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TABLE OF CONTENTS

Letter from the Convergence Conveners	7
The Changing Global Energy Landscape	9
The Impact of a Revolutionary Middle East on Global Energy Markets	12
Energy Investments in the Middle East	15
Conclusion	18
Appendix	19
Annex 1: Conference Agenda	21
Annex 2: Participants List	23
About the Brookings Doha Center	26
About the Brookings Energy Security Initiative	27
Brookings Doha Center Publications	28
Brookings Energy Security Initiative Publications	29

LETTER FROM THE CONFERENCE CONVENERS

Dear colleagues,

It is our pleasure to release the proceedings of the inaugural meeting of the Brookings Doha Energy Forum, a platform intended to foster debate, dialogue, and outcome-oriented research around one of the major geopolitical trends of the 21st century.

The predominant international energy relationships of the past 50 years have been between the supplier states of the Middle East and the consumer states of the industrialized countries of the Organization for Economic Cooperation and Development (OECD). In recent years, however, a range of economic, political, technological, and environmental factors have begun to challenge the status quo. New demand centers in South and East Asia and a leveling out of demand in the United States and Europe have tilted the global energy landscape eastwards, giving increasing market power to emerging economies. The recent discovery and development of unconventional sources of oil and gas has accelerated this shift, and has begun to fragment the positions of traditional consumer nations. Rising energy demand in China and India has been accompanied by a wave of strategic energy investments by those countries as they seek to maximize energy security.

Systemic shifts in the global balance of supply and demand are coinciding with a period of rapid and unprecedented change in the Middle East. Whether or not unrest spreads in the Gulf, its leaders will have to navigate between meeting the increasing demands of domestic populations and meeting rising global demand for energy. The emergence of new governments in other parts of the region and fears of revolutionary “contagion” are already having an impact on oil prices, investor confidence, and energy security considerations among consumer nations.

This combination of global structural shifts and local political transitions has the potential to lead to a fundamental transformation of the region’s role and the global politics of oil and gas, and gives rise a number of critical questions:

- What will be the strategic and economic implications of an eastward shift in focus by Middle East suppliers?
- What will changes in the domestic policies mean for short and long-term stability of global energy markets?
- As emerging markets become more important consumers and investors, how will the investment balance change between host and home countries?
- What will the changing nature of supplier-consumer relationship mean for governance and transparency in producer nations?

The Brookings Doha Energy Forum, a collaboration between the Brookings Institution’s Doha Center and the Brookings Energy Security Initiative, was created to address these questions. At its inaugural meeting in February 2012, the Forum convened a private, high-level meeting of senior government officials, senior energy company executives, and world-class energy analysts from the Middle East, Asia, Europe, and the United States. The two-day meeting, which was opened by His Excellency Sheikh Hamad Bin Jassim Bin Jabr Al-Thani, Prime Minister and Minister of Foreign Affairs of Qatar, provided an opportunity for an open dialogue on the changing global energy landscape, the impact of a revolutionary Middle East on global energy markets, and the future of energy investments in the Middle East. The findings of the conference are reflected in this report. The Brookings Doha Energy Forum relies on the expertise and support of stakeholders in the public and private sectors, both in the Middle East region and in the broader international community. We look forward to working together within Brookings and with our partners to ensure the continued success of the project.

Sincerely,

Salman Shaikh

Charles L. Ebinger



Director
Brookings Doha Center

Director
Brookings Energy
Security Initiative

THE CHANGING GLOBAL ENERGY LANDSCAPE

CONTEXT

The global energy sector is undergoing a series of fundamental changes. According to the International Energy Agency (IEA), non-OECD countries are projected to account for 93 percent of global energy demand growth between 2008 and 2035. Asia's energy demand is expected to double over the same period, with China and India alone accounting for roughly one-third and one-fifth, respectively, of the total increase in global demand. In contrast, the OECD's share of global energy consumption, which stood at nearly 70 percent in 1965, is set to fall below 40 percent by 2035.¹ Net declines in oil consumption in the OECD, coupled with increasing domestic production in the United States and other Western Hemisphere countries are accelerating the shift away from a world characterized by westbound oil flows to one in which Asia becomes the major demand center for Middle East energy exports.

This shift is likely to have wide-ranging economic and strategic implications. The calculus of Asian consumers, who see energy as a developmental necessity, is likely to be different from that of their western counterparts. With increasing involvement of state-supported national oil companies (NOCs), the new energy landscape is likely to be characterized by greater government control in energy markets than in the past. For Middle East producers, whose definition of energy security is built around adequacy and sustainability of demand, the new energy landscape will mean a greater focus on the relationships to their east.

