saudi industries such as the electricity, water desalination, and petrochemical sectors and has been asked, as such, to serve as a facilitator to industrial development. It has also played a strong role in the construction of the country's infrastructure. Saudi Aramco operates five wholly-owned domestic refineries, which supply refined products to meet the kingdom's consumption needs. Total domestic refining capacity currently stands at 1.7455 million b/d, including two joint venture refineries (SAMREF and SASREF).²

However, not only does Saudi Aramco play a pivotal role in the Saudi economy, its influence cuts a swathe over the global economy. The Saudi firm is the only state oil company that is truly a global oil swing producer. It is the main possessor of spare crude production capacity in the world. Indeed, this enables Saudi Arabia to replace the exports of any small- or medium-sized oil producing nation within days or weeks. It, of course, has the power to pull significant volumes off the market as well.

The kingdom's spare oil production capacity and ability to increase production capacity has become subject to debate over the years, but most analysts agree that the kingdom can raise output to over 10 to 10.7 million b/d on a sustainable basis at present, with surge capacity to 11 million b/d and is working to expand this capability over the coming years. Saudi Aramco has stated that it is "easily capable" of producing up to 15 million b/d in the future and maintaining that production level for 50 years.

In June 2005, Saudi Aramco's leadership stated that Saudi Arabia would raise production capacity to more than 12 million b/d by 2009, and then possibly to 15 million

² Saudi Aramco, Annual Review 2006, "Taking the Initiative"

b/d “if the market situation justifies it.” Official statements added that by 2006, Saudi Arabia would have 90 drilling rigs in the kingdom, more than double the number of rigs operating in 2004.³ More recently, in December 2006, Saudi Aramco’s board approved an aggressive 2007 operating plan, which according to press reports is “the largest spending program in the company’s history.”⁴

Part of the impetus for this emphasis on upstream expansion lies in the kingdom’s requirements for spare capacity as it pursues a global and regional leadership role at a time of conflict and instability in the Persian Gulf. Some Saudi analysts have suggested that it is important to the kingdom to be able to replace Iranian oil exports, should an international conflict with Tehran result in a loss of oil to the market. Saudi analyst Nawaf Al-Obaid, who was formerly the Managing Director of the Saudi National Security Assessment Project, published an article “Saudi Arabia’s Strategic Energy Initiative” which asserts that Saudi Arabia will be able to replace all of Iran’s exported oil, if necessary. “Saudi Arabia not only has a strategic interest in reigning in Iran, but it is well positioned to do so. With the price of oil at a high, the kingdom’s influence as the world’s central banker of energy is at its apex, making it the economic powerhouse of the Middle East.”⁵

³ “Saudi Arabia,” *Country Analysis Brief*, Washington, DC: U.S. Department of Energy, Energy Intelligence Agency, August 2005.

⁴ Ian Talley, “Saudis Adjust Long-Term Oil Strategy,” *Dow Jones News Wires*, January 10, 2007 http://www.rigzone.com/news/article.asp?a_id=39941

⁵ Writes Al-Obaid, “...if Iran responds to UN-imposed sanctions by cutting its oil exports – which its foreign minister implicitly threatened to do this month when he said that the ‘first consequences of these sanctions would be an increase in the price of oil to around \$200 per barrel’ –the impact won’t be as severe as many think. In fact, the Kingdom has largely succeeded in achieving this goal (to be able to replace Iranian exports).” See <http://www.saudi-us-relations.org>. Later, Al-Obaid wrote in a controversial Washington Post Op Ed: “(King) Abdullah may decide to strangle Iranian funding of the militias through oil policy. If Saudi Arabia boosted production and cut the price of oil in half, the kingdom could still finance its current spending. But it would be devastating to Iran, which is facing economic difficulties even with today’s high prices. The result would be to limit Tehran’s ability to continue funneling hundreds of millions each year to Shiite militias in Iraq and elsewhere.”

Because Saudi Aramco reigns as the largest oil producer in the world and, because it is equipped with its arsenal of spare oil productive capacity, the Saudi national firm wields tremendous power in international energy and financial markets. This means that the task of understanding its corporate culture, decision-making processes, and past and future strategies is an important one for analyzing the future of the world energy market. To evaluate whether Saudi Arabia will be in a position to meet growing world demand for oil in the coming decades, one must take into account the operations of Saudi Aramco because it is Saudi Aramco which will likely have a pivotal, if not exclusive, role in implementing the expansion of oil production facilities in the kingdom.

Like many national oil companies, Saudi Aramco's ability to perform its core upstream oil field management and expansion function will be affected by the other responsibilities it is assigned by the government and by its abilities to generate sufficient capital to meet both these non-commercial national functions and its commercial goals. The level and nature of support and/or interference from the senior ranks of government will be a pivotal factor in Saudi Aramco's future, as will the geopolitical circumstances in which it has to operate. Saudi Aramco faces a tall order, as many forecasters believe the state firm will need to more than double its productive capacity over the next 20 years if

In the aftermath of the publication of the Washington Post Op Ed, the Saudi Press Agency issued a statement saying, "This writer does not represent any official Saudi Authority. What has been published (in the newspaper) represents only his own view. It also does not represent in any way the Kingdom's policy and stand to support security, unity and stability of Iraq with all its sects and doctrines." The statement did not include any reference to the content regarding Saudi Arabia's ability to replace Iran's oil exports. Saudi ambassador to the United States Prince Turki al-Faisal said the Saudi government had fired Nawaf al-Obaid as a consultant to the Saudi government in the aftermath of the Washington Post Op Ed, telling Reuters, "We felt that we would add more credibility to his claim as an independent contractor by terminating our consultancy agreement with him." Reuters report on December 6, 2007, "Saudi urges U.S. not to leave Iraq quickly" by John Hurdle, 3:54 PM EST. Ambassador Turki reiterated his comments that Mr. al-Obaid was not speaking for the Saudi government on the issue of Iraq policy and the Sunni insurgency on CNN with Wolfe Blitzer (see CNN Late Edition with Wolf Blitzer: "Interview With Barham Salih; Interview With Zalmay Khalilzad," December 3, 2006, at <http://transcripts.cnn.com/TRANSCRIPTS/0612/03/le.01.html>)

it is to be able to serve as the world's swing supplier, balancing global oil market demand with supply.

As this study of the state firm will elaborate, Saudi Aramco's strategies and aims have been greatly tailored to meet the foreign policy needs of the state. The company geared up production in the 1980s when the Saudi royal family decided that an oil price war would be the best means to grab back Saudi market share from new emerging oil producers such as Norway and the United Kingdom. Lower oil prices also suited the kingdom's desire to ensure that cash-strapped Iran did not have the resources to wage a successful war against neighboring Iraq and to pressure the Soviet Union whose foray into Islamic Afghanistan was seen as another geopolitical event out of step with the country's long term religious and strategic interests.

In the years following, Saudi Aramco continued to serve the kingdom's foreign policy priorities, ensuring, for example, for many years that the Saudi Arabia stood as the number one supplier of oil to the United States month after month in a policy designed to influence American public opinion about the importance of close U.S.-Saudi relations. During the Gulf War in 1990, ensuring Saudi Arabia's role as a key ally in the international coalition, Saudi Aramco --through superlative efforts-- replaced in less than 90 days over 3 million b/d of the Kuwaiti and Iraqi oil production lost in the aftermath of Iraq's invasion of Kuwait, working with contractors round the clock to reopen mothballed oil fields and expand output at operating facilities.

In both its foreign policy role and its responsibilities at home, Saudi Aramco provides an interesting illustration of how national oil company aims, behaviors and strategies answer to more than the imperatives of achieving profitable commercial

performance. As will be shown through this case study, Saudi Aramco engages in solid commercial management practices, taking into consideration realistic threshold rates for investment and reviewing its business opportunities through the lens of best corporate practices and evaluation procedures. But, its priorities still yield to the needs of the state and the welfare of the overall Saudi polity. In recent years, the company has managed to achieve these non-commercial goals with a minimum of interruption to its ability to fulfill core oil functions such as raising overall production rates and providing the right mix of petroleum products for domestic markets and for export on a profitable basis. But questions remain whether the company will continue to be able to balance these conflicting goals as the kingdom's social problems expand in the context of a growing population and political change as leadership switches to a new generation with different life experiences and orientations.

COMPANY PROFILE: THE WORLD'S LARGEST OIL COMPANY

Saudi Aramco is the world's largest oil producer, supplying more than 10 percent of global oil demand. Respected energy trade journal, *Petroleum Intelligence Weekly (PIW)*, has consistently ranked Saudi Aramco as the number one oil company since the inception of its Top 50 Oil company series that ranks the firms in terms of six criteria that allow private and state-owned energy companies to be compared. These criteria include reserve size, oil and natural gas output, level of refining capacity, and petroleum product sales volumes. Other measures are also considered as part of the survey including revenues, net income, asset value and number of employees.

In *PIW's 2006 Ranking The World's Top Oil Companies*, Saudi Aramco again was listed as the world's top oil company, the 18th time in a row that the company has

earned that top spot. According to *PIW*, the company is the leading exporter of crude oil and natural gas liquids, is fourth internationally in the gas reserves it manages, seventh in gas output, ninth in petroleum product sales and ninth in refining capacity. As the kingdom's state energy conglomerate, Saudi Aramco has a monopoly on hydrocarbon exploration, development and production and on the refining, processing, marketing and distribution of oil and gas products in Saudi Arabia. The company has been the world's largest integrated oil firm since 1993, when the Saudi government authorized that Saudi Aramco should absorb all downstream functions in the kingdom that it did not already control.⁶

In 1993, Saudi Aramco acquired the Saudi Arabian Refining and Marketing Company (Samarec) and most of the oil interests of the General Organization for Petroleum and Minerals (Petromin). Saudi Aramco assumed control over the kingdom's entire hydrocarbon chain in 1996, when Petromin's equity stakes in the country's two lubricants companies were transferred to the oil firm. Through its holdings of 71 percent in Petrolube and 70 percent in Luberef, Saudi Aramco is responsible for the majority of lubricants production and distribution within the country. In October 2005, the Saudi cabinet formally dissolved Petromin and authorized Oil Minister Ali Naimi to oversee the transfer of its remaining assets to Saudi Aramco.⁷

Although Saudi Arabia has approximately 80 oil and gas fields, more than half of its oil reserves are contained in only eight giant fields in the Eastern Province in the northeast part of the kingdom. These eight fields include Ghawar (the world's largest oil field, with estimated remaining reserves of 70 billion barrels) and Safaniya (the world's

⁶ "Saudi Arabia," *Arab Oil & Gas Directory 2005* (Paris: Arab Petroleum Research Center, 2005), 368.

⁷ "Cabinet Approves Merger of Petromin with Saudi Aramco," *Middle East Economic Survey*, October 31, 2005.

largest offshore oilfield, with estimated reserves of 60 billion barrels). Ghawar's main producing structures are, from north to south: Ain Dar, Shedgum, Uthmaniyah, Hawiyah, and Haradh. Ghawar alone accounts for about half of Saudi Arabia's total oil production capacity. The six other fields with substantive reserves are: Abqaiq (17 billion barrels); Shaybah (14 billion barrels); Berri (11 billion barrels); Manifa (11 billion barrels); Zuluf (8 billion barrels); and Abu Sa'afa (6 billion barrels).⁸

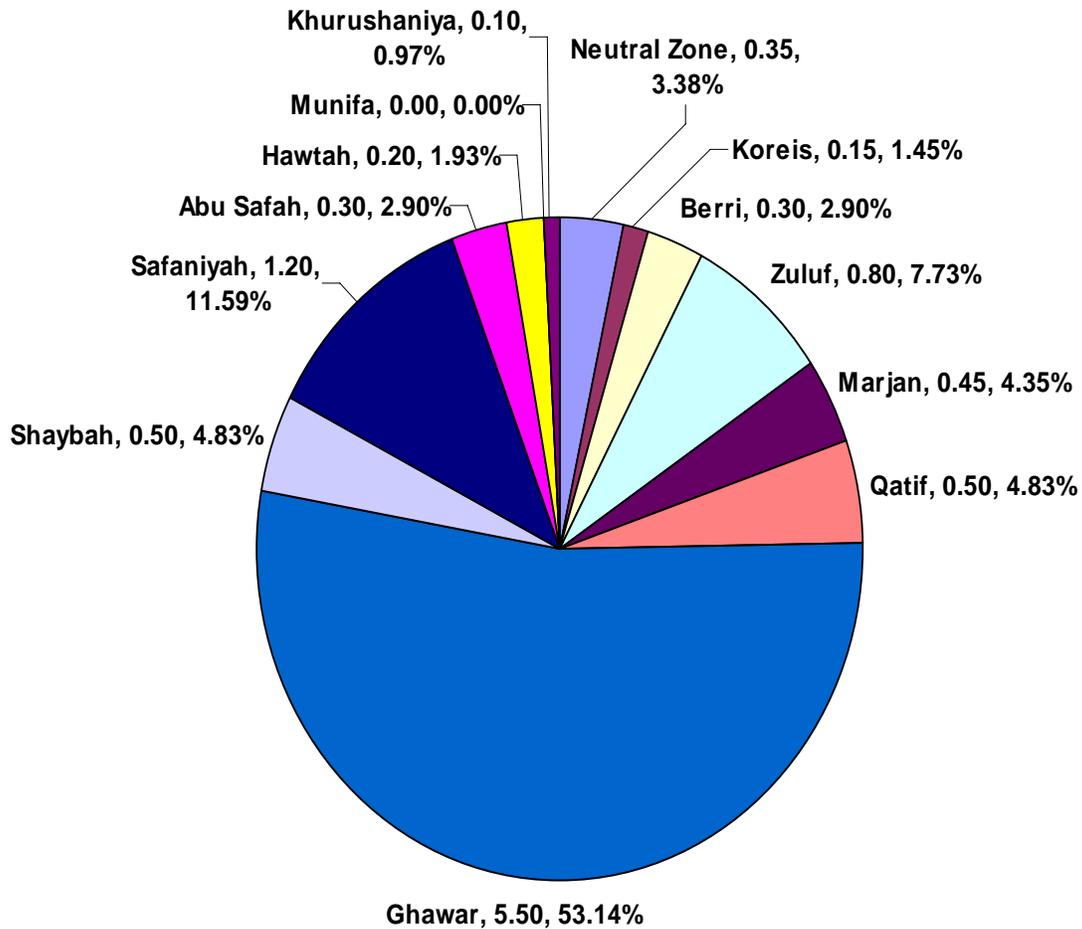
The Ghawar field is the main producer of 34° API Arabian Light crude, while Abqaiq produces 37° API Arab Extra Light crude. Since 1994, the Hawtah Trend (also called the Najd fields), which includes the Hawtah field and smaller satellites (Nuayyim, Hazmiyah) south of Riyadh, has been producing around 200,000 b/d of 45°-50° API, 0.06 percent sulphur, Arab Super Light. Development work in this area is expected to boost output at Nuayyim by 100,000 b/d by 2008.⁹ Offshore production includes Arab Medium crude from the Zuluf (over 500,000 b/d capacity) and Marjan (270,000 b/d capacity) fields and Arab Heavy crude from the Safaniya field. Most Saudi oil production, except for “extra light” and “super light,” is considered “sour,” containing relatively high levels of sulfur.

⁸ Arab Oil & Gas Directory 2005, 372.

⁹ “Saudi Aramco/IOC Venture Should Develop Manifa Oilfield, Says Former Aramco Executive,” *Middle East Economic Survey*, Vol. XLIX, No. 36, September 4, 2006.

FIGURE 1: 2004 PRODUCTION RATES BY FIELD

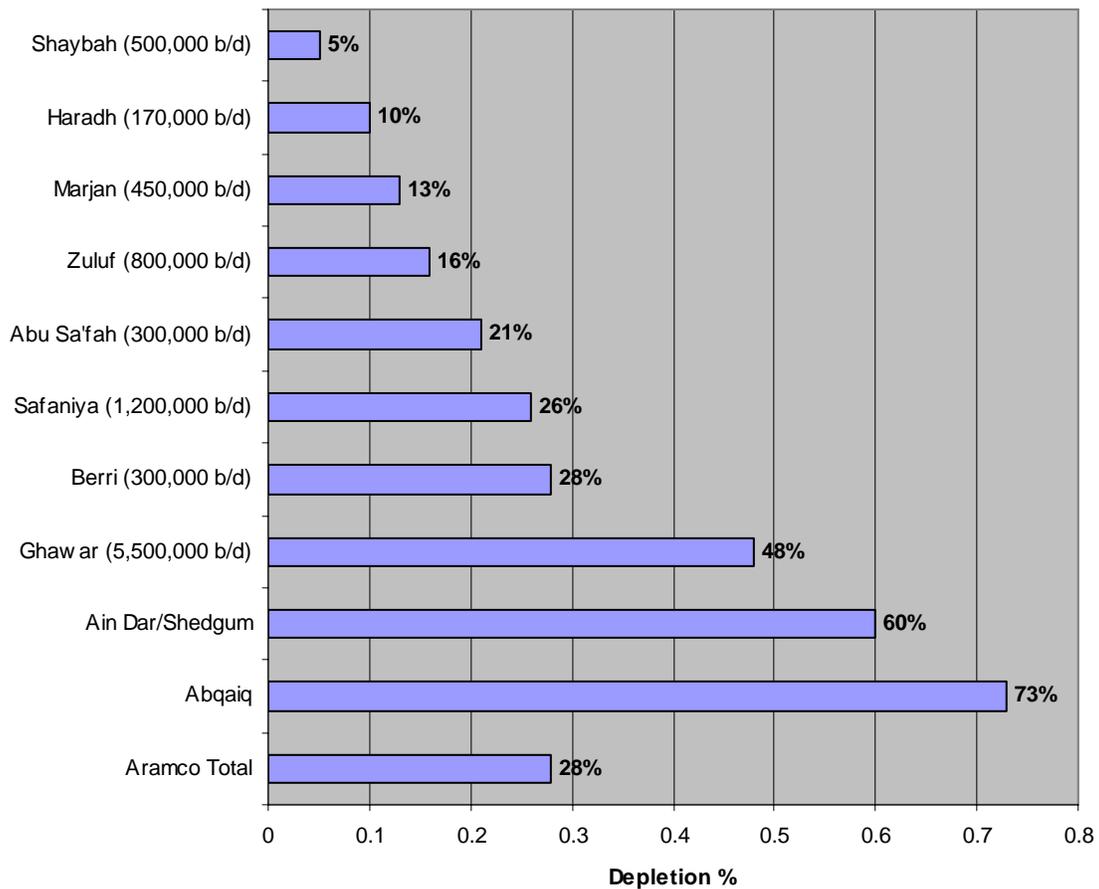
(MILLION B/D AND % OF PRODUCTION)



The state of the kingdom’s oil fields has been subject to much debate following the publication of the book, *Twilight in the Desert*, which contends that there are discrepancies between Saudi Aramco’s published technical papers and the vast claims made about the long term output potential of Saudi fields. To counter claims that the kingdom’s oil fields are depleted and its production profile likely to decline, not increase, in the coming years, Saudi Aramco released specific data regarding the depletion of its

major fields (see chart below). The kingdom states officially it has experienced average depletion in its producing fields of 28 percent of proven reserves. Saudi oil fields have a natural annual decline rate of an average of about 7-8%. However, a Saudi industry spokesman says that increased spending in 2006-2007 is designed to stem that decline to an average of 2% decline per annum. Some fields, notably Abqaiq, Ghawar, and the Ain Dar/Shedgum region are more than 50 percent depleted, according to official Saudi Aramco statistics.

FIGURE 2: LEVEL OF DEPLETION FOR MAJOR SAUDI OIL FIELDS



Source: Saudi Aramco

Saudi Arabia has announced plans to invest \$50 billion in its oil sector to increase production capacity to 12.5 million b/d by 2009 and to reach 15 million b/d by 2025, but given the decline rate in its most mature fields, it remains unclear whether this pace of investment will be sufficient to bring about the projected increases in sustainable production capacity.

Plans for a first tranche of \$14 billion in investments by 2009 – to cover expansion in the Haradh section of the Ghawar field; expansion in the Khursaniyah field; expansion in the Shaybah field and new major investment in the Khurais field – is aimed to raise capacity to over 12.5 million b/d. But this can only be accomplished if Saudi Aramco is successful in stemming the natural decline in its aging fields to 2 percent per annum; at normal rates of decline of 7 to 8%, the kingdom’s investments in new fields would only bring sustainable production capacity to 11 to 11.5 million b/d so Saudi Aramco was given the go-ahead to increase spending on existing fields.¹⁰ In 2006, Saudi Aramco increased its drilling rig count by 26 percent from 90 to 113 rigs, including six exploration rigs and 75 development rigs. In addition, Saudi Aramco deployed 32 well workover rigs. It drilled 368 new development and 13 exploration wells and performed 206 re-entries and 136 workovers.¹¹ Among Saudi Aramco’s major upstream projects is a program called “Maintain Potential” whose aim is to maintain Saudi Aramco’s “targeted maximum sustainable production capacity.” In 2006, Saudi Aramco connected 237 new oil and water wells onshore, increasing oil production capacity. Offshore, 23 new platforms were installed and 38 new wells connected. Work continued in the offshore Safaniyah field to install 42 electrical submersible pumps to boost production. A

¹⁰ Author's interviews.