PRINCIPAL FINDINGS

New definitions of "energy security" are coming to the fore.

During the post-World War II period of economic development in the United States and Western Europe, "energy security" was defined as the ability to secure adequate amounts of energy – principally oil – at prices that facilitated an increasingly affluent, mobile, consumer society. With the eastward shift in consumption patterns, this definition

is changing. To the governments of China, India, and other countries in emerging Asia, energy security is underpinned by a focus on "energy access" – ensuring at least basic energy services for all citizens. For these countries, energy is a matter of survival, and is an essential component of economic development and political stability. The concept of "energy access" also reflects the primacy that Asian energy consumers place on physical access to resources. Rather than relying solely on the liquidity of the global market for the provision of oil and gas, they are more likely than Western consumers to try to secure direct stakes in production facilities and supply chains. The focus on equity is complemented by a strategy, particularly on the part of China, to diversify both suppliers and energy access routes. The new rationale for energy security is already shaping relations in the multilateral arena where major-emitting developing economies see emissions caps as an unjustifiable limitation on their right to pursue industrialization and economic growth; and in geopolitical negotiations, where Western-led restrictions on oil imports from Iran are facing resistance from China and India.

For developed, import-dependent nations in Asia such as Japan and South Korea, energy security means securing adequate volumes of oil and – increasingly – liquefied natural gas (LNG) at prices that enable them to maintain industrial competitiveness. These countries see two principal threats to energy security so defined: instability in producing regions that results in higher prices (see Section 2 below); and the pricing structure of LNG itself, which, in the Pacific basin market, is typically linked to oil prices on long-term contracts. As the boom in unconventional gas production in North America takes U.S. demand out of the global market, these major Asian LNG importers see a potential opportunity to increase their energy security through exercising market power in negotiations with suppliers.

For Middle East energy producers, energy security is defined primarily as security of demand. In the new energy landscape, the reduction in demand from the West means that the major producers

¹ Based on calculations of data from the International Energy Agency's "World Energy Outlook 2011."

from the region are going to be increasingly dependent on emerging economies for oil and gas exports. This shift in demand dependence from West to East carries risks. While the economies of both China and India are growing at rapid rates, there are signs of potential economic headwinds in both countries. In the near term, the Chinese government is concerned about the effects of inflation and weak consumer demand; in the longer term it is facing a potential demographic squeeze as its population ages. India's gridlocked politics has impeded much-needed economic and energy reforms. For suppliers used to dealing with the relative transparency of Western economies and politics, the shift of demand eastwards will mean a new set of political challenges and uncertainties.

The United States will become less dependent on Middle East energy, with potentially wide-ranging geopolitical implications.

Three concurrent trends are limiting the United States reliance on energy imports from the Middle East: flat or declining oil consumption, increasing domestic production, and increased production in the Western Hemisphere.

As a result of increasing vehicle efficiency and limited economic growth prospects, U.S. oil consumption is set to remain level and possibly decline in the coming years. According to the U.S. Energy Information Administration, an independent research arm of the Department of Energy, U.S. oil demand was nearly 21 million barrels per day (bpd) in 2007 but has since dropped to less than 19 million bpd in 2011.² The IEA forecasts that U.S. oil demand has peaked and will decline by nearly 1 percent per year to 2035.³ This demand moderation is coinciding with a rapid increase in U.S. hydrocarbon production. The hydraulic fracturing process that has yielded dramatic increases in natural gas production is helping boost domestic production of shale oil, with some estimates that U.S. oil production could increase by more than 200,000 barrels a day per year until 2020. With U.S. oil production at historically high levels, the country's oil import dependence – the proportion it gets from overseas – has dropped below 50 percent for the first time in more than a decade. Finally, the resurgence in U.S. production is being paralleled by increasing production from nearby neighbors, most notably Canada and Brazil (see Appendix, Figure 1). As a result of Canada's oil

sands and Brazil's pre-salt oil reserves, the two countries' exports could rise to 5 million barrels of oil per day in coming years. Together, these three factors will limit the amount of oil imported from the Middle East to the United States, which, historically, has been a major rationale in the U.S. military and strategic presence in the region.

Even if the United States is self-sufficient in energy production, the world's largest oil consumer will still be exposed to a global market and will have an interest in securing supply routes and preventing disruptions. The United States also has several major non-energy related security interests in the region that are likely to justify a continued presence both militarily and diplomatically.

However, in a period of straitened military budgets, fatigue among the U.S. public with engagement in the Middle East, and a focus on Asia as the center of strategic priority, there is likely to be pressure on United States to either curtail its presence in the region or to share the burden of providing security. Whether China and others act to complement or compete with the United States as security guarantors for Middle East oil and gas will have wide-ranging strategic implications for the region and for global energy markets. As future major investors in the region, emerging Asian nations have a clear interest in maintaining security in the Gulf, although whether they will have the political will or military capacity to complement or take over the current U.S. role remains unclear.

The respective roles of the state and the market in shaping energy flows and consumption patterns are being reexamined.

The changing definitions of "energy security" are likely to result in a new set of actors and logics in the realm of international energy trade and investment. When the primary centers of energy demand were the United States and Western Europe, energy consumption was largely market-driven, and energy was viewed as a commodity. By contrast, China and India both have economic models that manage or moderate the operations of the "free" market.

In the energy sphere, where fuel is viewed as a vital good that must be secured and supplied to ensure economic and political stability, this intervention takes the form of subsidy regimes (see Ap-

² According to the Energy Information Administration, "U.S. Product Supplied of Crude Oil and Petroleum Products." (<http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTTUPUS2&f=A>)

³ "World Energy Outlook 2011," International Energy Agency. p. 107.

pendix, Figure 2).

Such intervention and de-emphasis of pure market principles on the part of major consumers are likely to have wide-ranging implications for international energy trade. For producer nations, the emergence of Asia as a major energy consumer will mean interacting with a new set of counterparties. As government-backed companies, motivated partially by political and geopolitical considerations, compete directly with private-sector companies, the new business models, relationships, and potential sources of conflict are likely to emerge.

The existing institutions that govern international energy supply and demand are becoming less relevant or less effective.

The main institutions that currently govern international energy demand and supply are the IEA and the Organization of Petroleum Exporting Countries (OPEC). As the developed countries make up a decreasing proportion of global energy demand, the IEA is becoming less of a mouthpiece for global consumers. With all of future world oil demand growth coming from non-OECD nations, led by consumption in China and the Middle East, coordination by the IEA to mitigate oil price shocks will be less and less meaningful.⁴ While the IEA will continue to be a valuable organization for collecting data, analyzing energy policy, and encouraging and improving oil market transparency, it is severely weakened by not having China and India as members.

On the supply-side, OPEC countries, particularly those in the Middle East, will remain the most important producers in the world oil market. However, with political unrest in the region, OPEC will have more difficulty coordinating its output. Divergent policy priorities within member nations could mean less predictive oil supply and more volatile oil prices. Addressing the uncertainty created by the declining relevance or efficacy of the existing supply and demand organizations will be a major challenge. Some new institutions such as the G20 and the International Energy Forum have been successful in including the emerging energy consumers, such as China and India, and major energy producers, such as Saudi Arabia, in discussions with the industrialized economies; however, given the divergent interests of consumers and producers, such regimes are unlikely to produce effective coordination of demand and supply.

⁴ Calculations from “World Energy Outlook 2011,” International Energy Agency.

THE IMPACT OF A REVOLUTIONARY MIDDLE EAST ON GLOBAL ENERGY MARKETS

CONTEXT

The systemic shifts in global patterns of supply and demand outlined in Section 1 are coinciding with a period of rapid and unprecedented change in the Middle East. The past 18 months have witnessed the most powerful political phenomenon since the collapse of the Soviet Union. Beginning with the small-scale protests of disaffected youth in Tunisia in late 2010, a wave of revolution has swept across North Africa and the Middle East, ejecting long-established elites, dismantling entrenched power structures, and initiating processes through which the relationships between states and citizens will be fundamentally redesigned. In some countries, such as Tunisia, Egypt, and Libya, this phenomenon, known as the “Arab Spring,” has led to the exile, arrest, or killing of leaders, followed by the first steps towards democratic politics, in which mainstream Islamist parties have so far prospered. In others, such as Syria, the outcome of the popular movements is yet to be determined.