¹¹ Saudi Aramco, Annual Review 2006, “Taking the Initiative” p. 22

3,000 ton tie-in platform and upgrade of seven existing platforms was also implemented.¹²

Without this additional spending to stem the natural decline, the current investment plans to 2009 would not allow Saudi Arabia to fully replace Iranian exports. To be able to fully replace Iranian oil exports, the kingdom needs about 2.5 million b/d of spare capacity, or about 500,000 b/d to 1 million b/d more than its current spare levels, depending on ongoing production rates.

FIGURE 3: ANNOUNCED EXPANSIONS IN 2003

Oil Field	Grade	New Capacity (b/d)	Date
Abu Safah & Qatif	Arab Light & Extra Light	500,000-650,000	2004-2006
Haradh	Arab Light	300,000	2006
Khursaniyah	Arab Light & Extra Light	500,000	June 2007
Shaybah	Arab Extra Light	250,000	2008
Nuayyim	Arab Super Light	100,000	2008
Khurais	Arab Light	1.2 million	2009
Total		2.85-3.00 million	\$12-15 billion in investments

Source: Saudi Aramco

New facilities installed in the Haradh region of the Ghawar field and those already installed in the onshore Qatif and offshore Abu Sa'afa fields added around 1.1 million b/d of crude output capacity in recent years, although this new capacity is seen as essentially replacing declining output from fields and wells that are reaching maturity. Development of the Abu Hadriyah/Al-Fadhili/Khursaniyah fields – which were previously mothballed by Saudi Aramco in the 1990s because of financial concerns --

¹² Ibid p. 25

should produce another 500,000 b/d once completed, with first production expected in 2007.

The giant Khurais field, which is to be developed by March 2009, has a planned capacity of 1.2 million b/d. Khurais, located west of Ghawar, first came onstream in the 1960s but was also mothballed by Aramco due to budgetary problems in the 1990s. Work on the Khurais project involved three oil fields: Khurais, Abu Jifan, and Mazalij. The development work will bring into production 1.2 million b/d of Arabian Light crude and 4.5 million b/d of treated seawater for reservoir injection.¹³ Prior to the Qatif and Haradh projects, the last substantial increase in Saudi crude output capacity was in July 1998, when the 500,000 b/d Shaybah field in the Empty Quarter came onstream. The Shaybah project, which was part of Saudi Aramco's goal to develop its lighter crude reserves, cost the company \$2.5 billion to accomplish. Shaybah contains an estimated 15.7 billion barrels of Arab Extra Light crude oil and there are plans to increase output from the field by as much as another 500,000 b/d in the coming years. Some 250,000 b/d of additional output from Shaybah is expected by the end of 2008.¹⁴

Since the mid-1990s, Saudi Aramco has moved to develop oil resources outside the successful Eastern Province production areas. The first efforts were in the Central Province or the *Nejd*, centering on the Hawtah field and 17 other smaller fields in the area. The reserves in the Hawtah region are contained in formations at depths of 6,000 feet. Crude produced from these Central Province fields constitutes a new Saudi grade, the very sweet Arab Super Light, with API gravities ranging from 44 to 53 degrees and a

¹³ "Khurais 1.2 Million b/d Crude Oil Increment Now Set for Completion by June 2009," *Middle East Economic Survey*, Vol. XLIX, No. 10, March 6, 2006.

¹⁴ "Saudi Aramco/IOC Venture Should Develop Manifa Oilfield, Says Former Aramco Executive," *Middle East Economic Survey*, Vol. XLIX, No. 36, September 4, 2006.

very low 0.05 percent sulfur content. While most of the kingdom's oil wells flow naturally without the need for pumps to bring crude to the ground surface, that is not the case with those in the Hawtah field. Production of this new grade averages around 125,000 b/d, but Saudi Aramco has had some production problems at the field due to some unsuccessful early development strategies. The *Nejd* fields are estimated to hold 30 billion barrels of liquids as well as major gas reserves.

In February 2000, Saudi Aramco formed a fully-owned subsidiary called Aramco Gulf Operations Company (AGOC), which took over the concession for the offshore oil and gas fields in the Saudi half of the Neutral Zone from Japan's Arabian Oil Company (AOC), following the failure of Saudi Aramco and AOC to reach agreement on new terms for the concession. The Neutral Zone contains an estimated 5 billion barrels of proven oil reserves and its production is shared out equally between Saudi Arabia and Kuwait. AOC's concession for the Kuwaiti interest in the Neutral Zone expired in January 2003 and was replaced by the Kuwait Gulf Oil Company (KGOC), a subsidiary of the Kuwait Petroleum Corp. (KPC). New spending of \$400 million is under consideration for the Neutral Zone, which has the potential to add up to 300,000 b/d of Arab heavy crude oil by 2010 if the project proceeds.

Post 2009, Saudi Aramco has approved a \$6 to \$7 billion program at Munifa that would bring on a new 900,000 barrel a day increment of Arab heavy oil by 2011.

Saudi Aramco's business plan for 2007 includes additional investments at three fields beyond the state concerns initial plans for 2011. New plans mooted include further expansions at the Shaybah and Berri fields, involving an expansion in the Berri water injection system. The two fields could see a new capacity of a total of 550,000 b/d by

2013, if the work plan is approved.¹⁵ An expansion of either the huge offshore Safaniyah field or the Marjan field is also being considered for the future. Some of this investment will be needed to replace declines in older fields.

Saudi Aramco is a key oil supplier to the U.S. and Europe, but these two regions have taken a back seat to the East. Asia (e.g., China, Japan, South Korea, India) now takes around 60 percent, or some 4.5 million b/d of Saudi Arabia's crude oil exports, as well as the majority of its refined petroleum product exports. Saudi Aramco sells about 1.6 million b/d to U.S. customers and 1.5 million b/d to OECD Europe customers. The kingdom has the flexibility to shift the direction of its export flows at will, and at various times in the past has done so for either political or commercial reasons.

Indeed, Saudi Arabia has embraced “looking East” as a strategic oil policy over the last decade. King Abdallah underscored the importance of Asia as a key economic region for the Kingdom by making a historic four-nation trip to the area in January of 2006, starting in China and then stopping in India, Malaysia and Pakistan. The Saudi King made the first visit to China by a Saudi leader since the two countries established diplomatic relations in 1990. It was also significant in that it was the first trip by the Saudi monarch since he became King in August 2005. King Abdallah and Chinese President Hu Jintao signed several accords in Beijing, including one on increased cooperation in oil, natural gas and mineral deposits. Saudi Arabia currently supplies approximately 14 percent of China’s oil imports, or 450,000 b/d.¹⁶ King Abdallah told the press after the meeting, “We hope this cooperation will develop even more in the future,” and Saudi Foreign Minister Prince Saud Al-Faisal added, “China is one of the

¹⁵ “Saudis Mull Long-Term Growth Options,” *Petroleum Intelligence Weekly*, February 19, 2007.

¹⁶ “Nation Signs Oil Deal with Saudis,” *China Daily*, January 24, 2006.

most important markets for Saudi oil and Saudi oil is one of the most important sources of energy for China.”¹⁷

Saudi Aramco’s success as a crude oil marketer and as a downstream investor is one of the crowning achievements of its first president Ali Naimi, who took the reins of day to day operations in 1988. By the 1990s, Saudi Aramco had developed a commercial customer list of over 60 firms from around the globe, reducing the share of exports to the four largest firms that had originally owned Aramco to 25%. Saudi Arabia was greatly disadvantaged in the mid-1980s by the Aramco partners’ refusal to lift expensive officially priced oil, and Minister Naimi and other Saudi leaders became convinced of the need to make the kingdom more independent by diversifying and controlling its own customer base. Also key to this strategy of achieving “security of demand” was a major campaign to own and operate refining facilities for fifty per cent of its oil production. This process of vertical integration not only ensured that Saudi Arabia could maintain its share in the global market but “through investment in high conversion refineries abroad, guarantee an outlet for their less attractive (heavy) crudes.”¹⁸ Integration also helps balance the company’s operations and protect it from market instability as well as lower storage and other transactional costs.

All of Saudi Arabia’s oil export terminals and pipelines come under the purview of Saudi Aramco’s Refining, Marketing & International organization, which is also responsible for the company’s domestic refineries and product distribution system. Most of Saudi Arabia's crude oil is exported from the Persian Gulf via the huge Abqaiq

¹⁷ “China, Saudis Sign Pact,” *International Oil Daily*, January 24, 2006.

¹⁸ Majed A. Al-Moneef, “Vertical Integration Strategies of the National Oil Companies,” *The Developing Economies*, Vol. XXXVI, No. 2 (1998): 203-222.

processing facility, which handles around two-thirds or so of the country's oil output. For more details, see appendix 1.

Oil Minister Naimi on February 14, 2006 announced the kingdom's goal of doubling its refining capacity to 6 million b/d within five years. Some \$20 billion has been earmarked for the upgrade work, which will involve boosting the capacity of the existing capacity within the kingdom, as well as building new refineries locally and abroad.¹⁹ The investments are commercially driven, in part, given an immediate shortage of refining capacity worldwide and the positive profit margins offered for those with additional refining capability, and the kingdom is also anticipating rising fuel demand at home where petroleum demand has been rising at a rate of 8 percent per year for the last few years.

Since Saudi Aramco's crude oil capacity additions beyond 2009 will likely be heavy crude oil, the kingdom is taking this into consideration in planning its new refining investments.²⁰ In August 2007, Saudi Aramco created a new operations division to coordinate upstream, downstream, marketing and international businesses under the leadership of Khalid al-Falih. One goal for the new operations department will be to ensure that Saudi Aramco's ability to refine heavy crude oil expands in line with the disposition of the quality of its crude oil production.²¹ Added investments in heavy oil refining capacity will add leverage to the kingdom's market power and control since in recent years Saudi Aramco has had difficulty selling incremental barrels of its heavy Arab Heavy crude oil due to heavy oil refining processing facilities constraints in end-

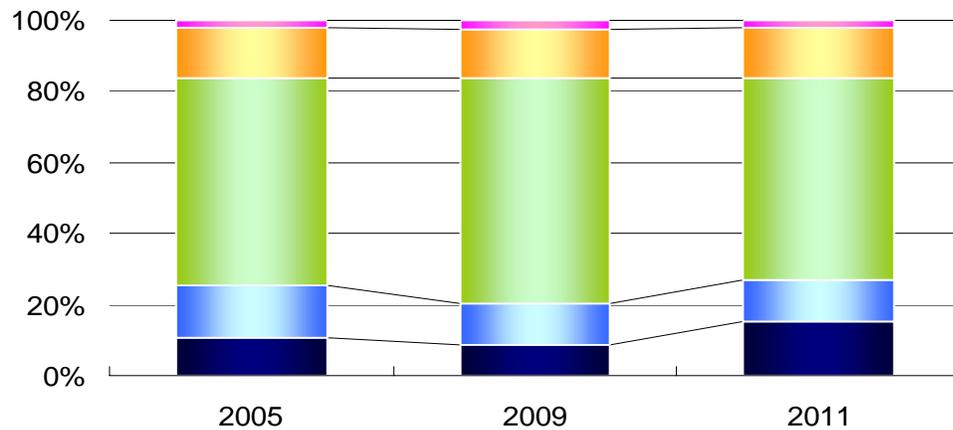
¹⁹ "Saudi Arabia to Double its Oil Capacity," *Agence France Presse*, February 15, 2006.

²⁰ Kobayashi, Yoshikazu, "Corporate Strategies of Saudi Aramco," Baker Institute working paper, available at <http://www.rice.edu/energy/publications/nocs.html>

²¹ "Aramco Gets Ready for Heavy Future" PIW, August 13, 2007

user markets.²² By ensuring a home for its heavy crude oil production, Saudi Aramco would be able to remove this bottleneck to its ability to increase oil production at will, regardless of whether third parties can absorb extra Arab heavy cargoes. More heavy crude refining capacity will enhance Saudi Arabia’s ability to influence global crude oil prices and market supply at any time and under any contingency by rendering all of the kingdom’s spare capacity of heavy oil production instantaneously marketable. In recent years, as much as 400,000 to 800,000 b/d of Saudi heavy crude has remained shut-in due to constraints to global refining to process the barrels at any specific time.²³

FIGURE 4: PERCENTAGE SHARE OF EACH SAUDI CRUDE GRADE



Color Key:
Pink=Super Arab Light;
Orange=Arab Extra Light;
Green=Arab Light;
Medium Blue=Arab Medium;
Dark Blue=Arab Heavy

Source: IEEJ

²² Ibid
²³ Edward Morse, Saudi Arabia’s Spending Binge: Preserving Power and Influence” April 2007 presentation to Aspenia

In August 2006, Saudi Aramco announced that, along with partner ConocoPhillips, it had appointed Halliburton subsidiary KBR to carry out initial engineering for a \$6 billion export refinery in Yanbu. The Yanbu export refinery, scheduled for completion in 2011, will process up to 400,000 b/d of Arabian Heavy crude oil, producing motor fuels and other refined products for U.S. and European markets. A sister plant in Jubail, which is being developed through a joint venture between Saudi Aramco and Total, will primarily serve the Far East market. Slated for start up in 2011, the Jubail project involves the development of another 400,000 b/d, full-conversion refinery that will process Arab Heavy crude and will produce high quality products.

According to Saudi Aramco Refining and Marketing Vice President Khalid Al-Buainain, the company's existing refinery assets can handle 450,000 b/d of heavy crude, although the system is actually running less than 100,000 b/d of heavier grades.²⁴ Saudi Aramco's total capital expenditure for expanding and upgrading existing plants over the next five years is around \$1.5 to \$2 billion. The state firm is also considering revamping its Ras Tanura refinery at a cost of around \$4 to \$5 billion and adding a petrochemical complex.

Saudi Arabia's proven natural gas reserves have been estimated at 248.5 Tcf. Approximately 60 percent of Saudi Arabia's proven natural gas reserves consist of associated gas, mainly from the onshore Ghawar field and the offshore Safaniya and Zuluf fields. The Ghawar field alone accounts for one-third of the country's proven natural gas reserves. However, Saudi Aramco has suggested that only 15 percent of the kingdom has been "adequately explored for gas." The U.S. Geological Survey has

²⁴ "Saudi Aramco plans to build refinery in Yanbu" Alexander's Oil and Gas, April 20, 2005

suggested that Saudi Arabia contains 530 Tcf of undiscovered reserves of non-associated gas, and as much as 40 billion barrels of condensate.

Most new associated natural gas reserves discovered in the 1990s by the state firm have been in fields that contain light crude oil, especially in the *Nejd* region south of Riyadh. The majority of Saudi Arabia's non-associated gas reserves (Mazalij, Al-Manjoura, Shaden, Niban, Tinat, Al-Waar, etc.) are located in the deep Khuff reservoir, which underlies the Ghawar field. Natural gas also is located in the country's extreme northwest, at Midyan, and in the Empty Quarter. The Rub Al-Khali alone is believed to contain natural gas reserves as high as 300 Tcf. In June 2004, gas was discovered at the Fazran 23 well located near Dhahran.²⁵

FIGURE 5: MAJOR GAS DISCOVERIES IN 2006

(IN MILLIONS OF CUBIC FEET PER DAY)

Well	Gas Flow	Condensate	Location	Depth	Field
Karan-6	80		Offshore	10,888 ft	Karan
Zimlah-1	10	660 bpd	352kmSDhahran	14,250 ft	Zimlah
Kassab-1	10		220 kmS Riyadh	15,750 ft	Kassab
Nujayman-1	60	2,040 bpd	280 km SRiyad	15,000 ft	Nuyayman

Source: Saudi Aramco

Another large undeveloped natural gas field is the Dorra field, which is estimated to hold recoverable reserves of between 7-13 Tcf of gas and is located offshore near the Khafji oil field in the Neutral Zone. Dorra development is controversial, however,

²⁵ "Saudi Arabia," *Country Analysis Brief*, Washington, DC: U.S. Department of Energy, Energy Intelligence Agency, August 2005.

because part of it is also claimed by Iran. The maritime border between Kuwait and Iran remains undemarcated, but Saudi Arabia reached an agreement with Kuwait in July 2000 to share Dorra equally. Iran, however, refuses any moves by Kuwait and Saudi Arabia to develop the field on their own.

Then Saudi Crown Prince Abdallah initiated a major initiative for natural gas development and related businesses in 1998. In opening the Strategic Gas Initiative, the crown prince, supported by Foreign Minister Prince Saud Al-Faisal, turned to foreign investors for the Initiative because he recognized that foreign investment was needed to fully explore and harness the country's vast reserves and potential. The Saudi Strategic Gas Initiative was heralded as the first foreign investment in Saudi Arabia's upstream energy sector in decades and was perceived as a bold move by the kingdom to pursue economic reform. Western oil firms showed strong interest in the Gas Initiative, hoping that a foot in the door with less than desirable gas projects might ultimately be rewarded with more lucrative upstream crude deals.

Initially, three mooted gas projects focused on a \$15 billion scheme to develop gas reserves in the South Ghawar field and two \$5 billion ventures that involved gas production for petrochemical, power and water desalination plants. However, internal opposition and drawn out negotiations, as well as questionable reserve estimates, stifled these more ambitious plans.

In the end, the Initiative wound up with only a handful of smaller projects, led mainly by Russian, Chinese and European firms and not the largest U.S. oil companies which had originally negotiated for participation. The focus of the revised gas projects is exploration for non-associated gas in blocks in the Empty Quarter and processing of any

gas that is found. In October 2003, Royal Dutch/Shell and France's Total finalized agreements with Saudi Aramco for the Shaybah gas project, covering a 200,000 sq km area of the Empty Quarter. Shell, which leads the consortium, has a 40 percent stake in the project, with Total and Saudi Aramco each holding 30 percent stakes. In May 2004, Russia's Lukoil was awarded an 80 percent stake in the 29,900 sq km Block A and China's Sinopec was also awarded an 80 percent stake in the 38,800 sq km Block B, with Saudi Aramco holding the remaining 20 percent stakes in the two blocks. These blocks were not considered highly prospective by Western firms.²⁶ Italy's ENI and Spain's Repsol-YPF won a 50 percent stake and 30 percent stake respectively in the 52,000 sq km Block C, with Saudi Aramco again accounting for the remaining 20 percent share.²⁷

Saudi Aramco also owns and operates the Master Gas System (MGS) which has made the kingdom self-sufficient in gas feedstocks for industry and fuel for electricity. The MGS made Saudi Aramco the world's biggest exporter of gas liquids (LPGs & NGLs). The MGS feeds gas to the industrial cities of Yanbu on the Red Sea and Jubail, which combined account for 10 percent of the world's petrochemical production. Prior to the MGS, all of Saudi Arabia's natural gas output was flared.

The majority of the natural gas originates from the Ghawar field, but Saudi Aramco built a compression plant at Safaniya to collect production from the Safaniya and Zuluf fields. Today, non-associated as well as associated gas is fed into the system for delivery to the five gas processing plants at Berri, Shedgum, Uthmaniya, Hawiyah, and Haradh. These plants separate out the natural gas liquids (NGLs), which are fed to fractionation plants at Juaymah, located south of Jubail, and Yanbu. At these two

²⁶ Authors' interviews.

²⁷ Samira Kawar, "Award for Saudi Gas Projects Heralds New Era," *Alexander's Gas & Oil Connections*, May 2, 2004.

facilities, propane, butane and gasoline are produced for export as well as products for domestic industry, power stations and desalination plants.

HISTORY: FROM PRIVATE CONSORTIUM TO STATE BEHEMOTH

Once, Saudi Arabia was not renowned for possessing petroleum. In the 1920s, scientific opinion held that the kingdom had few prospects for petroleum exploration and development. As well known, King Abdul-Aziz Ibn Saud, founder of the modern Saudi dynasty, initially hoped that water, not oil, would be discovered beneath the sands of his desert kingdom. Therefore, compared to Iraq and Iran, Saudi Arabia came late to oil exploration. The British-backed Turkish Petroleum Company (TPC) and Anglo-Persian Oil Company jealously guarded their access to oil in Iraq and Iran, and actively tried to frustrate exploration and production in competing areas of the Near East.

Starting in 1919, American companies attempted to send exploration forays into the Near East but were rebuffed by strong British opposition.²⁸ The unwillingness of the British to allow the U.S. access was symptomatic of a dispute about control over the region's petroleum resources.