While much of the Gulf has been spared widespread popular unrest, the events of the Arab Spring have brought home both the difficulty and the necessity of navigating the increasing political demands of their citizens while still meeting rising global demand for energy. The emergence of new governments in parts of the region, instability and change in Kuwait, Bahrain, and Oman, and fears of greater revolutionary contagion are already affecting oil prices, investor confidence, and energy security considerations among consumer nations. These developments come at a time when the region is projected to account for an increasing share of world oil production. According to the IEA, the Middle East and North Africa will jointly provide over 90 percent of the increase in world oil output between 2011 and 2035. With political uncertainty facing key oil producers like Saudi Arabia, Iraq, and Libya, the market has witnessed an extended period of insecurity. The impact of higher oil prices is already being felt around the world, and will likely continue to be an important issue as the global economy recovers from the financial crisis of 2008.

PRINCIPAL FINDINGS

The Arab Spring is having a direct impact on Gulf oil and gas producers.

With the exception of Libya, the “Arab Spring” has not had a direct impact on oil or gas supplies from a major producing country. Even Libya’s production is rebounding: after losing nearly all of its 1.6 million bpd of production in aftermath of the popular uprising that began in March 2011, the country is now back to production of around 1 million bpd. However, despite the restoration of the majority of Libyan crude production, the global oil price was higher in spring 2012 than it was a year earlier, suggesting that the effects of the Arab Spring are not limited to physical disruptions of supply. Two other indirect results of the phenomenon are weighing on the global energy landscape.

The first is the premium in the global oil market that reflects the fear of investors around potential increases in instability. This is largely attributable to uncertainty around the possibility of a military intervention in Iran. However, it is also a factor of investor uncertainty around disruption within Gulf supplier states themselves. The second primary effect of the Arab Spring on global energy markets is the change in the domestic political landscape in the major oil and gas producing countries themselves. In order to minimize the risks of domestic public discontent, several major oil producers have implemented generous increases in social disbursements, subsidies, and other state-provided benefits. This largesse, a kind of insurance policy against unrest, has placed increasing pressure on public finances. This in turn has raised the price at which states need to sell oil in the global market in order for their fiscal budgets to balance. According to the International Monetary Fund, Saudi Arabia, the UAE, Iraq, and Iran all need a price between \$80 and \$100 per barrel to break even in their domestic fiscal budgets (see Appendix, Figure 3). The demands on these states’ budgets are further compounded by increasing internal energy consumption, as well as by the challenge of creating jobs for their extremely young, and often underemployed, populations.

This new reality has manifested itself in statements from Saudi Arabia's oil ministry that the KSA, the world's swing producer and de facto OPEC leader, is looking to stabilize the global price around \$100 per barrel. In the longer term, the response of oil and gas producers to regional instability is not sustainable: increasing subsidies and social spending will simply extend the benefits that many citizens – particularly among the younger generation – already take for granted. The communication technology-facilitated demands for political reform among this group, which is less conscious of the bargain involved in “rentier” state dynamics than the previous generation, are likely to continue irrespective of the level of social spending. Indeed, to the extent that increased social spending entrenches the status quo and discourages more fundamental reform of the economic and political, it may serve as an amplifier of domestic challenges in the long run.

There will be greater demands for transparency of both reserves and national revenues.

A hallmark of the Arab Spring has been a desire among the citizenry of countries in the Middle East for greater transparency and accountability. The exposure of the excesses of the ruling elites and frustration with the centralization of economic as well as political power was a large contributing factor to the overthrow of several deposed North African leaders. Offers of political reform among those leaders who have tried to maintain power, such as Bashar al-Asad in Syria and Ali Abdullah Saleh in Yemen, have been characterized by a promise to introduce more transparency into the economy and to the political process. Similar dynamics are likely to manifest themselves in the region's oil and gas producing states as demands for increased political transparency, aided by the proliferation of communication technology, are likely to be followed and complemented by demands for economic transparency. For countries whose hydrocarbon wealth is controlled by a small and largely unaccountable elite, these demands will need to be managed in a way that satisfy the concerns of a young, increasingly well informed population that the country's economic inheritance is being managed responsibly.

In order to provide such assurances, governments in the region will likely have to provide more and more frequent information about the size of reserves and details about revenue and expenditure. Such transparency is likely to have wide-ranging implications for the global energy sector, which

has historically regarded the Middle East as one of the world's most opaque production centers.

There is a prospect of deeper integration within the Gulf Cooperation Council.