Backing the position of the American oil companies, the U.S. Government argued that the San Remo Agreement unfairly discriminated against Americans and that deals made prior to the collapse of Turkish rule in Iraq had no standing. The British, meanwhile, contended that U.K. citizens had "acquired rights" stemming from the earlier decision of the Ottoman Turks to allow the U.K. a concession through the Turkish

²⁸ Federal Trade Commission, *The International Petroleum Cartel*, FTC staff report to the subcommittee on monopoly of select committee on small business, United States Senate, 83rd Congress, 2nd session, Washington, DC: 1952, p. 51.

Petroleum Company (known as the Iraq Petroleum Company after June 8, 1929).²⁹ After six years of negotiation, the U.S. and U.K. resolved their dispute with an accord reached on July 31, 1928 which became known as the “Red Line Agreement.” The settlement admitted five U.S. companies as partial shareholders through a consortium called the Near East Development Company (NEDC). The companies were Standard Oil Co. (NJ), Standard Oil Co. (NY), Gulf Refining Co., and the Pan American Petroleum and Transport Co.³⁰

The agreement included two components that were crucial to the entry of U.S. companies into Saudi Arabia: the self-denying clause, and the “red line” limit. In essence, the self-denying clause forced companies holding shares in the IPC to act in concert, and prevented individual companies from taking unilateral action outside the “red line” limit demarcated on a map of the former Ottoman Empire presented by French and agreed to by the venture partners. Included in the line were the Arabian Peninsula and Bahrain (minus Kuwait), the Levant, Turkey, and Iraq. However, this limitation did not affect U.S. companies left outside the Red Line Agreement.

On December 21, 1928, the Standard Oil Company of California, or SoCal (today’s Chevron), which was not a party to the IPC consortium or its “red line” limits, acquired an oil concession in Bahrain. To the surprise of many in the industry, SoCal discovered oil in Bahrain on May 31, 1932, and the find raised questions about the geologically similar lands of Arabia.

²⁹ *The International Petroleum Cartel*, 69; Roy Lebkicher et al, *Aramco Handbook* (New York: Arabian American Oil Co, 1960), 132.

³⁰ By 1934, though, mergers among U.S. companies and exchanges of shares left the American NEDC consortium with only two shareholders, Standard (NJ) and Socony-Vacuum, formerly Standard (NY).

Not long thereafter, on September 23, 1932, Arabian leader Abdul-Aziz Ibn Saud, the founder of modern Saudi Arabia, declared the Kingdom of Saudi Arabia. The United States recognized the new country in 1933, the same year King Abdul-Aziz granted U.S. based SoCal an exclusive 60-year concession to explore for and produce oil in a 360,000 square mile area in Saudi Arabia.³¹ Eager to counterbalance British influence over the Near East, the King believed that doing business with a country as far away as the United States would profit his kingdom without subjecting it to foreign suasion. The annoyed British saw the development as a Saudi move calculated to diminish their economic power and prestige to the benefit of the United States. In 1936, Socal formed the California-Arabian Standard Oil Company (Casoc) with Texas Oil Company (Texaco), giving Texaco a fifty percent stake in the venture and thereby gaining access to Texaco's marketing facilities east of the Suez Canal, and strengthening the venture's competitive position vis a vis the partner companies of IPC and Anglo Persian Oil.

In March 1938, Casoc struck oil in Saudi Arabia's Eastern Province at Well 7 in the Damman Zone.³² The oil discovery by CASOC put Saudi Arabia on the radar screen of U.S. President Franklin D. Roosevelt, and his secretary of state, Cordell Hull, was charged to protect the U.S. interests in among other things, "the vast oil concessions."³³ The extent of Aramco's reserves, and their importance for the United States became more evident as time went by. The U.S. Government recognized the strategic potential of Aramco once it became clear that "[...] the United States would soon shift from net

³¹ Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York: Simon and Schuster, 1991), 291. A supplement agreement in 1939 extended the size of the concession for an additional one-time payment and new annual rental fees, on top of existing royalties, by the company to Saudi Arabia. See: *The International Petroleum Cartel*, 117.

³² Yergin, 300.

³³ Bronson, Rachel, *Thicker Than Oil* (Oxford: Oxford University Press, 2006), 20.

exporter to net importer, and that an incredibly valuable source of supply was under concession to an American company in Saudi Arabia.”³⁴

Work to build infrastructure to support commercial drilling at Well 7 quickly began; the first commercial pipeline connected a Saudi oil field to its refining terminal on the Arabian/Persian Gulf in 1939, and “three major oil fields had been discovered by the end of 1941.”³⁵ Finally, the company, the country, and commodity had met, beginning what would become the most important oil province of this century. The company was renamed Arabian-American Oil Company (Aramco) in 1944.

Following the end of the Second World War, and only after protracted negotiation led by the U.S. side, the parties within the Iraq Petroleum Co. terminated the Red Line Agreement, opening the way for growth within the Aramco consortium.³⁶ As Aramco’s production potential geared up, SoCal and Texaco sought additional partners to give them access to larger markets to sell the oil. In March 1947, the consortium expanded as Socony-Vacuum (Mobil) and Standard Oil Co. of New Jersey (Exxon) also became shareholders. Standard Oil (CA) and Texaco reduced their shares to thirty percent each; Standard Oil (NJ) and Socony-Vacuum acquired thirty and ten percent, respectively. The newcomers additionally gained shares of the Trans-Arabian Pipeline (Tapline) proportional to their shares of Aramco.³⁷ In opening Aramco up to competitors, Standard Oil of California and Texaco avoided a potentially expensive (and losing) battle to gain market share, and, instead, acquired new markets and important capital to use for

³⁴ Irvine H. Anderson, *Aramco, the United States and Saudi Arabia: A Study of the Dynamics of Foreign Oil Policy, 1932-1950* (Princeton, NJ: Princeton University Press, 1981), 199.

³⁵ Yergin, 301; *The International Petroleum Cartel*, 117; and Lebkicher, *Aramco Handbook* (1960), 141-145.

³⁶ Yergin, 413-419; Raymond F. Mikesell and Hollis B. Chenery, *Arabian Oil: America’s Stake in the Middle East* (Chapel Hill, NC: University of North Carolina Press, 1949), 55-56; Anderson, 146-159; and *The International Petroleum Cartel*, 101-107.

³⁷ *The International Petroleum Cartel*, 124-25.

increasing production.³⁸ The deal suited the United States government which, in the aftermath of World War II, recognized the importance of having this tremendous source of oil supply under concession to American companies.

To provide coordination between the shareholding companies and streamline Aramco's strategic direction, an Executive Committee (ExCom) was formed; Saudi representatives joined the committee in 1950 (still another, secret American company-only group met from 1959).³⁹ The decision making structure created for the American consortium, revolving around this executive committee, influenced the state-run Saudi Aramco's later organizational development and culture, which eventually became structured around a similar management leadership committee format and voting board of directors. The firm's American roots also laid the groundwork for continuation of a well-manned and respected corporate planning function, executive grooming programs based on early identification of leadership potential, and merit-based promotion system.

The strong importance of the Aramco concession in U.S. strategic thinking created a foreign policy element to the American private consortium's work that was unusually prominent in its day to day operations, even within the historical time frame of the post-World War II period. As the 1950s unfolded, and oil producing governments such as Venezuela, Iraq and Iran were demanding a larger piece of the profits from oil production, the U.S. government worked together with the Aramco partner companies to craft a response that would not only preserve the Aramco concession from being nationalized but would also ensure that Saudi Arabia align with the United States against

³⁸ *The International Petroleum Cartel*, 121.

³⁹ The company-only group was known as the Committee on Agreements and Negotiations (AnCom). Anthony C. Brown, *Oil, God, and Gold: The Story of Aramco and the Saudi Kings* (New York: Houghton Mifflin, 1999), 160-61.

the Soviet Union. Saudi Arabia was considered important for more reasons than just oil, including its geography and religious standing in the Muslim world.⁴⁰ A deal was crafted in 1951, whereby Saudi Arabia imposed income taxes, royalties and fees to be paid by Aramco to the tune of 50 percent of the company's profits. The payments by Aramco were classified as a foreign income tax so that under existing rules regarding double taxation, Aramco's tax bill to Saudi Arabia would simply be deducted from the company's American tax bill.

The U.S. Government welcomed the deal as a way to bolster an ally against the Soviets while assuring continued U.S. access to the country's immense oil reserves. In the words of a former assistant secretary of state, "We felt it exceedingly important from the standpoint of the stability of the regimes in the area and the security of the Middle East as a whole and the continued ownership of our oil concessions there and the ability to exploit them, that the Government of Saudi Arabia received an increased income."⁴¹ The additional payments to the King were tallied as "constituting a foreign income tax, so that under the existing rules for double taxation, they would not be taxed inside the United States. The King's share would simply be deducted from the company's tax bill."⁴² For American and Saudi foreign policy, the U.S.-Saudi alliance, with Aramco as a facilitator, functioned as "an effective weapon" against Communism, and the tax

⁴⁰ Dean G. Acheson argued that Saudi Arabia had a vital location for shipping routes and direct air routes to India and the Far East and that the Kingdom could be an important location for air facilities as quoted in Extension of Lend-Lease Assistance to Saudi Arabia, *Foreign Relations of the United States*, (Washington DC: GPO, 1943), IV; 854

⁴¹ Joe Stork, "Saudi Arabia and the Middle East," *Merip Reports*, October 1980, 24-30.

⁴² Anthony Sampson, *The Seven Sisters: The Great Oil Companies and the World They Made* (New York: Viking Press, 1975), 110-111.

settlement (however detrimental to the U.S. Treasury) at least was in lieu of direct aid to the kingdom.⁴³

The deal, coming in the aftermath of U.S. recognition of the state of Israel in 1948, would be the first in a series of diplomatic initiatives on the Saudi King's behalf by Aramco. Aramco, notes historian Irvine Anderson "[...] increasingly developed into a channel for the conveyance of Saudi interests to the inner circles of the parent companies and the American Government..."⁴⁴

Beginning with Aramco's early years, company staff did become, to an extent, promoters of Saudi Arabia to the United States. As Irvine Anderson notes in his history of Aramco, "[...] Aramco personnel became the chief and most effective advocates within the inner circles of the parent corporations and the American government for increased production, cultural accommodation, and a fair share of the profits for 'Abd al-'Aziz."⁴⁵ This role would come to haunt the company during the Middle East conflicts of 1967 and later during the 1973 oil crisis and also set the precedent for Aramco to serve as a conduit for implementation of political foreign policy goals. By the Arab-Israeli wars of 1967 and 1973, Aramco had increasingly become not only a source of revenue but also an arm of the United States to twist at times of tension. The wars marked a definitive period of transition in Aramco's relationship with the United States, which saw the company becoming more closely representative of Saudi policy towards the U.S. than ever before.

⁴³ "Working Paper, Near East Conference," December 20, 1949, Record Group 59, General Records of the Department of State, quoted in Anderson, 185.

⁴⁴ Anderson, 115.

⁴⁵ Anderson, 108.

As the 1960s progressed, exporting countries like Saudi Arabia sought more control over the petroleum resources. In the aftermath of the 1956 Suez crisis where Egyptian leader Gamal Abdul Nasser had raised the specter of a successful populist campaign of anti-colonialism, nationalizations and Pan-Arabism, oil producing countries became dissatisfied with the *status quo* which was permitting the world's largest private oil companies to control the absolute level and flow of money to their national treasuries. Some countries, notably Iraq and Venezuela, eventually kicked the Western oil consortiums out for good. For the most part, Saudi Arabia pursued an incremental approach to gain more influence over Aramco, although some Saudi officials, such as Abdullah Tariki, supported swift nationalization.

Tariki managed Saudi oil policy first as director general of petroleum and minerals (from 1955) and then as oil minister from 1960-62. Tariki's experience with Aramco dated from the early 1950s when he served as "[...] the Saudi Government's first native representative in Aramco's management," and Tariki came away from that experience with a strong belief that Saudi Arabia should expropriate Aramco.⁴⁶ In March 1957, he made headlines by arguing that the 50-50 deal for Saudi Arabia did not, in practice, equate with similar deals elsewhere, Venezuela in particular.⁴⁷ Japanese entry into the Middle East oil trade made this assertion easier to advance. Once the Japanese proposed a 56-44 percent profit sharing agreement to the Saudis for operating in the Neutral Zone, other countries also upset the 50-50 standard.⁴⁸ In the end, Saudi Arabia and Kuwait each obtained a 57-43 percent agreement with Japan's subsidiary Arabian Oil

⁴⁶ Brown, 152.

⁴⁷ "Saudis Complain of U.S. Oil Deals: Say They Are Not Receiving a True 50% of Income," *The New York Times*, March 7, 1957.

⁴⁸ Yergin, 506-7.

Co.⁴⁹ Upon taking up his ministerial post, Tariki indeed broached the possibility of nationalizing the company;⁵⁰ his idea met with some favor among government officials but ultimately was not accepted at that time.⁵¹

The creation of the Organization of the Petroleum Exporting Countries (OPEC) on September 14, 1960 marked an important turning point in the relationship between the oil companies and the exporters. Tariki, along with Perez Alfonso, were key players in OPEC's formation, and their influence focused the energy of the new organization on squeezing more profits from the international oil companies. As described by the organization's Secretariat, the 1960s were OPEC's "formative years" during which the organization sought "to assert its Member Countries' legitimate rights in an international oil market dominated by the 'Seven Sisters' multinational companies."⁵² Indeed, at the moment of its inception, OPEC managed to halt additional attempts to reduce oil's posted price.

But Abdullah Tariki soon lost his mantle as he became embroiled in Saudi internal politics. When then Crown Prince Faisal became acting head of state in 1962, he sacked Tariki and replaced him with Ahmed Zaki Yamani. Yamani and King Faisal had a strong relationship, with the King holding the minister in extremely high regard. In November 1963, Yamani announced that contrary to private comments made by ex-minister Tariki, the Saudi Government opposed nationalizing the oil industry.⁵³

⁴⁹ Sampson, 151-2.

⁵⁰ Brown, 248.

⁵¹ Madawi Al-Rasheed, *A History of Saudi Arabia* (Cambridge, UK: Cambridge University Press, 2002), 111 and 121; Yergin 514.

⁵² "The Organization of Petroleum Exporting Countries Brief History," *Organization of Petroleum Exporting Countries*, <http://www.opec.org/aboutus/history/history.htm> (Accessed October 26, 2005).

⁵³ "Saudi Arabia Bars Oil Nationalization," *The New York Times*, November 8, 1963.

The brewing conflict between the Arabs and Israelis added a difficult dimension to Aramco's operations in the kingdom in the late 1960s and into the 1970s. During King Faisal's reign, the U.S. Government's official pro-Israel policies became an ever greater problem, and proponents of Arab nationalism increasingly targeted Aramco as a symbol of U.S. power. For the Saudi government, Aramco and its oil concession offered a means to twist the arm of the United States on matters of foreign policy. The steady and rising dependence of the U.S. upon foreign oil gave Saudi Arabia potent political and economic leverage.

By the end of May 1967, war between Israel and its Arab neighbors seemed likely. An internal government meeting held in Washington on May 23 noted that in the event of a crisis or embargo where both Kuwait and Saudi Arabia joined an embargo, "serious disturbances" in the supply of oil could result.⁵⁴ Yamani warned the U.S. of the "consequences" of supporting Israel in an Arab-Israeli conflict, and for emphasis he passed his message through Aramco channels. When Yamani received the U.S. reply, after deliberating with King Faisal, he pronounced it to be inadequate, and, responding to a suggestion to nationalize Aramco, Yamani answered "not yet."⁵⁵ From U.S. Government records, a slightly different contemporary account quotes Yamani saying that, with the prospect of war very likely, "if the United States directly supports Israel, Aramco can anticipate being nationalized 'if not today, then tomorrow.'"⁵⁶

⁵⁴ Item 228: "Memorandum from the Director of the Office of Fuels and Energy, Bureau of Economic Affairs (Oliver) to the Deputy Assistant Secretary of State for Economic Affairs (Fried)," Washington, May 23, 1967, *Foreign Relations of the United States*, Vol. XXXIV.

⁵⁵ Brown, 269 (quoting from the Mulligan papers).

⁵⁶ Item 229: "Memorandum for the Record," Washington, May 24, 1967, *Foreign Relations of the United States*, Vol. XXXIV.

During the 1973 Arab-Israeli war, Aramco found itself caught between the United States and Saudi Arabia, with the American-owned firm forced by circumstances to implement the day to day management of a boycott of oil sales to the United States and other supporters of Israel.⁵⁷ For its part, Aramco had little choice but to comply with Saudi dictates during the crisis. As an Aramco vice president bluntly said, “All our operations are in Saudi Arabia. We have to follow the Saudi Government’s orders or get out. It’s that clear-cut and getting out would do no one any good.”⁵⁸ Forced to follow Saudi rules to keep its concession, the consortium did not ship supplies to the U.S. while the embargo was in place. Said former Aramco chairman and CEO Frank Jungers, “He [King Faisal] didn’t say there’d be nationalization; he simply said: ‘you are going to do this: Embargo the countries that we need to have embargoed.’ The meaning is clear.”⁵⁹ At the request of the U.S. government, however, Aramco secretly requested permission from King Faisal to continue to supply U.S. warships and bases in a manner kept out of the public eye.⁶⁰

As Israel preemptively attacked Egypt on June 5, 1967, an Israeli victory appeared likely. Under pressure from a rumor in the Arab world that the U.S. and Britain had provided Israel with air cover for the attacks, the Saudi Government decided to join an oil embargo against the U.S. and Britain initiated by Iraq, Kuwait and Algeria. According to the declassified U.S. presidential daily brief on June 6, “Arab oil-producing countries, meeting in Baghdad, say they will stop selling oil to any country which takes

⁵⁷ Brown, 294.

⁵⁸ “The Curious Partners in Arabian Oil: Aramco Acts as Cutting Edge in Saudi Arabia’s U.S. Embargo,” *New York Times*, November 4, 1973.

⁵⁹ “Frontline: House of Saud, Interview with Frank Jungers,” *PBS*.

<http://www.pbs.org/wgbh/pages/frontline/shows/saud/interviews/jungers.html>

⁶⁰ Bronson, p. 101

part in or supports Israel in the fighting.”⁶¹ The U.S. Government monitored the situation closely, as revealed in official correspondence from the files of Secretary of State Rusk.⁶² Yamani commenced the Saudi embargo on June 8, towards the end of the fighting, by informing Aramco’s representative in Riyadh that, “You are requested hereby not to ship oil to the United States of America or the United Kingdom. You should see that this is strictly implemented and your company will be gravely responsible if any drop of our oil reaches the land of the said states.”⁶³ But the embargo was less than effective as the United States managed to raise its own oil production by 1 million b/d as did other non-Arab producers such as Iran and Venezuela, reducing the impact of the Arab orchestrated cut-offs to the U.S. and Britain.

But the far more successful oil embargo of 1973, coming against a far tighter oil supply situation, was a different story and marked a decisive rise in Saudi influence over Aramco. Aramco was required to set up a system to follow the boycott orders and implemented it “under threat of complete nationalization.”⁶⁴ King Faisal also ordered the embargo to include the U.S. Sixth Fleet and all supplies to the U.S. military, which created serious problems for American operations. U.S. Undersecretary of Defense William P. Clements called in senior Aramco officials and asked them to get Saudi Arabia to lift the restrictions against sales of fuel to the U.S. military. Aramco went to Faisal and received “veiled permission” to secretly divert oil to American war ships and

⁶¹ Item 172: “President’s Daily Brief: Washington, June 6, 1967,” *Foreign Relations of the United States*, Volume XIX.

⁶² Item 214: “Memorandum of a Telephone Conversation between Secretary of State Rusk and the Assistant Secretary of State for Economic Affairs (Soloman),” Washington, June 6, 1967,” *Foreign Relations of the United States*, Volume XIX.

⁶³ Brown, 274; Yergin, 555.

⁶⁴ Brown, 294

bases,⁶⁵ once again demonstrating Aramco's special status when it came to Saudi foreign policy.

The success of the 1973 oil embargo hastened nationalizations in many countries and paved the way for Saudi Arabia to press its plans to obtain ownership of Aramco. The kingdom began by taking a minority stake in Aramco's ownership, to be followed by gradual increases in that stake as well as training and placement of Saudi nationals into key management positions.

Saudi Arabia pursued a policy of increased "participation" in the 1970s. The Saudis' goals were clear: to end American ownership of Aramco and transform the company into a Saudi venture. Unlike some oil producing countries that nationalized their industry overnight, Saudi Arabia chose the approach of incremental nationalization. The American Aramco partner firms resisted with delaying tactics, but Aramco executives knew that a compensated and negotiated settlement was preferable to outright nationalization, which had happened in Russia, Mexico, and Iran. Saudi Arabia and the Aramco parent companies began the first round of participation negotiations in 1972.

To obviate the process, the American Aramco partners put forth unattractive counteroffers and sought political intervention from Washington. These tactics infuriated Yamani, who rejected any proposal not consistent with participation, and he responded forcefully to the consortium's bumbling attempts at harnessing political power.⁶⁶ Saudi threats to offer oil to non-Aramco companies and a push by other OPEC member countries for majority participation put additional pressure on Aramco. Faced with Yamani's indefatigable will, and eager to avoid an outright takeover, Aramco offered the

⁶⁵ Bronson, 120

⁶⁶ Sampson, 236.