The Arab Spring has given new purpose to the Gulf Cooperation Council (GCC), an affiliation of the six Gulf states of Saudi Arabia, the United Arab Emirates, Qatar, Oman, Bahrain, and Kuwait. Historically a loose forum for the neighboring countries to pursue common economic and defense interests, the GCC played a relatively minor role in regional affairs prior to the Arab Spring beyond the implementation of a customs union and a small collective defense force. The political revolution sweeping the region has had the effect of strengthening the alliance, with GCC members coordinating their support of military action in Libya, providing a financial support package for Oman and Bahrain, sending forces to quell protests in Bahrain, and putting pressure on the Asad regime in Syria.

From the perspective of the energy markets, a more integrated and unified GCC could play an important role in price stabilization and volatility mitigation. With control of over 50 percent of the world's oil reserves, and with practically all of the world's spare production capacity, the GCC member countries could act as an important counter to global market volatility in the wake of an increasingly dysfunctional OPEC.

Instability in the Middle East is causing anxiety among Asian energy consumers.

As the repercussions of the Arab Spring continue to resound throughout the Middle East and the threat of military conflict with Iran becomes an ever-more realistic prospect, Asian consumers are increasingly concerned about the reliability of oil and gas supplies from the region. One of their primary concerns is the political risk surrounding Iran: as Western governments seek to tighten economic sanctions on the Iranian regime, Asian consumers of Iranian crude who are traditional allies of the United States find themselves in a difficult position between the need for energy supplies and a desire to conform to the American and Western European diplomatic agenda. This is particularly true of Japan, which gets well over half of its oil from Gulf producers, and is likely to become even more oil dependent as it looks for other fuels for power generation in the wake of the 2011 Fukushima disaster. In the near term, uncertainty about

Iran is likely to put upward pressure on global oil prices as Iranian crude is taken off the market and as Asian buyers – particularly Japan and Korea – increase their oil inventories in anticipation of a broader conflict in the region. For China and India too, instability in the Middle East is a cause for concern. Uncertainty over the political situation in the region is causing some Chinese state-owned entities to reexamine investments in the region, opting instead for a “wait and see” approach. Such deferral of investment could exacerbate an already precarious situation with regard to investment in the region (see section 3 for more information on this subject).

The U.S. role in the Arab Spring is leading Gulf oil and gas producers to hedge their security options.

While the social and political dynamics in the Gulf states are considerably different from those in the countries that have undergone revolution in the past 18 months, the leaders in the region are understandably wary of the potential for contagion. They are also less certain about the role of the United States as unequivocal guarantor of the existing power structure. Having seen the relative ease with which former allies were rejected by the United States, and cognizant of the reduced dependence of the United States on Middle East oil and gas, the Gulf monarchies are looking to other regions – particularly emerging Asia – for demand security. This is likely to be followed by increased trade ties and potentially greater security cooperation as both Middle East suppliers and Asian consumers see their interests and incentives more closely aligned. A change in external security relations is likely to be matched with greater internal security efforts as Gulf oil and gas suppliers seek to build capabilities to protect their vital infrastructure assets.

ENERGY INVESTMENTS IN THE MIDDLE EAST

CONTEXT

While the Middle East is the center of global oil and gas production, it will need to attract substantial investment in the medium term to sustain its current position levels and attempt to meet rising global demand. OPEC has estimated that its members in the Middle East and North Africa (MENA) region are expected to invest collectively about \$200 billion in 83 upstream oil and gas projects through to 2015, resulting in a net increase of liquids capacity in the range of 4.6 million bpd. Capital requirements for downstream oil and gas across MENA over the same period are in the range of \$207 billion, according to OPEC. The IEA projects that upstream investment in MENA needs to average \$100 billion per year from 2011 to 2020, and \$115 billion per year from 2021 to 2035 (in year-2010 dollars). However, the IEA is concerned that the necessary amount of investment in MENA production may not materialize. In its last World Energy Outlook, it laid out a “deferred investment case” in its analysis: the case assumed a reduction in investments in the region by one third relative to the New Policies Scenario. In the deferred investment case, the IEA predicts a shortfall of 6 million bpd from the MENA region by 2020. In this scenario, it sees a near-term spike in oil prices, resulting in demand destruction and fuel switching. The deferred investment case is neither in the interests of Gulf oil and gas producers or global oil consumers.

Several factors, both internal to the region and outside it, have the potential to determine whether the deferred investment case materializes. Even if it does not, patterns of investment in the region are likely to change owing to changing production and consumption trends in the region and new sets of actors emerge.

PRINCIPAL FINDINGS

Changing internal fiscal conditions have the potential to affect investment capacity.

As outlined above, there is increasing pressure on the fiscal budgets of the Gulf oil and gas supplier states. According to Jadwa Investment Company,

Saudi Arabia’s government will begin running a budget deficit in 2014, which is likely to increase in subsequent years; by 2030, the KSA is estimated to require an oil price of \$320 a barrel to balance its budget. The UAE government is already running a slight budget deficit, while Kuwait’s 2011-2012 budget included a projected deficit of \$20 billion. With current high oil prices, governments in the region are not likely to go bankrupt any time soon. They are also likely to prioritize investments in upstream production in order to maintain their principal source of income. However, a sustained period of lower oil prices could lead to a scenario in which upstream investment has to compete with social spending programs, with potentially detrimental effects on the productive capacity in the region.

Technical factors are likely to change the nature of investments in the region.

While crude oil production will continue to be the mainstay of the region’s energy production portfolio, the Gulf oil and gas producers are witnessing three technical trends that will present challenges and opportunities for investors in the region. The first is the move to increase production of higher value petrochemicals and the output energy-intensive industrial products such as plastics and chemicals. The shift toward energy intensive manufacturing and petrochemical production has been underway for some time and is likely to continue. Petrochemical projects such as liquefied natural gas (LNG) and gas-to-liquids (GTL) facilities present an opportunity for IOCs, whose project management skills remain a source of competitive advantage. However, with the development of unconventional oil and gas production in other parts of the world (notably in the United States) the competitive landscape has changed, leading to increased competition for Gulf oil and gas producers. In the new environment, Gulf producers may have to offer more attractive terms to attract investors.

The second technical consideration is the requirement on the part of Gulf producers to focus investment on natural gas production, transmission, and power generation facilities to meet the region’s looming electricity crunch. As the domestic-re-

lated demands on the Gulf oil and gas producers become more pressing, there will be a greater opportunity for those investors who can provide solutions for non-oil based power generation. In a report last year, Deloitte estimated that the KSA, UAE, and Qatar would award some \$68 billion over the next five years in contracts to raise gas production. The nature of these projects will differ from traditional oil and gas investments as the end market will be the Gulf countries themselves.

The third trend is the increasingly technical complexity of oil and gas production as easier onshore prospects reach maturity. With upstream investment in oil production all but closed to direct foreign investment, Gulf NOCs will be looking to those companies that can provide technology and human capital to enable them to develop their more challenging resources. This area is likely to present another source of competitive advantage to IOCs, who have greater experience and expertise in technically advanced production.

Unconventional oil and gas production outside the region is likely to have a bearing on downstream investment in the Middle East.

With the development of “unconventional” oil resources such as shale oil, the increase in domestic U.S. hydrocarbons production – and the implications for reduced import dependence – has been the major energy story in recent years. According to a September 2011 report by Wood Mackenzie, if the United States put in place the requisite policies, the country could increase its production of oil and gas from 18.5 million barrels of oil equivalent per day (mmbod) in 2010 to (mmbod) 32.6mmbod by 2030.

The resurgence in U.S. hydrocarbon production has serious potential repercussions for the oil and gas producing regions of the Middle East in three ways.

First, the demands on the global energy supply chain are likely to become even greater. Increased competition for both physical capital such as steel, drilling rigs, and pumping equipment, and human capital such as trained geologists and petroleum engineers is already leading to bottlenecks and cost inflation in global energy production. The demand for the technologies to produce technically complex resources is likely to put capital for these projects at an even greater premium.

Second, given the political uncertainty in the region outlined in Section 2, investors may see North America as a safer and more stable investment option than new projects in the Middle East. There is already evidence that this trend is underway. Upstream energy sector investment in the United States has accelerated in recent years, with domestic and foreign companies looking to take advantage of the resource boom and gain access to the technology and operational experience to allow them to try to replicate the success elsewhere. Investment has also been growing in the U.S. mid- and downstream sectors as energy companies and energy-intensive industries look to take advantage of cheap feedstock to improve their competitive advantage. As noted above, as the countries of the Middle East look to increase their share of higher-value, energy-intensive industrial production, and petrochemical production, they will find themselves increasingly in direct competition with the United States.

The third implication of increasing U.S. self-sufficiency in oil and gas is strategic. As the United States reduces its dependence on imported oil and gas – including that from the Gulf – there may be reduced incentive for its companies to invest in the region. While U.S. IOCs are independent, profit-motivated entities with an agenda quite distinct from that of the U.S. government, the strategic interests of the latter have coincided with the commercial interests of the former for over 50 years. With the U.S. economy less dependent on Middle East oil, and broader U.S. foreign policy priorities undergoing a “pivot” to Asia, U.S. and European energy companies may see the prospects of a diminishing presence on the part of their regional guarantor.