Saudi government a 25 percent share in the consortium, known as the “General Agreement” (1972) to take effect on January 1, 1973. For the Saudis, participation in large part entailed the training of Saudi nationals as employees of the company, especially at the management level from which future executives would be chosen.

The first participation purchase accorded with the Saudi policy of incremental nationalization. Aramco perceived the matter rather differently. While not contesting the kingdom’s partial ownership, the company hoped to cap it at the 25 percent mark. Former Aramco chairman and CEO Frank Jungers observed that “the important thing was to give the immediate image of being *with* the government, not trying to fight it.” Under the 1972 General Agreement, Saudi participation would begin at 25 percent and increase five percent per annum until reaching 51 percent in 1983.⁶⁷ The Saudis agreed to pay Aramco’s parent companies \$500 million (adjustable for inflation) in compensation for the initial 25 percent acquired, and the kingdom also gained rights to crude oil equal to its share of Aramco.⁶⁸ In settling on the “buy-back price” of oil from the Saudi participation share, the Aramco consortium gave into Saudi terms: 93 percent.⁶⁹ While the agreement dispensed with the consortium’s old order, it also prevented a precipitous nationalization and laid the groundwork for cooperation between the American and Saudi owners based on common business interests, such as maintaining stable markets and supply.

Continued negotiations between Saudi Arabia and Aramco’s U.S. consortium partners led to an agreement in June 1974 for Saudi Arabia to acquire 60 percent of Aramco. It was not until 1976 that both sides came to agreement on the implementation

⁶⁷ Saudi Aramco, “1998 Annual Review,” 24; Brown, 290; and “Oil Accord Signed by Two Arab States,” December 22, 1972, *New York Times*.

⁶⁸ Alexei Vassiliev, *The History of Saudi Arabia* (London: Saqi Books, 1998), 390.

⁶⁹ Sampson, 238.

of nationalization at a managerial level and transferred the rights and assets of Aramco to Saudi Arabia. Originally, the agreement, though, did not provide for instantaneous Saudi ownership. The transfer date was initially unspecified.⁷⁰ On September 5, 1980 the Government of Saudi Arabia announced its complete purchase of Aramco's assets, a fact which had taken place earlier in the year. Having paid the Americans for all of Aramco's shares and acquired full control over the company, which accounted for 90 percent of the kingdom's production, the Saudi Government did not officially sign the paperwork transferring title. In the first few years following the complete purchase, Saudi Arabia controlled the company *de facto* but Americans still administered Aramco on a daily basis under the orders of Saudi leadership. Ironically, the final paperwork for full nationalization was not signed until 1990,⁷¹ two years after the reorganization of Saudi Arabia's oil industry into a single state monopoly, Saudi Aramco.

Negotiations between Saudi Arabia and Aramco's U.S. consortium partners continued and in June 1974, the two sides reached an interim agreement. Saudi Arabia would acquire 60 percent of Aramco but the Saudi Government agreed to sell most of its share of the oil back to the U.S. companies, which could then market it worldwide. A final accord was reached in 1976. Agreement over how to compensate the companies for Aramco's assets, maintain access to Saudi oil, and implement nationalization at a managerial level was not forthcoming until 1976, when the two parties reached a settlement at Yamani's suite at the Al Yamama Hotel in Riyadh, Saudi Arabia.

The change of ownership agreement transferred the rights and assets of Aramco to Saudi Arabia while Aramco received the right to market eighty percent of Saudi oil

⁷⁰ Brown, 313.

⁷¹ Yergin, 652.

production and earn 21 cents per barrel.⁷² The agreement, though, did not provide for instantaneous Saudi ownership. The transfer date was unspecified.⁷³ Several issues remained to be resolved over the coming years, including the compensation price for oil below the ground. The company also had to increase the number of trained Saudi staff to take over the company's day to day management and operations. As cited in the *Washington Post*, some 1,722 employees out of Aramco's total 20,067 were Americans, according to Aramco's 1976 annual report; however, Americans filled the majority of managerial positions.⁷⁴

After the transfer, the Saudi Government took control of the company's overall direction and decision-making, but many Americans remained in management and technical levels during the late 1970s and early 1980s. As a 1978 report to Congress by the Comptroller General of the United States noted, "Even though the total takeover has not yet occurred, decisions on oil production levels, exports, pricing, and future development of reserves are now made and controlled by SAG [the Saudi Arabian Government]."⁷⁵

On September 5, 1980, the Government of Saudi Arabia announced that it had completed its purchase of Aramco's assets. Aramco's 1980 profit margin was \$1.20 to \$1.30 per barrel, totaling \$4 billion per year based on production at the time.⁷⁶ *Petroleum Intelligence Weekly* reported that the kingdom paid \$1.5 billion to compensate the consortium. Abdul Hadi Taher, head of Petromin, which was then Saudi Arabia's

⁷² Yergin, 651.

⁷³ Brown, 313.

⁷⁴ Thomas Lippman, "Aramco Stimulates US-Saudi Link," *Washington Post*, May 30, 1977.

⁷⁵ "Report to Congress: Critical Factors Affecting Saudi Arabia's Oil Decisions," 12.

⁷⁶ Stork, 28.

national oil company, commented that “we have paid and transferred the funds. It occurred technically speaking, on March 9 [1980].”⁷⁷

In 1979, the fall of the Shah of Iran had brought yet another global world oil supply crisis and a quadrupling of oil prices. Thus, the four former partners in Aramco counted themselves extremely lucky to have access to Saudi oil supplies and to receive a profit margin on it. But that situation, nicknamed the “Aramco Advantage” was short lived. The extremely high 1970s oil price stimulated companies to drill for oil in areas outside of OPEC, including Alaska, the North Sea and Mexico. At the same time, the 1979 oil shock sent the world economy into recession, causing a sharp downturn in economic activity and a related drop in oil demand. As a result, by 1982, international oil markets were quickly becoming oversupplied, leaving Saudi Arabia and other members of OPEC under pressure to defend contractual official selling prices in the face of a falling spot (non-contract) market price for oil. Around the same time, King Khaled died of a heart attack, leaving his brother King Fahd to rule amid slumping oil revenues and the need to cut budgets.

The Aramco advantage quickly became a liability as the four partners were forced to buy Saudi oil at the official posted price and absorb any ensuing loss that was incurred by refining or reselling the Saudi oil in a falling marketplace. Estimates ranged into the billions for the amount of money lost by the four partner companies taking their allocations of Saudi oil in 1982 and 1983.⁷⁸

As the losses for the former Aramco partners stacked up, the companies began to cut loadings of Saudi oil. The four companies’ liftings from Saudi Arabia had fallen from

⁷⁷ Anthony J. Parisi, “Final Saudi Payment for Aramco Is Made,” *New York Times*, September 5, 1980.

⁷⁸ “How the Saudis are Fueling Big Oil Mergers” *Business Week*, March 26, 1984.

an average of 1.5 million b/d in 1984 to 700,000 b/d by spring of 1985.⁷⁹ As production from the UK North Sea and other non-OPEC producers was gaining momentum in the mid-1980s, Saudi oil production fell from 10 million b/d down to 2.5 million b/d, as buyers shied away from high official priced Saudi oil. Initially, Saudi Arabia was willing to serve as a “swing producer,” letting its production rates fall to defend OPEC’s official selling prices (OSP), but eventually the kingdom balked at the market share sacrifices it was making to try to slow the drop in oil prices.

In 1984, Saudi Arabia moved to bypass the official price system by arranging a 34-million-barrel oil barter for the purchase of ten Boeing 747s valued at over \$1 billion. The deal, which initially covered the sales of 500,000 b/d of oil outside of the Aramco framework, was seen by OPEC and commentators of the day as destabilizing to oil markets. By 1985, the kingdom became even more aggressive about its loss of market share and initiated an oil price war, abandoning OSP for all exports and selling oil to the Aramco partners, and later to its other Western customers, at prices linked to the market value of the refined petroleum products manufactured from crude oil.

The discount scheme met its policy aim, raising Saudi market share back to a target level of 6 million b/d. But oil prices, rather than settling around \$15 as Yamani had reportedly predicted to King Fahd, continued to fall to \$7 a barrel by early 1986 as calculations that low prices would result in the shutdown of non-OPEC production failed to prove correct, straining already tense relations between the King and his minister. Saudi Arabia ended its price war, and in early October 1986, OPEC met in Geneva and agreed to act to stabilize the oil market.

⁷⁹ “Saudi Customers Move to Reduce Crude Oil Purchases,” *Dow Jones News Wire*, May 31, 1985.

On October 30, 1986, with prices still hovering at \$14 a barrel, well below King Fahd's stated target price of \$17 to \$19 a barrel, Yamani offered some customers a secret 50 cents discount on their contract oil price to keep Saudi oil flowing. The discount caused a negative ripple in oil markets which were counting on OPEC to rescind all discounting schemes and Yamani was relieved of his post.⁸⁰ Yamani's departure came in the wake of a rupture in relations between the minister and the king over oil pricing, OPEC policy, and the King's desire to control oil policy more directly.⁸¹

Yamani's problems with King Fahd illustrate the career risks that come if a technocratic minister, no matter how successful, fails to follow closely enough the policies recommended by the King. King had instructed Yamani to pursue a new double-pronged policy: a return to fixed prices set at \$18 a barrel and higher Saudi production, a strategy Yamani thought would not be possible to implement. *Petroleum Intelligence Weekly* in explaining Yamani's departure explained that during the October OPEC meeting, Yamani had rejected the king's instructions to raise Saudi Arabia's production quota as well as increase OPEC's price target to no lower than \$18 a barrel, and preferably \$20. The king believed that both of these goals were achievable. Yamani, on the other hand, as reported by *Petroleum Intelligence Weekly*, contended that the market glut made it "impossible to achieve both goals simultaneously," and the king's "two-pronged policy would amount to 'economic suicide' for Saudi Arabia and [he] refused to accept responsibility for it."⁸² When the king concluded that his oil minister "was deliberately acting against his wishes, and consistently throwing up obstacles, Yamani

⁸⁰ "Yamani Ousted as Oil Minister" *The New York Times*, October 30, 1986.

⁸¹ Richard Jones, "OPEC After Yamani, Discount in the Kingdom Forces Sacking of Stylish Servant," *The Financial Times*, October 31, 1986.

⁸² *Petroleum Intelligence Weekly*, November 24, 1986

was “abruptly discharged,” *Petroleum Intelligence Weekly* wrote in an exclusive story prepared by its publisher Wanda Jablonsky.

The sacking of Yamani signaled the approaching end of an era where the politics of oil was front and center. Yamani was succeeded by Hisham Nazer, an extremely successful minister of planning, who was responsible for implementing much of the kingdom’s successful construction and economic development activity in the 1970s. Nazer took a more technocratic approach to the kingdom’s oil industry and lost no time in shaking up the old oil order.

Contemporary accounts of Aramco’s business in 1987-88 reveal a company in flux. Having bought Aramco, the Saudi Government had to decide how to reconcile the company’s activities with those of its erstwhile competitor Petromin, the first Saudi national oil company and an organization closely associated with Yamani. Established in 1962, Petromin had been charged with refining and supplying oil within the kingdom. By 1987, with Hisham Nazer firmly at the reins, the Saudi government began to intensify efforts to streamline the oil industry. The fate of Aramco’s U.S. citizen employees had hindered the integration negotiations, as did the legal incorporation of Aramco in Delaware and questions about ownership of technical assets.⁸³ In February 1988, the Saudis announced that Petromin would be reorganized into divisions that would focus solely on lubricants, refining, and domestic marketing. Other activities would be the responsibility of the now Saudi-owned Aramco.

With the division of labor between Petromin and Aramco more clearly defined, the Saudi Government initiated the final steps necessary to nationalizing the company in

⁸³ “Aramco Assets above Ground Said Adding Complexity to Negotiations with Saudis,” *Platt’s Oilgram News*, September 3, 1987.

every sense. Most importantly, it placed Saudi nationals in senior management positions within Aramco. In a first for the company, in April 1988, Ali Naimi succeeded John Kelberer as the first non-American to run the company. With these momentous developments, Aramco was poised to end its legal identity as a U.S.-registered business. Reporting in the *Middle East Economic Survey*, Editor Ian Seymour described how Saudi Arabia had drafted a new charter for Aramco, which cut its corporate links to the United States and reconstituted it in the kingdom as the Saudi [Arabian] National Oil Co.—Aramco, or better known today as Saudi Aramco.⁸⁴

In its rebirth as a Saudi company in every sense, Saudi Aramco sought to cooperate with the former consortium in overseas joint ventures and keep valuable “technical and managerial assistance contracts” – but on the new company’s own terms.⁸⁵ The partnerships were designed to help Saudi Arabia secure its downstream position against price shocks and market instability. “On November 8, 1988, King Fahd issued a royal decree announcing the sale of the Arabian-American Oil Company to the Saudi Arabian Government”⁸⁶ and, a few weeks later, Oil Minister Nazer announced that the new Saudi Arabian Oil Company would assume most of the functions conducted by the previous company.⁸⁷

Following the November decree, King Fahd continued to restructure the company. Placing himself definitively at the apex of power, the King created a Supreme Board to govern the new oil company.⁸⁸ The Saudi Government also downgraded

⁸⁴ Ian Seymour, “Saudi Arabian Oil Policy: Restructuring At Home and Downstream Penetration Overseas,” *Middle East Economic Survey*, Supplement to Volume XXXI, May 9, 1988.

⁸⁵ “Saudi Arabia Plans to Cut Aramco’s U.S. Legal Ties,” *Associated Press in Journal of Commerce*, May 10, 1988.

⁸⁶ Brown, 359.

⁸⁷ “New Saudi Oil Company,” *Reuters in New York Times*, November 22, 1988.

⁸⁸ “Saudi Aramco Board,” *New York Times*, March 14, 1989.

Petromin and reconfigured it as the main body overseeing specialty companies, whose remits in 1989 included (a) domestic refining under the new name “Saudi Arabian Refining and Marketing (Samarec),”⁸⁹ (b) lube blending as “Petrolube,”⁹⁰ and (c) base oil refining as “Luberef.”⁹¹

Oil Minister Hisham Nazer took a lead in developing Samarec from the remains of the General Petroleum and Minerals Organization, or Petromin and was a close friend of Samarec President Abdullah Linjawi. However, in the early 1980s, the state refining and marketing arm had been perceived as overstepping its boundaries by seeking downstream ventures outside the kingdom, putting itself at odds with Saudi Aramco, which was pursuing major downstream joint ventures of its own. In addition, Samarec had failed to meet its main purpose of supplying the domestic market with refined product, and was often a regular buyer in the international spot products market.⁹² As a result, Samarec’s operations were merged into the better run Saudi Aramco in 1993 and Linjawi and other senior executives were dismissed amid charges of corporate overspending and mismanagement.

Into the 1990s and beyond, under the leadership of Hisham Nazer and Ali Naimi, Saudi Aramco grew to become a powerhouse in the international oil industry. In 1990, when Iraq invaded Kuwait -- resulting in around 4 million b/d of lost Iraqi and Kuwaiti oil supply -- Saudi Aramco responded immediately, boosting its production from 5.3 million b/d in July 1990 to 7.3 million b/d within 60 days. Saudi Arabia then opted to

⁸⁹ “Saudis Try to Digest New Oil Giant,” *MidEast Markets*, March 20, 1989.

⁹⁰ “Petromin 3,” The Saudi Arabian Information Resource, Accessed November 7, 2005, <<http://www.saudinf.com/main/d23.htm>>.

⁹¹ Victor Mallet, “Riyadh’s Assertive New Mood – Petroleum Sector,” *Financial Times*, December 13, 1989.

⁹² “The World’s Key National Oil Companies –Saudi Aramco”, *Energy Intelligence Group*, January 1999, Chapter 2, Origins and Corporate Structure, 13.

accelerate its crude capacity expansion program, aiming to reach 10 million b/d by the mid-1990s.⁹³

Saudi Aramco also significantly expanded its international downstream operations, establishing joint ventures with major refiners in the United States, Europe and Asia. Growth continues today as new investments in oil field capacity are underway and Saudi Aramco pursues new downstream ventures.

PRESENT DAY ORGANIZATION AND LEADERSHIP

Reminiscent of its U.S. Aramco partner consortium roots, Saudi Aramco's present day leadership is organized around a corporate management committee structure and Board of Directors. Day-to-day decisions that involve who the company sells oil to, price setting, and contract terms are largely the domain of Saudi Aramco's professional staff and it oversees the licensing and bidding process for other companies trying to enter the oil and natural gas sectors.⁹⁴ Saudi Aramco is organized into six business lines: Exploration & Producing; Refining, Marketing & International; Gas Operations; Engineering & Operations Services; Finance; and Industrial Relations.

Each of the six senior Vice Presidents, who lead one of the operational business lines are members of the corporate management committee, which is chaired by Saudi Aramco's President and Chief Executive Officer, currently Abdullah Jum'ah. The company also has a general counsel and corporate planning arm that report directly to the President and CEO. Under the chairmanship of Ali Naimi in the 1990s, most final decisions were made by the chairman himself, despite the existence and regular operation

⁹³ "Saudis Speed Up Work to Expand Crude Potential" *Petroleum Intelligence Weekly*, October 6, 1990.

⁹⁴ Valerie Marcel, *Oil Titans: National Oil Companies in the Middle East* (Washington, DC: Brookings Institution Press, 2006), 99; and authors interviews.

of the corporate management committee. When Naimi moved to the oil ministry, the new chairman of the corporate management committee, Abdullah Jum'ah expanded the number of senior executives involved in the committee process, and the committee began to make more decisions on the basis of a consensus decision making framework, though the chairman retains ultimate authority.

Saudi Aramco has a strategic planning department in corporate planning that engages in economic analysis to support the various business units and investment projects so that they are evaluated on the basis of commercial rate of return (in most cases, for oil and gas a standard hurdle rate of 15% is used as a frame of reference) and effectiveness in meeting corporate priorities as well as targets and goals set by the oil ministry and the King. A threshold hurdle level for rate of return is utilized as a guide to decide upon the viability of projects and the specifics of planning and implementation. Projects which are deemed commercial are then vetted with the management committee and chairman, who in turn presents final project schedules, budgets, and investment plans to the Saudi Aramco board for approval.

Historically, executive promotion practices have been mainly merit-oriented, especially in technical areas such as exploration and production. The expatriate executives who formerly ran the company as it was being Saudi-ized instituted a "kawaji" system to develop young executives for fast track. Western executives, seconded from the original Aramco partner companies for many years after nationalization, mentored top technically-oriented Saudi employees and other promising candidates were groomed via an executive development department that offered training courses and special assignments. In recent years, however, the organization has become

more political and other bases for promotion have come into play, including loyalty and family background.

Major operational decisions are overseen by Saudi Aramco's Board of Directors. The company's long international history is evident in this organization structure and one of the board's unique characteristics is that three seats are held by former CEOs of major international oil companies. Overall, the composition of the board reflects the small measure of separation that exists between the government and the company.⁹⁵ Currently serving on the board with Naimi are ten others: Finance Minister Ibrahim Al-Assaf; Chairman of the Ports Authority Abdul-Aziz Al-Manei; Supreme Economic Council Secretary General Abdul-Rahman Al-Tuwaijjeri; Saudi Communications Authority Governor Mohammed Al-Suwayel; Saudi Aramco President and CEO Abdullah Jum'ah; Saudi Aramco Senior Vice President of Exploration and Producing Abdullah Al-Saif; Saudi Aramco Senior Vice President of Refining, Marketing and International Abdul-Aziz Al-Khayyal; Saudi Aramco Senior Vice President of Industrial Relations Khaled Al-Falih; former chairman of Standard Oil Harold Haynes; former Marathon Oil Company President Victor Beghini; and former President and CEO of Texaco Inc. James Kinnear.

Saudi Aramco's Board of Directors is responsible for high-level planning, budgeting and project decisions for Saudi Aramco.⁹⁶ Senior staff of Saudi Aramco had to consider the opinions of the oil minister and other board members in preparing reports to the board of directors. In most cases, the board of directors followed the advice and proposals of senior Saudi Aramco management but cases are known to arise where the

⁹⁵ Marcel, 82.

⁹⁶ Saudi Aramco's website: <http://www.saudiaramco.com>

board rejects a plan put forward by the company's executive committee. For example, Saudi Aramco proposed to its board that a new unit be created to trade refined products on a spot basis, instead of relying on cumbersome tender auctions that were customary in the kingdom's products sales business. With Saudi Oil Minister Naimi's backing, Saudi Aramco proposed that the new trading unit be permitted to trade up to 25 percent of refined product sales. The board, in its deliberations, questioned how the company would implement a control function for the activity and also what margin of profit was expected from the trading operations. In the end, the board voted that the level of profitability for the proposed venture was not high enough to justify the risks inherent in such operations and the proposal was rejected, despite backing from senior management and the oil ministry.

One advantage that Saudi Aramco has over other national oil companies is that it controls its own operating revenue. The company has its history to thank for this important element in its autonomy and independence since its operations have not changed in that regard since it was under foreign ownership. Saudi Aramco pays royalties and dividends from the earnings of its operations to the state, much the same way the American Aramco partners before it made its payments to the government. While the rate of payments varies depending on the level of profits, typically these payments represent about 93 percent of its profits.⁹⁷ Retained earnings are used to finance the company's normal operations. For major oil field and other infrastructure expansion and investment programs, additional funds must be allocated to Saudi Aramco via the national budget overseen by Ministry of Finance. This fiscal structure and the corporate culture, which was created during its history as a private sector entity, is focused towards a profit

⁹⁷ Marcel, 133

maximizing orientation. Saudi Aramco analyzes, selects and implements projects on the basis of profit maximization, except in the occasional case where government-oriented political considerations override technocratic analysis and planning.

Formally, Saudi Aramco operational plans and decisions come under the purview of the Supreme Petroleum Council and the King of Saudi Arabia. On the Saudi Aramco website, it states, “Saudi Aramco reports to its owner, the Saudi Arabian Government, through the Supreme Council for Petroleum and Mineral Affairs, chaired by the Custodian of the Two Holy Mosques King ‘Abd Allah ibn ‘Abd al-Aziz Al Sa’ud. The Supreme Council for Petroleum and Mineral Affairs (SCPM) sets the company’s broadest policy and objectives. Its members are drawn from the government and the private sector.”

The SCPM was created in January 2000 in what some saw as a push by then Crown Prince Abdullah to jumpstart economic reforms -- including industry privatization. Focused on instituting reforms needed to ensure entry into the World Trade Organization (WTO) and to strengthen the kingdom’s economy through the development of the private sector, King Fahd issued royal decrees establishing the Supreme Economic Council in 1999 and the Supreme Council for Petroleum and Mineral Affairs (SCPM) in January 2000.⁹⁸ The mission of the SCPM is to develop and approve the long term strategy for the petroleum and minerals sector and to review international draft agreements. This latter role was considered an important element to ensuring the legitimacy of the Natural Gas Initiative, which was initiated in 1998 by King Abdullah

⁹⁸ Anthony H. Cordesman, *Saudi Arabia Enters the Twenty First Century* (Westport, Connecticut: Praeger, 2003), 326-328.

(then crown prince) to stimulate foreign investment in the kingdom's natural gas and electricity sector and thereby strengthen the economy and expand jobs.

The members of the SCPM include the King as chairman and the Crown Prince as deputy chairman and other notable members of the cabinet and oil industry. Members of the council, in addition to King Abdallah and Crown Prince Sultan Bin Abdul Aziz, include: Foreign Minister Prince Saud Al-Faisal; Oil Minister Ali Naimi; Finance Minister Ibrahim Al-Assaf; Industry Minister and SABIC Chairman Hashem Yamani; Planning Minister Khalid Al-Qusaibi; Minister of State Mutleb Bin Abdullah Al-Nafisah, who also serves as Secretary-General of the Supreme Council of Petroleum and Mineral Affairs; President of King Abdel Aziz City of Science & Technology Saleh Al-Ithil; former Deputy Finance Minister Abdel Aziz Al-Rashed; Saudi Aramco President Abdullah Jum'ah, and the Gas Opening's Negotiating Committee Secretary-General Abdel Rahman Al-Suheibani, who has served as a legal advisor at the royal court.

On paper, the Supreme Council for Petroleum and Mineral Affairs has a wide mandate. The body is said to have the ultimate authority in approving the general policies of Saudi Aramco, including the company's five-year plans, five-year capital investment program, crude oil production and exploration strategies, and the company's capital position.⁹⁹ The SCPM also has the broader mandate of helping restructure Saudi economy and encouraging private investment in the energy sector and has, according to some experts, proved instrumental in reforming the country's foreign investment laws.¹⁰⁰

The council formally approved the Natural Gas Initiative as one of its first acts of business in January 2000, thereby revitalizing the Initiative which was flagging due to

⁹⁹ Cordesman, 328.

¹⁰⁰ Ibid.

resistance from within Saudi Aramco and other quarters. A technical committee from within Saudi Aramco had at that time rejected the initial proposals submitted by international companies under the natural gas Initiative. Around the same time, Foreign Affairs minister Prince Saud al-Faisal was appointed to head a ministerial committee on the investment proposal. In the spring of 2000, Prince Saud announced expanded opportunities for foreign investment in Saudi Arabia's natural gas sector.¹⁰¹ It is, therefore, little surprise that many speculate that the timing of the formation of the new council reflected the Crown Prince's desire to overcome resistance of anti-privatization forces inside Saudi Aramco and within royal circles and to have the new body give credence to the eventual gas deals made with the foreign oil companies by giving an official approval to them when the time came.

In August of 2000, the SCPM also endorsed the kingdom's OPEC strategy.¹⁰² Generally speaking, Saudi Aramco enjoys great flexibility in initiating major project decisions, and often times the more mundane operation of the SCPM's approval is, in many cases, a rubber stamp for routine matters, as the council typically approves decisions and plans proposed by Saudi Aramco's board.¹⁰³ But as demonstrated in the case of issues that are more politically controversial, such as the Gas Initiative, the Council can become a more influential institution for assisting the King to implement his programs, serving as a political entity to debate, vet and clear politically controversial policies and programs. Two important members of the SCPM, Dr. Hashim Yamani, Minister of Industry and Electricity, and Dr. Ibrahim al-Assaf, Minister of Finance and National Economy, have been outspoken in their support of opening aspects of the

¹⁰¹ Ibid.

¹⁰² Ibid, 329.

¹⁰³ Marcel, 84-85.

kingdom's petroleum sector to foreign participation. In the case of Minister Yamani, this focus has been mainly on electric, petrochemical and heavy industries while Minister al-Assaf has publicly supported both upstream and downstream participation in the petroleum sector by foreign companies.¹⁰⁴

In addition to the SCPM, the Saudi Ministry of Petroleum and Mineral Resources is in charge of setting policies and strategic objectives for the Saudi oil and gas industry, and it serves as the country's energy regulator so while Saudi Aramco manages its own operations, it does so under the policy and strategy directions set forth by the Ministry. In turn, the Ministry reports to the King of Saudi Arabia. Often in the past, key ministers have held great sway with the king, offering suggestions and strategies for his consideration. In general, the ministry sets government oil policy, recommending strategies to the King for the country's leadership role in OPEC, and the Ministry pursues more macro-level policy initiatives. It also serves as the regulator of international oil companies (IOCs) invested in the mid-stream oil and gas sectors, after being assigned the task, by the Supreme Petroleum Council on Petroleum and Minerals.

The lengthy tenures of oil ministers, past and present, are rooted in great measure to these technocratic leaders' ability to walk a fine line with benefactors in the royal family, namely the King. Naimi has remained on good terms with King Abdullah, aided by the fact that the Saudi oil minister has consistently delivered, through Saudi Arabia's de-facto stewardship of OPEC, the high oil prices that have allowed the kingdom to post successive budget surpluses.¹⁰⁵

¹⁰⁴ Obaid, op cit, 26-27.

¹⁰⁵ "King Fahd Dies; Saudi Oil Policy Seen Holding," *Platt's Oilgram News*, August 2, 2005.

Like Yamani's political demise under King Fahd discussed above, many industry watchers anticipated that Naimi would lose his job after the Saudi oil official championed OPEC's ill-conceived decision at its November 1997 meeting in Jakarta to boost its output quotas by 10 percent -- increasing Saudi Arabia's quota by 770,000 b/d -- even as Asian economies were showing signs of entering a prolonged slump. The subsequent increase in oil production into early 1998 did much to provoke a sharp market collapse. However, Naimi ultimately worked closely with his Mexican and Venezuelan counterparts to engineer several rounds of OPEC and non-OPEC production cuts in late 1998 and 1999 that helped oil prices recover and that also returned Saudi Arabia's quota back down to 8 million b/d. As a result, Naimi survived a cabinet reshuffle in June 1999.

Any discussion related to the present day organization and leadership of Saudi Aramco and the Saudi energy sector must carefully consider the overriding power of the King of Saudi Arabia. Ultimate authority for all decisions related to oil policy rests with the King of Saudi Arabia, and Saudi Aramco has no authority or formal institutional mechanism to question the King's decisions. The monarchy of the al-Saud family is the "key source of power at every level in the Saudi Arabian government." King Abdullah, in fact, has final decision-making power on all matters involving oil production, investments, external policies, including those related to OPEC, and domestic energy pricing and subsidies. However, key senior members of the Al-Saud family continue to weigh in on important matters and they are unlikely to go along with any sudden dramatic shift in any government policy without first asserting their opinion.

Crown Prince Abdullah's influence on most government matters, including on oil policy, increased over time as support for his succession to King Fahd expanded. As

Crown Prince, Abdullah shared power with the senior Al-Saud members. Although he spurned demands by younger, Western-educated princes, the intelligentsia and the middle class for faster reform and a change in the regime, he managed to avoid alienating the entire group, who grudgingly supported his claim for power against his Sudeiri half-brothers and their conservative camp.¹⁰⁶ In cultivating the Al-Faisal clan as a key ally within the royal family, Abdullah has found strong support from Foreign Minister Saud Al-Faisal in pursuing changes in oil and gas policy.

As noted by well respected Saudi watcher Anthony Cordesman, the kingdom's political tradition is one of "consensus, not authoritarianism."¹⁰⁷ The Saudi government maintains its popular support and legitimacy through the solicitation of consensus from other key power players such as important tribes, technocrats, business leaders (the so-called "merchant families"), and religious figures (Ulema). The king's power, therefore, is tempered by his desire to create consensus within the royal family and ruling elite.

Many well educated members of the royal family pursue and succeed at professional careers within government, over time giving them the impetus to form alliances and relationships with technocrats, merchant family leaders and other influential Saudis. Frequently, the King's policy decisions, including oil policy, are made with input of the Crown Prince and other high level princes and senior technocrats. As noted by Nawaf Obaid in his authoritative monograph, *The Oil Kingdom at 100: Petroleum Policymaking in Saudi Arabia*, "Because oil policy has such an enormous effect on the health of the Kingdom, it is set not by the whim of any individual but instead by consensus among the influential ruling family members after considerable debate and

¹⁰⁶ Mordechai Abir, "The Succession of Saudi King Abdallah, the Oil Market, and Regional Politics," *Jerusalem Issue Brief* 5, No. 2 (2005).

¹⁰⁷ Cordesman, 132

consultation with Saudi experts.”¹⁰⁸ This gives Saudi Aramco management the opportunity to form alliances across a broad spectrum of players and to use those alliances to protect its corporate interests. Merchant families and technically accomplished technocrats such as the oil minister serve as principal advisors to the King.

As mentioned in discussion of the history of Saudi Aramco, in past eras, the Saudi oil minister has had a close personal relationship with the ruling King of the time. This was true of Zaki Yamani and King Faisal as well as Minister Hisham Nazer and King Fahd. In recent years, King Abdullah has also relied on the professional recommendations of Minister Naimi regarding stabilizing and strengthening the international oil market.¹⁰⁹ In fact, King Abdullah is said to favor greater utilization of advisors “with technical expertise and professional experience, especially in the petroleum and banking sectors...”¹¹⁰ Naimi is esteemed for his effectiveness in securing OPEC cooperation and oil production cutbacks which have kept oil prices high since 2003.

While it seems that Saudi Aramco’s board, the SCPM and the petroleum ministry possess clearly defined mandates and purpose in regards to the effective development of energy policy and operation of the Saudi oil and gas sector, political alliances and overlapping authorities often blur the distinctions that exist in theory. During the selection process for foreign bidders for the Gas Initiative, for example, questions arose about what entity would serve as the regulatory body for the foreign firms operating in the kingdom under the Initiative. Saudi Aramco was not granted this status nor was the oil minister directly. It was debated whether an independent regulator was needed but the

¹⁰⁸ Obaid, *The Oil Kingdom at 100: Petroleum Policymaking in Saudi Arabia*.

¹⁰⁹ Author’s interviews.

¹¹⁰ Obaid, op cit, 11.

SCPM ultimately opted to have the Directorate General for the Ministry of Petroleum and Mineral Resources in the Eastern Province serve as the regulator -- a subtle distinction since the Minister of Petroleum and Mineral Resources, Ali Naimi, who was formerly the president and CEO of Saudi Aramco and continues as its chairman and who maintains extremely close coordinating ties with the Saudi national firm, chairs this directorate.¹¹¹

Even with the mapped out institutional framework of Saudi Aramco's management, board of directors and the SCPM, the decision making process regarding some important but controversial questions of the direction of policy regarding Saudi Aramco's mission and operation can become highly political, drawing in parties from many quarters of the ruling elite including the royal family, prominent merchant families and clans, the oil minister and his deputies and other important cabinet members.

Perhaps no other event in recent Saudi history demonstrates the complex politics of oil policy and decision making in the kingdom and the influence of Saudi Aramco than the Strategic Gas Initiative of 1998. The Strategic Gas Initiative is an interesting case of shifting political alliances within the many groups and individuals who try to influence Saudi oil and gas investment policy. The politics of the Gas Initiative illuminates the operational freedom that can be tapped by Saudi Aramco when there is disagreement over policy within the top ranks of the Saudi royal family.

The possibility of a Gas Initiative was first broached by then Saudi Crown Prince Abdallah Bin Abdul-Aziz in secret talks with seven U.S. oil company executives at the home of Saudi Ambassador to the United States Prince Bandar Bin Sultan in Washington D.C. in September 1998. The Initiative was part of the Crown Prince's effort to promote economic reforms and incentives to strengthen Saudi Arabia's private sector while at the

¹¹¹ Marcel, 99.

same time creating more local employment. Local businessmen and important merchant families argued that one way to accomplish this would be to better exploit the availability of natural gas feedstocks to create new and more labor intensive downstream industries and also to ensure the stable supply of electricity for private industry. Expansion of natural gas fuel for the Saudi electricity grid would also free up more oil for export since crude oil is burned at most power plants outside of those served by the Master Gas System in the Eastern province.

The Saudi Gas Initiative was well received by the international oil industry which heralded it as the first foreign investment in Saudi Arabia's upstream energy sector in decades. Politically, it also got support from Western allies of the kingdom, particularly Washington and local business leaders, both of which perceived the move as a step by the kingdom to pursue economic reform and a gesture to the more reformist influences within the regime. But the Initiative, nonetheless, aggravated tensions between the interests of the Saudi merchant class and reformists and those of the state oil company.

The idea of foreign investment in natural gas was not well received by Saudi Aramco. Saudi Aramco argued that "Aramco could perform as well as the IOCs."¹¹² In an early countermove, Saudi Aramco's management announced natural gas investments of its own and even went as far as to invite bids for investments in natural gas-fired power generation facilities.¹¹³ Inside Saudi Aramco and to some supporters on the outside, the Gas Initiative was interpreted as a criticism of Saudi Aramco's lack of investment in refining and gas during the low oil price late 1980s and early 1990s and as a challenge to the company's primacy in the country's oil and gas sector. One deterrent to

¹¹² Obaid, *op cit*, xv.

¹¹³ "Saudi Aramco Plans Its Own Gas-Fired Power Units" *Energy Compass*, March 24, 2000.

increased petrochemical investment had been a shortage of natural gas.¹¹⁴ Proponents argued that Saudi Aramco needed some competition and that it made more economic sense to have foreign investors bear the brunt of the high start up costs for gas businesses, keeping Saudi Aramco's budget free to continue to invest in profitable oil opportunities.

Since the rate of return on investment for Saudi Aramco's constrained budget was so much higher for oil projects than for projects developing natural gas, which has a low selling price in Saudi Arabia and also abroad compared to oil, it was felt that Saudi Aramco should not use its own capital to develop more natural gas. Instead, some members of the royal family proposed that foreign investors be invited into the gas sector.

Saudi Aramco found a sympathetic audience for its complaints against the Gas Initiative from important members of the oil ministry and the Al-Saud family and formed alliances with royals who wanted to curb the Crown Prince's power base. With a reluctant Saudi Aramco bolstered by royal support, the process of negotiating investment contracts for the Initiative became difficult at both the political and operational level. To exacerbate matters, Minister Naimi did very little to disguise his dissatisfaction with the efforts to open Saudi Arabia's natural gas sector to foreign investment because he and his Saudi Aramco compatriots believed that gas development within Saudi Arabia should remain solely the domain of Saudi Aramco.

Negotiations dragged on with little progress towards foreign investment deals. Saudi Aramco was keen to defend its special status and bargained hard with the frustrated Western oil companies. According to one account, ExxonMobil Chairman and CEO Lee Raymond bypassed Saudi Aramco and the ministry of petroleum and began to talk

¹¹⁴ "Latest from Saudi Upstream Reopening Front" *Petroleum Intelligence Weekly*, February 15, 1999.

directly to Crown Prince Abdullah, potentially raising red flags from Saudi Aramco and its royal family backers.¹¹⁵ The Initiative then became embroiled in political rivalries within the royal family.

In May 2000, to break the deadlock, Saudi Foreign Minister Saud Al-Faisal, who believed in a reformist path and often backed Crown Prince Abdullah in policy disagreements with other important senior princes such as Defense Minister Prince Sultan, stepped in to a leadership role for the Gas Initiative. Saudi Arabia invited IOCs to form consortia and secure proposals for investment in Saudi Arabia. A seven-man council, headed by Prince Saud, was formed to engage in major negotiations with three main groupings of IOCs and the Supreme Council was created and given the right to approve contracts for the exploration, drilling and production of natural gas.¹¹⁶

But Saudi Aramco still had cards up its sleeves. Saudi Arabia and the IOCs failed to meet an initial deadline for completing deals by December 2001.¹¹⁷ Negotiations got locked over differing ideas of what was a reasonable rate of return for the IOCs to gain under their proposed investments and appropriate tariffs for gas feedstocks.¹¹⁸ But Saudi Aramco effectively lobbied for operational procedures that would best protect its turf. The state firm argued that investments should be awarded by having a bidding tender where all the qualifying companies would simultaneously submit technical and commercial offers. Again, politics intervened in determining who would oversee the bidding process and the operations of the IOCs once selected. After laying bare financial details to influence attitudes against some of the Western companies' greed over

¹¹⁵ Marcel, 98.

¹¹⁶ Cordesman, 427.

¹¹⁷ A medical situation temporarily sidelined Prince Saud, taking some of the momentum away from his initial involvement.

¹¹⁸ "Saudi Gas Race Slowed By Complex Issues," *Petroleum Intelligence Weekly*, December 17, 2001.

proposals for a high level of retained profits, Saudi Aramco won its argument in the third round of negotiations that a blind bidding process would be beneficial, and then sealed its effective victory with a decision by the SCPM to appoint the Directorate General for the Ministry of Petroleum and Mineral Resources in the Eastern Province as the regulator for the Initiative, instead of an independent entity. The directorate general is chaired by Minister Ali Naimi, who could be expected to champion Saudi Aramco's interests.

The three gas projects that emerged from final bidding round focused on a \$15 billion scheme to develop gas reserves in the South Ghawar field and two \$5 billion ventures that involved gas production for petrochemical, power and water desalination plants. This program was considerably smaller and less ambitious than the kinds of deals being talked about in 1998. Saudi Aramco, through backing from Oil Minister Naimi and important royal family members such as key senior princes from the Sudairi line, managed to discourage some of the initial bidders including oil giant ExxonMobil through tough negotiations and terms. Several bidding Western firms were already concerned about the poor prospectivity of the acreage on offer and about how much gas they would have access to. These firms were also dissatisfied with rates of return on offer for the required investments in parallel industrial projects. The American majors backed off from making a deal, rendering political compromise a virtue in scaling back the Initiative. Despite previous backing from the reformists and merchant families, a more limited program emerged from the highly politicized process.