NOCs are likely to increasingly compete with and replace IOCs as investors in the region.

As U.S. dependence on Middle East oil and gas diminishes, the emerging Asian economies are set to become more reliant on the region to sustain their growth. This increasing dependence has been reflected in investment activity such as China’s investments in the oil and gas sector in recent years. In January 2012, Saudi Aramco and Sinopec finalized plans to jointly build a refinery in the Red Sea city of Yanbu capable of handling 400,000 barrels of oil a day. The deal follows an agreement last year between Aramco and PetroChina, China’s biggest oil and gas company, to supply 200,000 barrels of oil a day to a refinery planned for China’s southern Yunnan province, which is

scheduled to start operations in 2013. The increasing presence of state-backed NOCs, particularly from China, as investors in the Gulf countries has several implications for the global energy sector. From the perspective of global oil supplies, Chinese investment is a positive development: measures that increase production lead to a better supplied oil market, which acts to the benefit of all consumers. However, the potential substitution of Western-based IOCs with state-backed NOCs also has some potential strategic consequences.

For at least the past half century, the predominant investors and partners in Middle East oil and gas projects have been private oil companies from the United States and Western Europe. These companies have been motivated primarily by shareholder returns and have based investment decisions on economics. In general, they have also brought with them the norms, practices, and culture associated with private companies: revenue transparency, corporate governance, and accountability. The replacement of IOCs with NOCs as investment partners in the Gulf has the potential to change these dynamics. With access to large amounts of cheap sovereign capital, NOCs have an economic advantage over their private-sector competitors. Like IOCs, NOCs have an economic motive, but they also may be used by their government supporters to advance political or strategic objectives, such as increased energy security. China's National Energy Commission has identified "securing energy supply through international co-operation" as one of its six priority areas. "Energy security" in India is defined to a large extent by having physical access to resources. Indian state-controlled companies are therefore willing to pay a premium – or accept lower rates of return – on investments to achieve it. To the extent that NOCs can be used to advance such goals, their activities can be seen, at least partially, as a tool of foreign policy. With regard to operations and norms, the substitution of IOCs by NOCs will likely lead to a situation in which transparency is further diminished as opaque external NOCs become the counterparties of opaque Gulf NOCs. Such developments have the potential to negatively affect the stability of world oil markets, which function on timely, accurate information on supply and demand.

Constraints on global financial markets will make capital more difficult to secure.

Compounding the challenge of securing adequate investment in added production infrastructure is the current state of the global economy. A sus-

tained period of slow or negative growth in the Eurozone is likely to contribute further to the already fragile positions of European banks, which have traditionally been a leading source of finance for investments in the region. On a macroeconomic level, weak or negative growth in Europe and the United States presents further risks for oil and gas producers in the Middle East, as demand for oil and gas will remain on a lower trajectory in the short term. Such weakness in short-term demand may encourage would-be investors to defer investments in increased oil production capacity, leading to a continued period of limited spare capacity and raising the risk of tight markets and resultant price volatility when the global economy eventually returns to growth. For the Gulf supplier states themselves, a prolonged period of weak economic growth or instability has the potential to seriously affect security of demand, and to add to uncertainty over the necessary timing and scale of investments.

CONCLUSION

The new energy landscape will challenge established relationships, existing assumptions, and prevailing commercial and diplomatic paradigms. For the supplier states of the Middle East, the coming years will present unprecedented challenges as they simultaneously try to maintain domestic political stability and meet increasing energy demand both at home and abroad. For the United States, the changing dynamics of its own domestic supply and demand, coupled with fiscal and strategic realignments, will give rise to questions over the value of long-standing security arrangements in the Gulf. For other OECD nations more reliant than the United States on Middle East oil and gas, the prospect of diminished U.S. reliance on the region is likely to raise concerns over the stability of energy supplies. Against this backdrop, a new primary axis of energy trade is developing between Gulf energy suppliers and emerging Asian economies. In contrast to the United States, countries like China and India will become more reliant on Gulf oil and gas in the coming decade, giving them powerful incentives to invest political capital in relationships with governments in the region as well as financial capital in new production projects.