The reconstituted gas projects were much smaller in scope than those first mooted in the first few years of negotiations, and the contract awards went to Russian, Chinese and European firms, leaving U.S. oil companies out of the picture. The focus of the

revised gas projects is exploration for non-associated gas in blocks in the Empty Quarter and processing of any gas that is found. In October 2003, Royal Dutch/Shell and France's Total finalized agreements with Saudi Aramco for the Shaybah gas project, covering a 200,000 sq km area of the Empty Quarter. Shell, which leads the consortium, has a 40 percent stake in the project, with Total and Saudi Aramco each holding 30 percent stakes. In May 2004, Russia's Lukoil was awarded an 80 percent stake in the 29,900 sq km Block A and China's Sinopec was also awarded an 80 percent stake in the unattractive 38,800 sq km Block B, with Saudi Aramco holding the remaining 20 percent stakes in the two blocks. Italy's ENI and Spain's Repsol-YPF won a 50 percent stake and 30 percent stake respectively in the 52,000 sq km Block C, with Saudi Aramco again accounting for the remaining 20 percent share.¹¹⁹

Still, the merchant class did not totally lose out to Saudi Aramco in the struggle about supply and pricing of natural gas feedstocks for Saudi industry. As noted in the discussion of the Gas Initiative, tensions existed between Saudi Aramco and the merchant families over the level of feedstock prices. In the end, Saudi Aramco was not given the mandate to decide the allocation of natural gas supplies to Saudi industry. This prerogative, laden with domestic political implications, was instead given to the oil ministry. In addition, Saudi Aramco was overruled on proposals to increase ethane prices to industrial customers to be more in line with the higher value of that product stream compared to natural gas. The royal family kept its eye on Saudi Aramco's gas businesses through a second generation royal prince, Prince Faisal bin Turki bin Abdul-Aziz, who had long served in the oil ministry as an advisor to the oil minister. Prince Faisal, through

¹¹⁹ Samira Kavar, "Award for Saudi Gas projects heralds new era," *Alexander's Gas & Oil Connections*, May 2, 2004.

close interaction with Saudi Aramco Senior Vice President Khaled Al-Falih, has been actively engaged in the gas sales and policy recommendations coming out of Saudi Aramco and is the ministry's point man in dealing with the domestic market and the local industrial giants such as Saudi Arabian Basic Industries Corporation (SABIC).¹²⁰

While the merchant families have been successful in lobbying for feedstock to meet their industrial wish list, King Abdullah has taken important steps to insulate Saudi Aramco from most domestic political pressures faced by many NOCs. Interviews with oil ministry officials and Saudi Aramco managers indicate that much of this insulation is due to a strong message from the King that no one is to interfere with the national oil company especially where oil operations are concerned.¹²¹

Unlike other NOCs that are subject to government demands for special favors, Saudi princes and other important businessmen have been instructed not to meddle in the practical management of the company on oil matters.¹²² Royal pursuits of upstream acreage or discounted crude oil contracts in exchange for special foreign refining deals have been generally unsuccessful over the years since the dismantlement of Petromin, with the oil minister, backed by the King, blocking private oil ventures before they get off the ground. Some private Saudi interests, therefore, tried their hand at international upstream deals through small firms such as Nimir Petroleum and Delta Petroleum, but despite their influential shareholders, these were discouraged from participation in the Saudi domestic industry. This is not to say that the occasional exception has not occurred historically but generally speaking, such deals are extremely rare. Saudi Aramco was pressed in January 1990 to start up a delayed export refinery at Rabigh despite the

¹²⁰ Author's interviews; and Obaid, 36.

¹²¹ Author's interviews.

¹²² Ibid.

possible losses that were predicted for the refinery operations. The start up was done in part to complete a final arrangement that allowed for the payment of final construction fees in the kingdom, including commissions to then King Fahd.¹²³

Oil Minister Naimi's support of the hands off strategy for Saudi Aramco has enhanced the aura of self-restraint expressed by the monarchy, which has also, according to one academic commentator, been careful to limit the extent to which the princes participate in oil-related endeavors to address domestic Islamist grievances against the current Al-Saud regime.¹²⁴

The question of oil and politics also intersects in the government's bargain to redistribute oil wealth inside the kingdom. Thus, natural gas is not the only area where Saudi Aramco is asked to cater to the regime's broader interests. The Saudi royal family continues to require Saudi Aramco to hold domestic fuel prices way below international levels despite previous consideration of measures to raise prices due to the financial burden and market distortions created by these subsidies. Gasoline subsidies remain one of the last vestiges of the social contract between the Saudi citizenship and the royal family that implies continuing support of the government in exchange for benefits from the oil revenue.

Saudi Aramco took responsibility of the kingdom's refined product pricing and domestic and foreign sales in 1993, with the dissolution of the Saudi Arabian Marketing and Refining Co. (Samarec) into Saudi Aramco as well as the merging of all refineries and oil products distribution facilities and the rights of the General Organization for

¹²³ "Operating Life of Saudi Refinery Could be Short, *Petroleum Intelligence Weekly*, January 8, 1990.

¹²⁴ Gwenn, Okruhlik. "Networks of Dissent: Islamism and Reform in Saudi Arabia," *Social Science Research Council*, 9. <http://www.ssrc.org/sept11/essays/okruhlik.htm>

Petroleum and Minerals (Petromin) in the country's joint-venture refineries into Saudi Aramco.¹²⁵

Faced with increasing domestic consumption that was eating into Saudi Aramco's crude and product export sales and hounded by severe economic problems in late 1994, the Saudi government moved to boost its revenues in its 1995 national budget. It did so, in part, by slashing energy-related subsidies. The 1995 subsidy cuts – targeted at refined products, electricity and water – were intended to recoup some U.S. \$2.5 billion in domestic revenues. The reduction in subsidies doubled domestic retail gasoline prices to approximately \$0.53 a gallon, while jacking diesel prices six-fold to \$0.34 a gallon. The cuts also raised the price of domestic LPG by half to nearly \$0.17 a liter. The new pricing mechanism meant that Saudi Aramco would be able to cover its product manufacturing costs at its refineries as well as its upstream crude oil production costs. Although the subsidy reductions did make an initial dent in the growth of domestic demand and freed up extra products for Saudi Aramco to export, domestic demand continued to rise in the coming years and the Saudi government failed to exact more dramatic subsidy cuts.¹²⁶ Although the increase in domestic refined product prices still put Saudi costs at far below international levels, there were widespread complaints within the kingdom, and disturbances even in the Qasim area when subsidies were shaved.¹²⁷

Indeed, in announcing the 1999 state budget in late December 1998, then King Fahd suggested that while the government would reduce spending following a year of depressed international oil prices, it would not target social subsidies, alleviating

¹²⁵ "Saudi Aramco Takes Over Petromin's Ooperations," *Middle East Economic Survey*, Vol. XXXVI, No. 40, July 5, 1993.

¹²⁶ "Saudi Aramco," *The World's Key National Oil Companies*, Energy Intelligence Group, Domestic Product Pricing, January 1999.

¹²⁷ "Saudi Arabia: Riyadh's Soft Underbelly," *Energy Compass*, March 19, 1999.

concerns about a rise in water and gasoline tariffs. Then Crown Prince Abdullah, in a speech earlier that month at a Gulf Cooperation Council summit in Abu Dhabi, essentially warned his own citizens not to expect to rely forever on the cradle-to-grave welfare state. The Crown Prince was quoted as saying, “The period of boom has gone and will not come back. We must all get used to a different way of life, which does not stand on total dependence on the state.”¹²⁸

Still, an effort to reduce Saudi subsidies on electricity with a rate increase announced in April 2000 was met with enough public discontent to reverse the increase six months later.

In April 2006, the government announced that it was slashing the domestic price of a gallon of gasoline effective May 1 by about 30 percent from \$0.91 to \$0.60 for the remainder of the year. This was seen as an effort to soften the blow of a stock market crash – after the government had encouraged Saudi citizens to invest in the country’s bourse -- and to push economic growth in the kingdom. Large numbers of small Saudi investors were hit by the crash in the spring of 2006 that wiped about 40 percent off the value of the largest stock market in the Arab world. Domestic diesel prices were also cut from 37 to 25 cents a gallon.¹²⁹

Although the government had been prepared to effectively restore the price of domestic gasoline and diesel beginning in January 2007 to pre-April 2006 levels, Oil Minister Naimi told the state news agency SPA in late December of 2006 that King Abdullah had rescinded the order for the price increase, thereby maintaining the price of gasoline at \$0.61 a gallon for the foreseeable future. Speculation is that the government

¹²⁸ “Saudi Arabia: Kingdom’s Budget Signals Rough Year Ahead,” *Energy Compass*, December 31, 1998.

¹²⁹ “Saudi Arabia Cancels Planned Gasoline Price Rise,” *Reuters*, December 23, 2006.

may have been anticipating a backlash from the public to the restoration of the price of gasoline, particularly as it had just announced an anticipated record \$71 billion budget surplus for 2006 and plans to boost government spending in 2007.¹³⁰

In an effort to provide Saudi citizens with a more economical gasoline grade, Saudi Aramco unveiled the Premium 91 gasoline grade in December 2006, which was to be sold at 60 halalas a liter, 15 halalas a liter cheaper than the existing Premium 95 grade. The majority of vehicles in the kingdom are suited to use the 91-octane gasoline.¹³¹ However, with the King's decision to rescind the price increase in 2007, Premium 91 gasoline was to be sold at 45 halalas a liter, and Premium 95 at 60 halalas a liter.¹³²

Finally, Saudi Aramco plays an important role in society as a sponsor of technical education and training. In its 2005 annual report, Saudi Aramco notes that its commitment to building and maintaining government schools goes back to 1953. Since the 1950s, Aramco and then Saudi Aramco have constructed 139 government schools, 74 for boys and 65 for girls. Saudi Aramco also operates the Saudi Aramco College Preparatory Center. Students take their first year of education at the Industrial Training Center in Dhahran and then passing students are awarded a full scholarship to an overseas university. Each student is given the opportunity to continue to the PhD level. Since 1994, over 4,800 Saudis have completed university degrees at the company's expense (4,200 college degrees and 600 advanced degrees).

Saudi Aramco spends over \$1 billion a year on human resources programs to recruit, train and retain a productive workforce. The company notes in its HR mission statement that it invests in Saudi nationals as "a national obligation and a strategic

¹³⁰ "Saudi Arabia Cancels Planned Gasoline Price Rise," *Reuters*, December 23, 2006.

¹³¹ K.S. Ramkumar, "Saudi Aramco Introduces Second Grade Gasoline," *Arab News*, December 21, 2006.

¹³² "Saudi Arabia Cancels Planned Gasoline Price Rise," *Reuters*, December 23, 2006.

goal...to fulfill our social obligations, we also invest in a variety of local economy and community improvement programs.”¹³³ The company spends over \$230 million annually to train its employees.

SAUDI ARAMCO STRATEGIES AND PRIORITIES

In a keynote address to the OPEC International Seminar on Petroleum in an Interdependent World in September 2004, Oil Minister Ali Naimi noted that the mandate of a successful NOC was wider than just creating value to their shareholders, in most cases, the home government. According to Naimi, who led Saudi Aramco between 1988 and 1996, “Besides managing and developing the hydrocarbon resources of their countries to achieve the development objectives, they (NOCs) are charged with the execution of government energy policies and the contribution to technology assimilation and development of technical skills in that sector,” Naimi explained. “Independent, efficient, accountable and commercially driven national oil companies are prerequisites to achieve such objectives.”

Naimi noted in his speech that corporate efficiency is an important element to a successful national oil company and he noted that Saudi Aramco strives towards enhancing efficiency in all its operations “whether in training and employment, procurement, and field and plant operations” and “requires the introduction and assimilation of new technologies” aimed at cost containment and productivity enhancement. And, the minister noted that an NOC needs to be able to “retain net cash flow adequate to meet current and near term obligations and plan over a reasonable time

¹³³ Provided to authors by Saudi government

frame” to be able to maintain commercial focus. “...the objectives of the state are better served if the national oil company is commercially structured and run” Naimi added.

Within this corporate structure, Saudi Aramco focused on several goals, according to Naimi:

- 1) To carry out the objective set to it by the shareholder to keep at all times an excess production capacity of 1.5 - 2 MBD realizing that this is a unique role requiring technical capabilities and continued market monitoring and careful planning. The unique position of Saudi Arabia, and consequently its national oil company in the market as the largest producer and supplier of oil to the world necessitates such market balancing role.

- 2) To develop the hydrocarbon resources of the Kingdom to contribute to the development objectives of diversifying the economy and developing human resources. The efficient extraction, production and marketing of oil provide the needed revenues and foreign exchange for the non-oil sector to grow and the economy to be more diversified. Another source of contribution to the diversification of the economy is through the provision of energy and feedstock to the industry (especially petrochemicals) to utilize the Kingdom’s comparative advantage and increase the contribution of the manufacturing sector in GDP. Saudi Aramco has been in the forefront of this effort through the construction of the Master Gas System and the increase in gas reserves, production and processing capacity.

3) To enhance the role of oil in global energy mix. ...environmental and energy security concerns have been channeling technologies and research towards alternate fuels especially fuel cells...the research and investment in those technologies pose long-term challenges to the oil industry in general and to the NOCs including our own.

The challenge for Saudi Aramco here is how to mobilize its own and cross-industry resources to promote the use of oil and gas. Carbon sequestration and capture technologies as well as technologies that ensure a role of these fuels in the hydrogen generation are emphasized in the R&D programs of the company and in its collaborative research with other NOCs, IOCs and research institutions.

As the minister suggests, Saudi Aramco's management works to achieve these three goals in the most commercially profitable and efficient manner possible. All investments are evaluated on the basis of commercial merit, and projects are selected for their optimal ability to meet the company's three strategic objectives as listed above and generate the highest return to capital possible from those activities.

In the case of upstream oil field investment, potential oil field expansion projects are evaluated by their potential contribution to goal one of best maintaining the kingdom's target of 1.5 to 2 million b/d of spare capacity. Corporate analysts at Saudi Aramco study the market for Saudi crude oil in the future, the future value of the crude oil by quality that can be produced from new or expanded fields, the unit cost per barrel and the cost of infrastructure support for the production. In past years, Saudi Aramco has had the luxury to expand output by demothballing previously shut-in capacity, but

increasingly, the state company will have to consider new, potentially more expensive areas of production. Occasionally, other non-commercial factors weigh into investment decisions. Expansion of the Qatif field, for example, was expedited to enhance development in that region and also to guard that Saudi Aramco would retain access to already appropriated land.¹³⁴

Saudi Aramco also has broad discretion in setting crude oil contract sales prices for the kingdom's oil exports. Prices are set at market-related formulas that are designed to capture the maximum rate for the oil based on market trends and refining values with an eye to marketing targeted amounts based on production and export rates in line with OPEC production quotas set by the Oil Ministry under instructions from the King. Saudi Aramco has the logistical flexibility to change the destination of its exports and can do so by adjusting price formulas to stimulate more sales in one region versus another. Prices are set on a monthly formula with the help of an elaborate computer-assisted analysis process that studies the refining value of its crude oil in different regions. Under normal business circumstances, Saudi Aramco sets its pricing to optimize its earnings from its crude oil sales by segregating its sales between three major markets -- the U.S., Europe and Asia -- and charging different prices to different markets to generate the highest possible price premium for its largest volume of sales to Asia and thereby earn the maximum possible revenue from all sales.¹³⁵ But as will be discussed in the next section, Saudi Aramco has been asked in the past to override commercial considerations and analysis and instead to channel exports to a particular market for foreign policy reasons.

¹³⁴ Authors interviews.

¹³⁵ For a more complete discussion of Saudi pricing policy, see Jaffe, Amy and Ronald Soligo, "A Note on Saudi Price Discrimination," *Energy Journal* 21, No. 1 (2000).

In such a case, Saudi Aramco prices its oil to ensure that the proper amount will be purchased in a particular market to achieve the foreign policy goal.

Saudi Aramco also analyzes its own downstream refinery acquisition and investment plans on a return to capital basis. As discussed above, the Saudi state firm has made several acquisitions abroad over the years, and is currently investigating new investments in growth markets such as China, India and the United States. These investments will be made on the basis of which opportunities will provide Saudi Aramco with the highest return on investment.

SAUDI ARAMCO AND SAUDI FOREIGN POLICY

Saudi Arabia continues to seek to maintain its international stature through its oil policies, which are currently designed to sustain its position as the world's most important supplier. This status gives the kingdom unique influence on the international stage that would be hard to replicate without its contribution of its significantly large share of world oil supply. Saudi Arabia remains uniquely positioned to provide incremental oil supplies during times of major emergency, accident or disruption, and no other oil producer is currently in the position to rival the kingdom for this role. This fact will constrain U.S. and Western policy options towards the kingdom while at the same time limit Riyadh's options to use the "oil weapon" to achieve political ends and still maintain its privileged international status as the world's swing producer.

Saudi Aramco currently serves as a vehicle to achieve the kingdom's international goals and is instructed to maintain a certain level of spare productive capacity to permit Riyadh policy makers to have flexibility to influence oil price trends at the margins. However, Saudi Aramco does not have a direct voice in the decision of what international

goals should be for oil policy. Instead, its power is limited to domestic political features such as its lobbying behind the scenes.

Just as its predecessor, American-owned Aramco found itself with requests to adjust its operations to support or implement the kingdom's foreign policy goals in the 1970s and early 1980s, so Saudi Aramco now plays that role for the Saudi government. The countless examples of changes in export levels to meet foreign policy considerations are perhaps too numerous to mention each one. We focus in this study on three major programs undertaken by Saudi Aramco where geopolitical considerations supplemented Saudi Aramco's operational assessment of commercial factors and corporate efficiency evaluations in determining policies and strategies. These are:

- 1) the decision to expand capacity rapidly in 1990 after Iraq invaded Kuwait
- 2) the marketing/sales policy to maintain its position as the highest foreign supplier of crude oil to the U.S. on a month-to-month basis
- 3) the decision to accelerate development of the border Shaybah field that crosses into the United Arab Emirates

Capacity Expansions of 1990

Both IOCs and many NOCs alike study long-term oil supply, demand and pricing trends to determine the rate of return on capital for new investments in oil field capacity. Hurdle rates for return on capital are employed to justify new capital expenditures for exploration and development activities and companies work from oil price scenarios under which it would be clear that the project, which is likely to span a 20-year horizon, can remain profitable. Price levels under which projects are measured often are well below market levels in effect during the time of project analysis.

Saudi Aramco's planning process is no different from other international companies in that the state company also analyzes these same factors in deciding whether to add productive capacity under normal circumstances. However, because of Saudi Arabia's unique role as a global market swing producer and because the kingdom can suddenly shift its orientation regarding the needed level of production or capacity due to foreign policy considerations, Saudi Aramco often finds itself called upon to accelerate its capital investment program.

One such case involves the expansion to capacity that took place in the aftermath of Iraq's invasion of Kuwait. Prior to Iraq's invasion of Kuwait, oil markets were under pressure from oversupply and the outlook for oil prices was pessimistic, with OPEC struggling to defend a price target of \$18 a barrel. A ceasefire in the Iraq-Iran war in 1988 had meant that both Iraq and Iran could begin to rebuild their oil industries and global demand was not strong enough to accommodate the reentry of these two large producers back into the market. Under these conditions, Saudi Aramco's oil production hovered around 5.3 million b/d, and the state firm had slow tracked expansion plans for the coming five years. In the 1980s, it had opted to mothball several large oil fields to lower its overall upstream operating costs and enhance reservoir maintenance and protection.

However, all that changed overnight when Iraq invaded Kuwait and the United Nations voted to impose sanctions against the sales of crude oil produced in Iraq and occupied Kuwait. U.S. ally and neighbor Venezuela offered assistance in stabilizing global markets and U.S. President Bush realized that it would take a broader effort to replace the roughly 4 million b/d of Kuwait and Iraqi exports lost from the global oil supply system. Supplementing a request made in person by then U.S. Defense Secretary

Richard Cheney to allow U.S. troops in Saudi Arabia to repel the Iraqi invasion, the U.S. President sent a letter to King Fahd requesting that the kingdom increase its production to a maximum level to assure that the impact of Iraq's invasion be ameliorated, increasing the chances of a diplomatic coalition against Iraq's government. King Fahd granted the request and Saudi Aramco began investigating how much oil was needed on the market and how quickly it could expand its output potential to meet this demand.¹³⁶

Bringing in international service companies to work double-man hour, round the clock shifts, Saudi Aramco announced plans to boost production. It had been believed in the late 1980s that Saudi Aramco had sustainable capacity of over 8 million barrels a day, were it to de-mothball its shut-in fields, but instead the de-mothballing process showed the kingdom would have to do more work than expected to boost its output. Within three months of the official announcement that Saudi Arabia would be boosting output, its production was raised by 2 million b/d to 7.3 million b/d.¹³⁷ Oil prices, which had hit over \$40 in the immediate aftermath of Iraq's invasion of Kuwait, fell back to normal pre-invasion levels.

Later in the autumn, Saudi Aramco accelerated its crude capacity expansion program to meet a new target set by the ministry to be able to produce 10 million b/d on a sustainable basis by 1992 and to reach 8.5 million b/d by mid-1991. The expanded investment program reflected the kingdom's commitment to the international coalition against Iraq and its assumption that production capacity in the Gulf region would not emerge from the current crisis fully intact.¹³⁸ Saudi Aramco initially boosted flows from

¹³⁶ Authors' interviews with former White House officials

¹³⁷ "Capacity Ample to Replace Loss if Producers Move," *Petroleum Intelligence Weekly*, August 13, 1990

¹³⁸ "Saudis Speed Up Work to Expand Crude Potential" *Petroleum Intelligence Weekly*, October 8, 1990.

its main fields Ghawar, Abqaiq and Safaniyah but later instituted the reopening of flows from smaller mothballed fields such as Khurais and Abu Hadriyah.¹³⁹

Saudi Aramco's successful effort to boost oil production became a central element to the enhancement of Saudi Arabia's importance in the global economic system. Markets were so confident in Saudi Arabia's continued ability to continue to deliver capacity, that the events of 1991 when the U.S. moved to forcibly remove Iraq from Kuwait actually were accompanied by a fall in oil prices, not a large jump, even in spite of graphic media images of Kuwaiti oil fields being set ablaze by Iraqi troops. Given the kingdom's dramatic success at calming oil markets and moderating price surges during a major supply disruption crisis, Saudi Arabia's international stature was greatly enhanced and Riyadh continues to wield its spare oil capacity as an important tool of international relations.

Saudi Aramco's achievements became part and parcel of the kingdom's successful foreign relations efforts of the time.

Status as Number 1 Supplier to the United States

As discussed above, Saudi Aramco uses complex analytical analysis to determine its monthly oil price formulas and to determine how to maximize its oil export earnings by segregating its oil export markets in the U.S., Europe and Asia and tempering sales to the highest price market to ensure a price premium. However, as in its history when geopolitical variables entered the picture and forced Aramco to redirect its export sales in line with Saudi foreign policy goals, so Saudi Aramco faces the same kind of directives as its predecessor organization.

¹³⁹ Ibid.

Under direction of the King of Saudi Arabia, Saudi Aramco maintained the status as the top global supplier of crude oil to the United States going back to the 1990s. It was felt in high Saudi circles that serving as the largest supplier of foreign crude oil to the U.S. was important to the kingdom's relationship with the United States. Indeed, Saudi Arabia felt that both official and public support for the relationship would be buttressed by this important spot as the number one supplier of imported oil.

Saudi Aramco was under strict orders to be first in sales to the United States market not just on average on an annualized basis but on a month-to-month basis, and this strategy, which was political and not commercial in nature, was extremely challenging for Saudi Aramco's marketing department, especially given the unpredictable fluctuations in rising Canadian exports to the U.S. during that period. "Aramco's policy is to first determine the volume of sales -- as it wants to be the number one crude supplier -- and then the price,"¹⁴⁰ noted one report of the time.

Dissatisfied with the impact of the policy on its commercial operations, Saudi Aramco officials went to senior management with analysis of how much the strategy was costing the company in lost profits during times when higher market sales to Asia might have made more sense. At first, it was felt inside Saudi Aramco that the subject could not be broached with the oil ministry and ruling family. But as competition mounted for lower valued heavy crude sales in the U.S. market, Saudi Aramco faced challenges to maintaining all of its existing customers. Saudi Aramco staffers continued to monitor the costs to the kingdom of the geopolitically-oriented policy towards maintaining a fixed U.S. position as the top supplier.

¹⁴⁰ http://www.energyintel.com/print_me.asp?document_id=115331&pID=5

As President Bush began Operation Iraqi Freedom on March 19, 2003, King Fahd issued a public statement stating that “Saudi Arabia will not participate in any way in the war”¹⁴¹ and the kingdom tried to distance itself from the U.S.-led initiative. Still, Saudi Aramco received orders to increase its sales both to the U.S. and elsewhere in early 2003 as the kingdom sought to stabilize markets ahead of the war and cope with other supply disruptions. The first half of 2003 was characterized by record high volumes of Saudi crude to the U.S. as the kingdom replaced lost supplies resulting from civil unrest in Nigeria and cutbacks in Iraqi oil production due to the onset of Operation Iraqi Freedom. Reaching a record of 1.87 million b/d, Saudi Arabia continued to rank as the number one supplier with over 20.1 percent of the U.S. market share.

However, the policy of supporting the U.S. -- albeit quietly -- was costly to the Saudi regime. Among the chaos that ensued in the Middle East in early 2003, the Saudi regime became the target of a string of Al-Qaeda-led attacks that most notably began around May 12th of 2003 and continued into the year. The May 2003 suicide bombing targeted three housing compounds inhabiting security contractors serving the royal family and U.S. and other foreign employees and claimed the lives of approximately 34 people, including eight U.S. citizens.¹⁴² A series of attacks that continued through the summer of 2003 brought attention to the extent of the global threat posed by Al-Qaeda, specifically for the Saudi regime. The kingdom stepped up its security activities to find and eliminate terror cells inside the country. According to a 2003 SUSRIS report, “Since May 2003, Saudi Arabia has arrested more than 140 individuals with suspected ties to terrorism and

¹⁴¹ <http://www.fas.org/sgp/crs/mideast/RL33533.pdf>

¹⁴² <http://www.saudi-us-relations.org/articles/2003/loi/030821-congressional-brief.html>

large numbers of Saudi policemen have been killed in anti-terrorist operations. This is in addition to more than 300 arrests of terrorist suspects since September 11, 2001.”¹⁴³

Later in the summer, tensions between the U.S. and Saudi Arabia worsened again over press reports related to Congressional reports regarding the September 11, 2001 attacks. On July 29, 2003, Prince Saud Al-Faisal publicly released a statement requesting that the Bush Administration release classified sections of a joint congressional report pertaining to the role of international intelligence communities before and after the 9/11 terrorist attacks. This section purportedly “describes the alleged Saudi links with persons involved in the attacks and indicated that senior Saudi officials channeled charitable gifts to individuals that may have helped fund the attacks.”¹⁴⁴ Officials from the Saudi government emphatically denied such allegations and in response, demanded that the Bush administration declassify the section so that they could publicly address the contention. The Bush Administration refused on the grounds that disclosure could reveal U. S. intelligence sources and methods and might compromise the ongoing investigation of the September 11 attacks.

Around the same time, escalations in the Arab-Palestinian conflict left the Saudi ruling elite very frustrated. The Israeli-Palestinian conflict intensified during the month of June 2003 leading President Bush to schedule a private conference with Saudi officials to strategize possible future solutions. But the U.S. failed to take the strong diplomatic role to pressure Israel to accept King Abdullah’s proposed peace plan, and Saudi-U.S. relations came under new strains.

¹⁴³ <http://www.saudi-us-relations.org/articles/2003/loi/031007-terror-reform.html>

¹⁴⁴ <http://www.saudi-us-relations.org/articles/2003/loi/030821-congressional-brief.html>

These and other events created a political opening to revisit the “top U.S. supplier” policy. Using its behind the scenes access, Saudi Aramco President and CEO Abdallah Jum’ah made known the commercial losses that seeking to maintain the kingdom’s number one supplier status to the United States was costing the national oil company. Within political circles, the argument was made that the kingdom was getting very little geopolitical response from the United States in exchange for these efforts and that the policy should be relaxed. The decision was made that Saudi Aramco would aspire to remain in the “top few” U.S. suppliers, instead of maintaining its onerous task of beating Canadian exports to the United States on a month by month basis.

By the middle of 2003, Saudi crude supplies receded to cover only 15.8 percent of market share and by the first four months of 2004, accounted for a mere 13.9 percent of the U.S. share with supplies reaching 1.3 million b/d from January to April 2004 (see table below). The change brought Saudi Arabia to the position of number three supplier to the United States, after Canada and Venezuela, for the latter half of 2003. This shift in Saudi marketing policy can be attributed to a change in the company’s priorities moving from a previous politically motivating target to setting its marketing policies on a more commercially driven basis.

While Saudi Aramco President and CEO Abdallah Jum’ah made it clear that oil exports to the U.S. will continue to be important to the company and without doubt that “the U.S. needs us, and we need the U.S.,” Saudi Aramco was free to pursue increased efforts upon collaborating with both Indian and Chinese oil companies to maximize oil revenues.¹⁴⁵

¹⁴⁵ Jad Mouawad and Simon Romero, “Saudis in Strategy to Export More Oil to India and China,” *The New York Times*. February 18, 2005.

FIGURE 6: TOP 4 US SUPPLIERS: MARKET SHARE

'000 b/d	2002	2003	Jan.-Jun. 2003	Jul.-Dec. 2003	2004*
Saudi Arabia	16.6%	17.9%	20.1%	15.8%	13.9%
Volume-Rank+	1.52-1	1.72-1	1.87-1	1.58-3	1.32-4
Mexico	16.4%	16.5%	16.2%	16.8%	16.3%
Volume-Rank+	1.5-2	1.59-2	1.5-2	1.68-1	1.55-1
Canada	15.8%	16.0%	15.9%	16.2%	15.2%
Volume-Rank+	1.45-3	1.55-3	1.48-3	1.62-2	1.44-2
Venezuela	13.1%	12.4%	11.0%	13.6%	14.1%
Volume-Rank+	1.2-4	1.19-4	1.02-4	1.36-4	1.34-3

*Jan.-Apr. + Volume in million b/d.

Source EIA, PIW

Shaybah Oil Field

Saudi Aramco’s customary business practice is to evaluate upstream oil field investment on the basis of commercial factors. As noted earlier, in the early 1990s, Saudi Aramco was instructed to increase its crude oil production capacity to 10 million b/d. In line with the national firm’s corporate culture and commercial orientation, Saudi Aramco’s managers strove to meet this target in the most economical and efficient manner.¹⁴⁶ Among the untapped fields considered under the review was the Shaybah field, a massive oil field discovered in 1968 that straddled the Saudi border with the United Arab Emirates. The field had been listed in Saudi Aramco’s long term development plans back into the 1980s and was listed in a capital spending bulletin in 1989.¹⁴⁷ But as noted in authoritative newsletter *Middle East Economic Survey*, “Aramco’s development plans for Shaybah have been revised forward and backward in

¹⁴⁶ “Saudis Leaving No Stone Unturned in Oil Sector Review,” *Petroleum Intelligence Weekly*, February 22, 1993.

¹⁴⁷ “Big E&P program outlined in Saudi Arabia” *Oil & Gas Journal*, June 11, 1990 p. 28

time on at least four occasions since plans for the field originally surfaced in 1989.”¹⁴⁸ The Shaybah project represented at the time the largest upstream development program of Saudi Aramco since 1991. The Centre for Global Energy Studies (CGES) of London reported in 1991 that Saudi Arabia was considering a shift in its oil field investments toward southern and western parts of the country and away from the Eastern province, which it considers “threatened by war.”¹⁴⁹ CGES suggested that Saudi upstream costs would rise as the kingdom moved to develop Shaybah for these geopolitical reasons.

Yet, despite the size of the field and the commercially appealing extra light crude that it contained, development of the Shaybah field was not initially considered a particularly cost-efficient project. In addition to the relatively low international crude oil price at the time and the far distance of the Shaybah field from existing infrastructure and export terminals, the inherent physical characteristics of the field itself stood to pose several technical challenges for Saudi Aramco engineers—potentially raising the costs of field development beyond other capacity development options. The field itself, in addition to its rugged external characteristics, features a large gas cap above and a relatively weak aquifer below the Shu’aiba reservoir.¹⁵⁰ Such factors necessitated special drilling technology to minimize the potential for the breakthrough of the aforementioned gas or water. One technical solution was to utilize vertical wells for delineation and then utilize horizontal drilling from the flat *sabkhs* (salt flats) for production. However horizontal drilling methods were considered operationally more difficult and

¹⁴⁸ “Aramco approves Shaybah 2.5 billion dollars oilfield development” Deutsche Presse-Agentur, June 5, 1995, 12:55 Central Europe time

¹⁴⁹ “Outlay of \$70 billion by Gulf producers Seen” Oil and Gas Journal, February 25, 1991, p. 27

¹⁵⁰ Salamy, Salam P., Hassan K. Al-Mubarak, Said S. Al-Malki, and Abdullah M. Al-Ajmi. “Impact of a Comprehensive Horizontal Well Production Logging and Testing Program in Shaybah Field, Saudi Arabia.” Saudi Aramco Journal of Technology (2003): 3.

considerably more expensive to log and core compared to the traditional vertical wells more commonly utilized in the early 1990's.¹⁵¹

However, the gradual evolution of horizontal drilling technology allowed Saudi Aramco to reduce drilling costs six-fold by 1995, and the natural advancement of computing power eventually reduced the necessary simulation time.¹⁵² In addition to avoiding water and gas coning from the pre-existing deposits and aquifers in the field, the productivity gains that result from horizontal drilling meant that fewer drills would be needed, and so thus, the total cost of developing the field was reduced, allowing the company to fiscally justify their decision.¹⁵³ These technological advancements and economic considerations moved Shaybah up the list for possible development, but an overall tight budgetary climate in the kingdom had been holding general development projects on a slow track.

By 1995, the lowering of technical costs and geopolitical factors argued for a hastened development of the field. Saudi Aramco got the go-ahead from King Fahd¹⁵⁴ to accelerate plans to develop the huge Shaybah field, and the project was officially announced in June 1995. Industry oil newsletter *Petroleum Intelligence Weekly (PIW)* noted in 1995, "Shaybah has technically been on the books for years for development by early next century, but it has been on slow track since 1993 due to budgetary pressures in the kingdom. Industry sources inside and outside of the country say that activity has

¹⁵¹ Al-Faddagh, Hussain A., and Gordon Tobert. "Reservoir Management Emphasizes People, Technology, and Innovation." *Saudi Aramco Journal of Technology* (2003): 20.

¹⁵² *Ibid.* 22.

¹⁵³ *Ibid.* 11.

¹⁵⁴ Avancena, Joe, "Abdullah inaugurates gigantic Shaybah field" *Saudi Gazette*, March 11, 1999

suddenly geared up on the project following a politically oriented decision from the top.”¹⁵⁵

The other factor taken into consideration for the acceleration of the field’s development was the advantage to ensuring that the field was fully developed and claimed by Saudi Aramco while the then ailing Emir of the United Arab Emirates, Sheikh Zayed Bin Sultan Al-Nahyan, was alive to honor a long standing border agreement that granted Saudi Arabia full exploitation rights to the field.¹⁵⁶ In the aftermath of the 1990 Gulf war and subsequent reevaluation about various border demarcations around the Gulf, there were some concerns in high Saudi circles regarding whether the successors to Sheikh Zayed would honor the existing border agreements, which were highly favorable to Saudi Arabia and gave it the full claim to all resources in the cross border field. In 1974, the newly formed United Arab Emirates, under the leadership of Sheikh Zayed al-Nahyan of Abu Dhabi, agreed to a treaty in Riyadh with King Faisal of Saudi Arabia. Under the treaty, Saudi Arabia was given a strip of coastline between the UAE and Qatar and control over most of the discovered but then unexploited Shaybah oilfield, along with 100 percent rights to the revenues from the field. The Buraimi oasis, now known as Al Ain, was reportedly ceded to the UAE, though this concession is not acknowledged on some official Saudi maps.¹⁵⁷ According to published reports, the treaty was never ratified by the UAE Federal National Council.¹⁵⁸

¹⁵⁵ “Saudi Aramco Opts For Rapid Developing of Giant Shaybah Field” *Petroleum Intelligence Weekly*, February 27, 1995.

¹⁵⁶ Authors interviews.

¹⁵⁷ Henderson, Simon, “Map Wars: The UAE Reclaims Lost Territory from Saudi Arabia” Policy Watch #1069, Washington Institute for Near East Policy, January 19, 2006, available at <http://www.washingtoninstitute.org/templateC05.php?CID=2431>

¹⁵⁸ Ibid

Sheikh Zayed passed away in 2004 and was succeeded by his son, Sheikh Khalifa bin Zayed. Since his ascension, in line with the concerns going back to the 1990s, the border dispute between Saudi Arabia and the UAE has become more active. In June 2005, Saudi Interior Minister Prince Naif bin Abdulaziz visited Abu Dhabi for meetings with UAE Minister of Foreign Affairs Sheikh Hamdan Bin Zayed. Naif was presented with UAE proposals for substantial amendments to the 1974 treaty¹⁵⁹ and Sheikh Hamdan made a statement that parts of the 1974 border arrangement had become “inapplicable.”¹⁶⁰ The statement was followed by the publishing of a new official Yearbook of the United Arab Emirates showing the UAE in a map as extending westwards into areas now controlled by Saudi Arabia. The UAE actions followed Saudi actions to claim maritime rights in the Khor al-Aideed between Qatar and the UAE. Saudi claims to this small offshore territory have become a roadblock to the multi-billion Dolphin gas project that is slated to link Qatar, Oman and the UAE.¹⁶¹

Indeed, concerns about delineating regional borders also served as a driver to Saudi Aramco’s exploration activities. In spite of its prolific reserve base, in the aftermath of Iraq’s invasion of Kuwait, Saudi Aramco engaged in an exploration effort once again to meet the kingdom’s geopolitical goals of laying claim to its border areas. As reported in *PIW* in 1992, “Political goals also encourage exploration, although they can sometimes detract from the central purpose of creating a more rational base for reserve development by pulling limited resources into areas of secondary interest. Riyadh has tended recently to use drilling activities to back up territorial claims. It just began

¹⁵⁹ “Geopolitics: Saudi Shaybah move highlights border concerns, September 26, 2005, *Petroleum Economist*, P. 35

¹⁶⁰ *Ibid*, <http://www.washingtoninstitute.org/templateC05.php?CID=2431>

¹⁶¹ *Op Cit*, *Petroleum Economist*. Also, for more details on the dispute and its impact on Qatar’s gas developments, see *Natural Gas and Geopolitics*, ed. David G. Victor, Amy M. Jaffe, and Mark H. Hayes (Cambridge, UK: Cambridge University Press, 2006): 234-267.

drilling in disputed areas near Yemen and had, over the past year, extended its search along more settled borders with the United Arab Emirates and Jordan. More seismic activity is possible next year in the Gulf, where border delineation can also be a problem.”

Thus, as these three examples show, Saudi Aramco’s upstream investment and marketing activities are sometimes driven more by foreign policy objectives than by commercial objectives. While the state concern develops implementation strategies for these ventures designed to optimize their profitability and thereby lessen the drain on revenues, nonetheless they are an indication that the firm operates under different considerations than private firms, whose focus is solely on the return to shareholders.

CONCLUSION

Throughout the 1990s, the industrialized West counted on the countries of the Persian Gulf to make the sizable investments needed to maintain enough surplus capacity to form a cushion against disruptions elsewhere in the world. This spare capacity served as a vital protection to U.S. and global energy security in the 1980s and 1990s. Saudi Aramco played a pivotal role in guarding access to the needed level of spare capacity, as noted by Saudi Oil Minister Ali Naimi in his speech on the role of the national oil company, discussed earlier in this paper.

In August 1990, when Iraq attacked Kuwait, under instructions from King Fahd, Saudi Aramco played a key role in stabilizing the oil market by demothballing oil production facilities and raising output from 5.3 million b/d to 7.3 million b/d in a matter of months. The competency and efficiency of Saudi Aramco is critical to its success in serving this mission for Saudi Arabia and being able to meet the kingdom’s foreign

policy objectives. As Saudi Aramco notes in its HR statement, “It is imperative that we maintain world class operations managed by the most competent people...The performance of Saudi Aramco employees has far reaching implications on the local economy as compared to other companies in the kingdom. Any interruption in our oil production, due to human error, could result in a negative impact on the kingdom’s revenue and the world economies.”

The question for the future is whether Saudi Aramco, along with other major NOCs, will be able to continue to invest adequate amounts to meet the rise in oil demand in the United States, China and emerging economies in Asia and elsewhere.

The U.S. Department of Energy predicts that Saudi Arabia will have to produce 23.5 million b/d by 2025, a more than 100 percent increase to today’s levels of 9 plus million b/d, to meet rising world oil demand. That raises the question about Saudi Aramco’s future. Will it be able to meet such optimistic targets, and if it cannot, is there any other oil market player that can take over this role? OPEC capacity has fallen, not increased, over the past 25 years from 38.76 million b/d in 1979 to roughly 31 million b/d currently.

The autonomy and continued efficiency of Saudi Aramco will matter greatly in the answer to the question about whether it can continue to serve as the global swing producer. So far, Saudi Aramco has been able to meet its broad non-commercial obligations to support industrialization through natural gas subsidies, to redistribute wealth through fuel subsidies and to adjust its planned upstream programming and spending to meet the kingdom’s foreign policy objectives and still continue to expand its

productive capability. But this balancing act will become increasingly difficult in the future.

Saudi Arabia faces daunting economic and social challenges. In 1982, the kingdom's oil revenues of over \$80 billion represented roughly \$30,000 per capita. By 2003, this same revenue only constituted \$9,300 per capita as the Saudi population has risen dramatically over the same period to over 22 million, from 7 million in the early 1980s. By 2025, analysts are predicting that the Saudi population could top 40 million, leaving the kingdom hard pressed to create the necessary jobs and income to support its citizens. The Saudi security budget was estimated to total more than \$8 billion in 2004, and the kingdom has stepped up its attacks on internal domestic terrorist cells. Between 2002 and 2004, Saudi Arabia spent a \$1.2 billion to increase security at all of its energy facilities. It is estimated that between 25,000 and 30,000 Saudi troops currently protect the kingdom's oil infrastructure.¹⁶²

Saudi Aramco will be pressed by political forces to take on higher rates of employees. The oil sector employs only 2 percent of the total Saudi labor force at present, and it remains unclear where rising employment will come from. Already, Saudi Aramco's commercial prerogatives have been curtailed by these kinds of political pressures as private initiatives in the natural gas sector and forced subsidies have cut into its operations. The state firm has built on its historical roots as a private American firm to promote efficiency and optimizing corporate practices. It has also used its political clout and domestic political alliances to protect itself from undue interference in its operations and from the imposition of corruption from higher levels of government and other important domestic political actors. As the company and the country transition to a new

¹⁶² Presentation by Anthony Cordesmann and Nawaf Al-Abaid, available at <http://www.csis.org>.

generation of leaders, a continuation of this professionalism will be critical to the company's sustained ability to continue to expand its capacity as world demand rises.¹⁶³

At present, Saudi Arabia is accelerating its plans to increase production capacity. Saudi Arabia has increased spending in its upstream in 2007 and is employing additional drilling rigs, according to media reports. The kingdom's aim is to increase its level of spare capacity by 2011. The capacity drive is said to be motivated by two goals.

Additional spare capacity would give the kingdom greater leverage to use oil as a foreign policy tool. The Saudis are said to be considering repositioning Saudi Aramco to have the ability to lower the price of oil through even higher production rates in a long-term strategy that would be designed to contain the ascendancy of Iranian hegemony in the Middle East. Iran's economy and political leadership is highly vulnerable to downward changes in oil prices, giving Saudi Arabia the means to pressure Tehran to take a more cooperative stance in the region.¹⁶⁴

The extra spare capacity and lower oil prices would also meet the kingdom's objective, discussed above, to preserve the role of oil in global energy mix against the pressures of investment in alternative energy currently being driven by high oil prices and security of supply concerns.

¹⁶³ As Patrick Clawson and Simon Henderson point out in a recent policy brief, "For decades, Saudi Arabia, with its spare capacity and enormous reserves, has been the solution to any energy supply crisis. For the foreseeable future, despite its stated policy of ensuring world oil demand is satisfied, Saudi Arabia may be unable to play this role because, given robust world demand, the kingdom may not have sufficient spare capacity to make up for lost production elsewhere. Moreover, the limited life expectancy of both the 82-year-old King Abdullah and his designated successor, 81-year-old Crown Prince Sultan, make for uncertain leadership at a time when the problems of Al-Qaeda terrorism, socioeconomic disparities, and huge youth unemployment persist in Saudi Arabia." Patrick Clawson and Simon Henderson, "Reducing Vulnerability to Middle East Energy Shocks," The Washington Institute for Near East Policy, *Policy Focus* 49 (2005); Also, Seminar Reports, Baker Institute, available at http://www.rice.edu/energy/publications/docs/PEC911Update_SeminarReport.pdf and http://www.rice.edu/energy/publications/docs/TrendsInMiddleEast_FactorsAffectSupplyOilMiddleEast.pdf

¹⁶⁴ Ian Talley, "Saudis Adjust Long Term Oil Strategy" Dow Jones News Service, January 10, 2007, available at http://www.rigzone.com/news/article.asp?a_id=39941

At present, there seems to be a lack of consensus inside high Saudi government circles over the benefits a more aggressive long-term political oil strategy might offer. Significantly, the fault lines in the matter are similar to previous divisions over the Saudi Gas Initiative of 1998, leading to rumors about a shuffle in key positions in the oil sector. For the past several years, Saudi Oil Minister Naimi has been the chief advocate for the strategy of maintaining a higher price despite having a lower market share.¹⁶⁵ But this policy is now under review.¹⁶⁶ A lot will depend on geopolitical developments in the region, and Iran's responses to existing conflicts and tension points.

The easy expansions of de-mothballing previously retired facilities have already been done and new tranches of production will require more expensive interventions in mature fields as well as Greenfield expansion of less developed production areas. Thus, the capital requirements for Saudi Aramco will likely increase over time, with rising costs to the company just to be able to achieve similar gains to capacity in the years to come.

Longer term, even with renewed emphasis on capacity expansion, it remains unclear whether the pace of that investment will be sufficient to meet soaring global requirements over the next two decades and even whether such investment will remain a priority.¹⁶⁷

¹⁶⁵ Obaid, 19.

¹⁶⁶ Jad Mouawad, "Saudi Officials Seek to Temper the Price of Oil," *New York Times*, January 28, 2007.

¹⁶⁷ Ibid.

APPENDIX

APPENDIX 1: SAUDI INFRASTRUCTURE

Export Terminals

Two of Saudi Arabia's primary oil export terminals are located on the Persian Gulf -- at Ras Tanura, which with a 6 million b/d capacity is the world's largest offshore oil loading facility, and at Juaymah, which has a 3 million b/d capacity. The Ras Tanura export terminal has two piers with a total of 18 berths. The South Pier has berths with depths of 9.9 to 10.06 meters and is 365.7 meters long. The North Pier has berths with depths of 12.8 to 15.24 meters and is 670.5 meters long. It has a storage facility with a capacity of 33 million metric tons (MMT) or roughly 242 million barrels.

The Juaymah terminal consists of six single buoy moorings. Most of these berths are currently operating below capacity, making it easy to ramp up exports from one or more berths should others become temporarily out of commission. Across the kingdom, the terminal at Yanbu on the Red Sea has several piers with a total capacity of 6.6 million b/d. Combined, these terminals appear capable of handling almost 16 million b/d, around 5 to 6 million b/d higher than current Saudi crude oil production capacity (10.5-11 million b/d), and about 7 million b/d in excess of Saudi crude oil production during the first half of 2005.

Besides these main ports, there is a small natural port at Rabigh with nine berths capable of handling ships of up to 312,000 dwt and a single buoy mooring system located 64 kilometers offshore in the Zuluf field.

Saudi Aramco operates a network of some 90 major pipelines that stretches over 15,000 km long and links oil and gas fields to processing plants, refineries, export

terminals and centers of consumption. However, there are two major oil pipelines that the company operates of particular note. The East-West Crude Oil Pipeline (Petroline), operated by Saudi Aramco since 1984, is used mainly to transport Arabian Light and Super Light to refineries in the Western Province and to Red Sea terminals for export to European and Far East markets. The pipeline originates from the Abqaiq processing facility in the Eastern Province and runs some 1,200 km.

Petroline was constructed in 1981, with initial capacity of 1.85 million b/d on a single, 48-inch line. The pipeline was expanded in 1987, during the height of the Iran-Iraq war, to 3.2 million b/d, with the addition of a parallel, 56-inch line. In 1993, Petroline capacity was increased to 5 million b/d through the addition of significant pumping capability and additional capacity up to 5.5 million b/d is now possible through additional improvements. A smaller, natural gas liquids pipeline runs parallel to Petroline with a capacity of 290,000 b/d, carrying supplies from the Ghawar field to a Saudi Aramco fractionation plant at Yanbu, which produces liquefied petroleum gas for export and for domestic petrochemical facilities run by Saudi Basic Industries Corp (SABIC).

The Trans-Arabian Pipeline (Tapline), which was built in 1950 and ran to the Mediterranean coast of Lebanon, has been mothballed since 1990. Although Saudi Arabia was supplying crude oil to Jordan beginning in 1983 through Tapline, the pipeline was closed with the advent of the Gulf War. The 1.65-million-b/d, 48-inch Iraqi Pipeline across Saudi Arabia (IPSA), which runs parallel to Petroline from pump station #3 to the port of Mu'ajjiz, just south of Yanbu, was also closed indefinitely following the August 1990 Iraqi invasion of Kuwait. In June 2001, it was reported that Saudi Arabia had taken

ownership of the IPSA line but confirmation of the status of the line currently remains in limbo. The line has been mothballed and is not in service.

Theoretically, IPSA could be used for Saudi oil transport to the Red Sea, although the Saudis have stated that “there are no plans” to do so. According to Oil Minister Ali Naimi, Saudi Arabia has “surplus oil export and pipelines capacity...[including the] East-West oil pipeline system [which] can carry and deliver 5 million b/d” but is being run at “only half capacity.”¹⁶⁸

Aramco's shipping subsidiary Vela operates a fleet of 20 VLCC's (very large crude carriers) and 4 ULCC's (ultra large crude carriers), carrying a significant proportion of Saudi oil exports. In September 2004, the Saudis placed a \$200 million order for two VLCCs from Hyundai Heavy Industry, with delivery expected in 2007. In addition to tankers, Aramco owns or leases oil storage facilities around the world, in places like Rotterdam, Sidi Kerir (the Sumed pipeline terminal on Egypt's Mediterranean coast), South Korea, the Philippines, the Caribbean, and the U.S.

REFINING

Saudi Aramco operates five wholly-owned domestic refineries at Ras Tanura, Rabigh, Yanbu, Riyadh and Jeddah, which supply refined products to meet the kingdom's consumption needs. Total domestic refining capacity currently stands at 1.7455 million b/d. Saudi Aramco acquired most of its domestic refining assets through its absorption of Samarec.

However, the 550,000 b/d capacity Ras Tanura plant, built in 1945, is Saudi Aramco's oldest original domestic refinery and is the company's largest. Ras Tanura had

¹⁶⁸ Saudi Arabia Country Analysis Brief, Energy Information Agency, U.S. Department of Energy, August 2005

a capacity no greater than 50,000 b/d at startup. Additional units installed over the years brought the capacity up to 530,000 b/d by 1980. But, in 1990, a fire at the refinery destroyed one of the distillation units, cutting capacity by half. Saudi Aramco decided to perform an extensive refurbishment and upgrade of the refinery not only to turn it into a more modernized and flexible plant but also to increase the production of gasoline which was badly needed in the domestic market.

The start-up of a 200,000 b/d condensate splitter in August 2003 not only restored distillation capacity at Ras Tanura to levels not seen since the 1990 fire, but it also has enabled the refinery to increase its output of white products (diesel fuel and gas oil) relative to black products (fuel oil).¹⁶⁹ The other Saudi Aramco wholly-owned refineries are the 400,000 b/d Rabigh refinery, the 235,000 b/d Yanbu refinery, the 120,000 b/d Riyadh refinery, and the 88,000 b/d Jeddah refinery. Saudi Aramco took ownership of the 30,000 b/d Khafji plant when it took over the Saudi share of the Neutral Zone concession from AOC in 2000, but subsequently idled the refinery before selling it to GECAT, a pipeline contractor.

In May 2004, Saudi Aramco inked a deal with Japan's Sumitomo Chemical Company to turn the Rabigh refinery into a giant petrochemical complex. Slated for completion in 2008, the project would result in production of 2.2 million tonnes of olefins along with large volumes of gasoline and other refined product. The proposed Rabigh refining/petrochemical venture, which could cost upwards of \$9.8 billion of which \$4.3 billion has been raised by a loan facility including Saudi banks, will be Saudi Aramco's first major investment in a petrochemical facility in the kingdom. The Saudi state firm is

¹⁶⁹ Arab Oil and Gas Directory, 2005, Saudi Arabia, p. 378

to supply the venture with 400,000 b/d of crude oil, 95 million cubic feet per day of ethane, and 10,000 b/d of butane.¹⁷⁰

The company also holds a 50 percent interest in each of two in-kingdom export joint-venture refineries. One joint venture refinery (known as Samref), is located in Yanbu on the Red Sea coast and is a partnership with Mobil (now ExxonMobil). This refinery was built for the export market by the Petromin-Mobil Refining Company (Pemref), a 50:50 joint venture between Petromin and Mobil (now ExxonMobil). Following the transfer of Petromin's holdings to Aramco, the company became known as Saudi Aramco-Mobil Refining Company (Samref). At startup the plant had a capacity of 250,000 b/d, but installation of additional units raised that capacity to 400,000 b/d.

The second joint venture (known as Sasref) is located in the industrial city of Jubail in the Eastern Province and is a partnership with Royal Dutch/Shell. It was the second refinery built specifically for exports and came online in 1985. The plant was developed through a 50:50 joint venture between Petromin and Shell and was originally known as Pemref, but the name was ultimately changed to the Saudi Aramco-Shell Refinery Company (Sasref). Originally designed with a capacity of 250,000 b/d, that capacity has been raised to 305,000 b/d.

In August 2006, Saudi Aramco announced that, along with partner ConocoPhillips, it had appointed Halliburton subsidiary KBR to carry out initial engineering for a \$6 billion export refinery in Yanbu. The Yanbu export refinery, scheduled for completion in 2011, will process up to 400,000 b/d of Arabian Heavy crude oil, producing motor fuels and other refined products for U.S. and European markets. A

¹⁷⁰ "Saudi Aramco signs deals with Japanese partners," Alexander's Oil and Gas Connections, December 14, 2004

sister plant in Jubail, which is being developed through a joint venture between Saudi Aramco and Total, will primarily serve the Far East market. Slated for start up in 2011, the Jubail project involves the development of another 400,000 b/d, full-conversion refinery that will process Arab Heavy crude and will produce high quality products.¹⁷¹

According to Saudi Aramco Refining and Marketing Vice President Khalid Al-Buainain, the company's existing refinery assets can handle 450,000 b/d of heavy crude, although the system is actually running less than 100,000 b/d of heavier grades. Saudi Aramco's total capital expenditure for expanding and upgrading existing plants over the next five years is around \$1.5 to \$2 billion. The state firm is also considering revamping its Ras Tanura refinery at a cost of around \$4 to \$5 billion and adding a petrochemical complex.¹⁷²

In addition to its domestic refineries, Saudi Aramco has equity stakes in several refineries abroad, with total refining capacity overseas of 1.94 million b/d. Its first foray into overseas refining was in 1988, when Saudi Aramco created the U.S. joint venture Star Enterprise with Texaco, which became a large venture in 1998 when the company's operations were merged with Shell Oil to create Motiva Enterprises. When Texaco withdrew in 2001, Motiva Enterprises became a 50:50 joint venture between Saudi Aramco subsidiary Saudi Refining Inc. (SRI) and Shell. Motiva's marketing operations support a network of nearly 11,000 Shell- and Texaco-branded gasoline stations in the Eastern and Southern U.S. In addition to the 235,000 b/d capacity Port Arthur, Texas refinery, Motiva assets include two other refineries located in Norco and Convent, LA,

¹⁷¹ "Saudi Aramco plans to build refinery in Yanbu," Alexander's Gas and Oil Connections, April 20, 2005

¹⁷² Ibid

capable together of refining, and ownership or partial interests in 47 product terminals. Total Motiva capacity is 725,000 b/d, according to the Saudi Aramco annual report.

Since the 1990s, Saudi Aramco has purchased stakes in a handful of refiners in Southeast Asia, beginning in 1991 with a 35 percent share in South Korea's Ssangyong Oil Refining Company (now S-Oil Corporation) which has a refining capacity of 525,000 b/d. In 1994, the Saudi state firm bought a 40 percent stake in the Filipino refiner Petron which has a refining capacity of 180,000 b/d.

In 1996, Saudi Aramco acquired a 50 percent holding in Greece's Motor Oil Hellas, though that stake was reduced to 41.9 percent following a public stock offering in 2001. In late 2005, Saudi Aramco, through its subsidiary, Aramco Overseas Co., sold its share in Motor Oil Hellas to the principal Greek shareholder in the refiner. Saudi Aramco officials explained the sale as a shift in focus to develop refining capacity in Saudi Arabia and downstream opportunities in high-growth Asian markets.¹⁷³ In 2004, the Saudi company bought a 9.96 percent interest in Japan's Showa Shell, the Asian nation's fourth largest refiner at 515,000 b/d of capacity, and has subsequently increased that share to 14.96 percent.

In an effort to further secure a downstream foothold in one of its major supply markets, Saudi Aramco is pursuing two new refining deals in China. In January 2005, Saudi Aramco, ExxonMobil and Chinese state oil firm Sinopec signed an agreement to a \$3.5 billion expansion project that is to triple the capacity of the Quongang refinery in the Southeast China province of Fujian to 240,000 b/d. Saudi Aramco has stated that it is also in negotiations with Sinopec for a stake in a \$1.2 billion grassroots refinery in

¹⁷³ Sullivan, Tim "Aramco and Hellas say Good-Bye" Lube Report, December 7, 2005

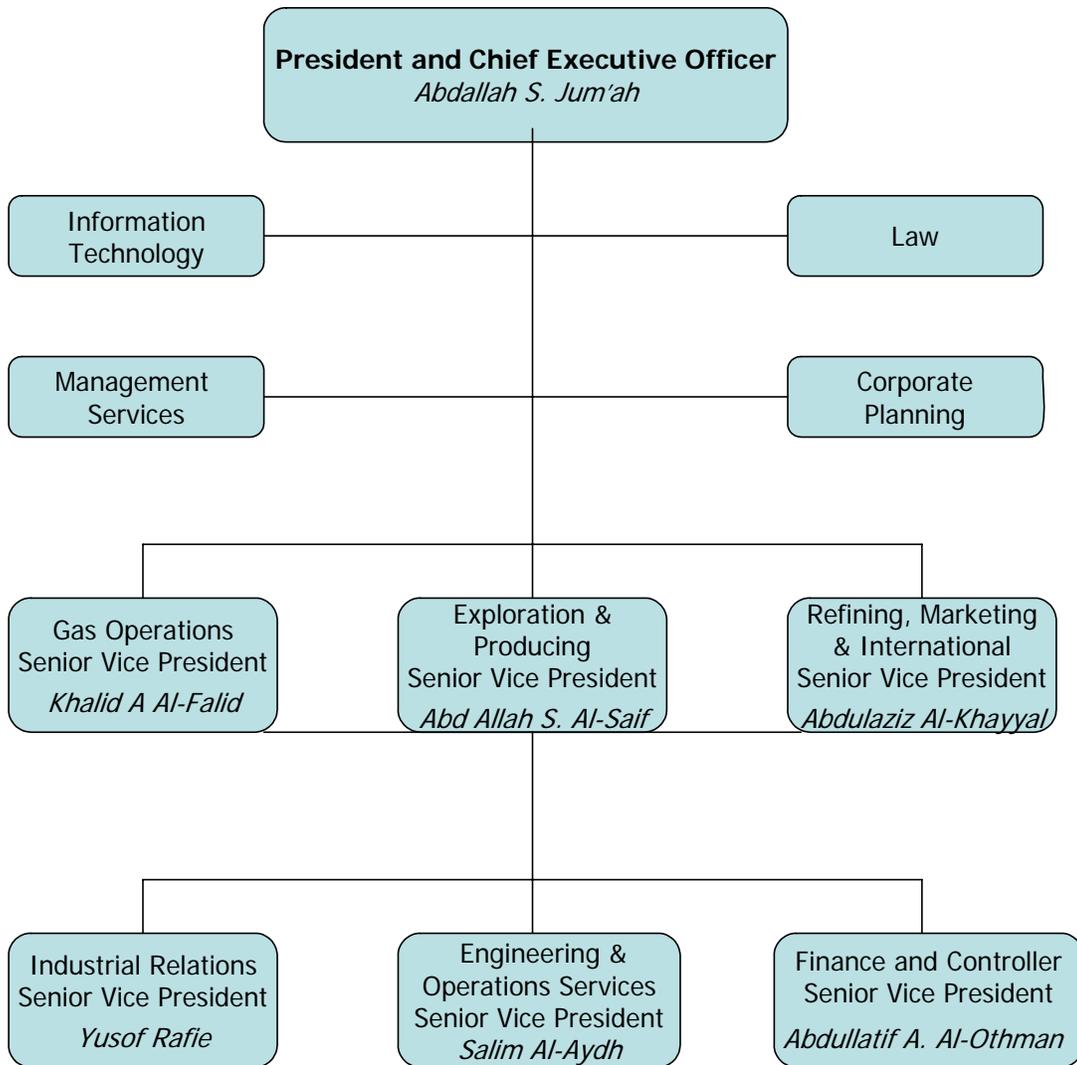
eastern China at Qingdao in the Shandong Province.¹⁷⁴

	Saudi Aramco Stake (%)	Capacity ('000 b/d)
DOMESTIC REFINERIES		
Rabigh	100	400
Ras Tanura	100	550
Yanbu (domestic)	100	235
Riyadh	100	120
Jeddah	100	88
Khafji (owned by GECAT)	0	30
Yanbu (Samref) – Export	50	400
Jubail (Sasref) – Export	50	305
Domestic Capacity		2,098
FOREIGN REFINING INTERESTS OF SAUDI ARAMCO		
Motiva Enterprises LLC (USA)		
Motiva's Three Refineries	50	725
S-Oil (S. Korea)	35	525
Petron (Philippines)	40	180
Showa Shell	14.96	515
Overseas Capacity		1,945
COMPANY STAKE GRAND TOTAL		3,690,500

Source: Saudi Aramco

¹⁷⁴ Source: Saudi Aramco Annual Report

APPENDIX 2: SAUDI ARAMCO-CORPORATE MANAGEMENT ORGANIZATION CHART



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