The new energy landscape will be characterized by new definitions of energy security. Among emerging Asian consumers with rapidly developing economies, access to energy is an existential imperative. Among Gulf oil and gas producers, access to stable and sustainable demand will dominate the agenda. Engagement between Asian energy companies and Gulf producers is likely to be informed by different logics and interests than those that have characterized Western investments in the region. In this new environment, the primacy of the market is likely to be reduced as consumers' governments revert to statist intervention to advance their interests. At the state level, the shift to the new energy landscape will lead to – and be made more difficult by – a diminution of the relevance and effectiveness of leading energy-governance institutions. At the firm level, profit-driven private-sector IOCs are likely to face increasing competition from government-backed energy companies. The result is likely to be a market influenced by factors other than the fundamentals of supply and demand, with less availability of accurate and transparent data, a

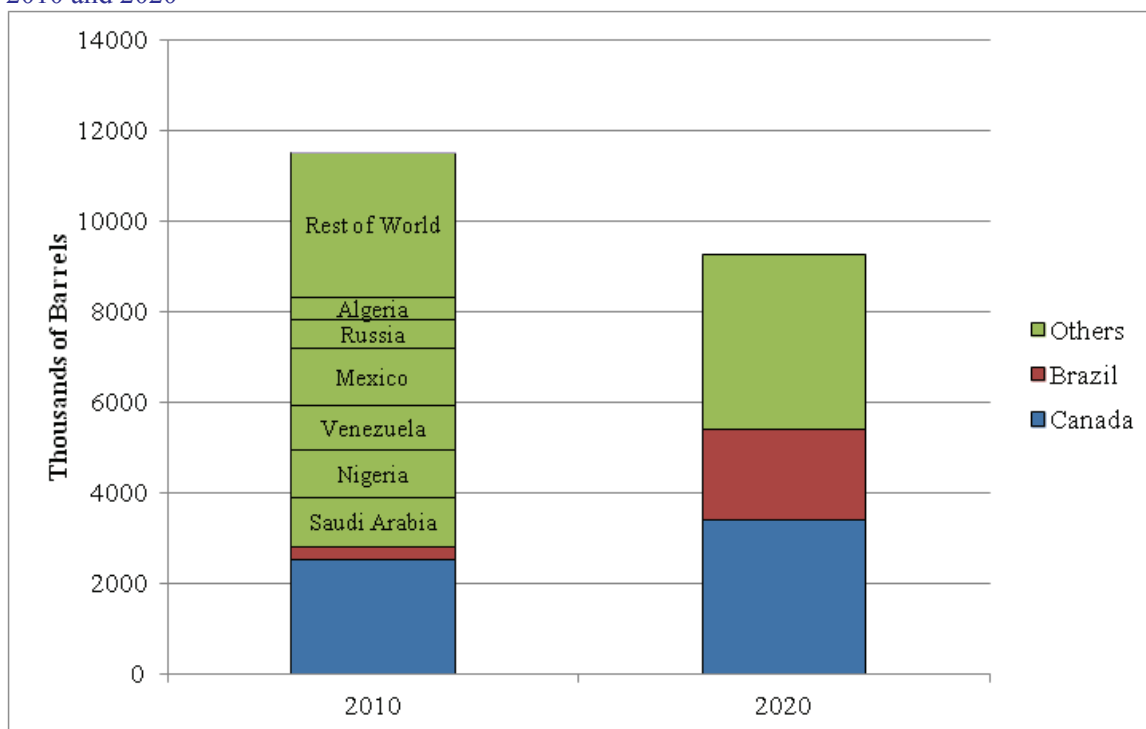
critical component of functional and stable energy flows.

The structural risks in the new energy landscape are compounded by the political risks in the Middle East. In the immediate term, the uncertainties over the current standoff between the West and Iran are already deferring energy investments at the margin. In the longer term, the potential for the political turmoil unleashed by the Arab Spring to spread to the Gulf states could deter foreign investors faced with adverse global financial conditions and the possibility of other global energy opportunities, as well as domestic governments, whose finances are increasingly being allocated to spending programs aimed at promoting social stability. Such a lack of investment leading to a reduced production capacity in the region would have detrimental consequences for all stakeholders in the global energy sector.

The challenges posed by the new energy landscape are not insurmountable. However, they will require close attention from both public and private sectors in producer and consumer countries. Most importantly, they will demand a greater degree of dialogue between stakeholders to enable them to better understand incentives, manage risks, and exploit opportunities to maintain the stability of global energy flows to their mutual benefit.

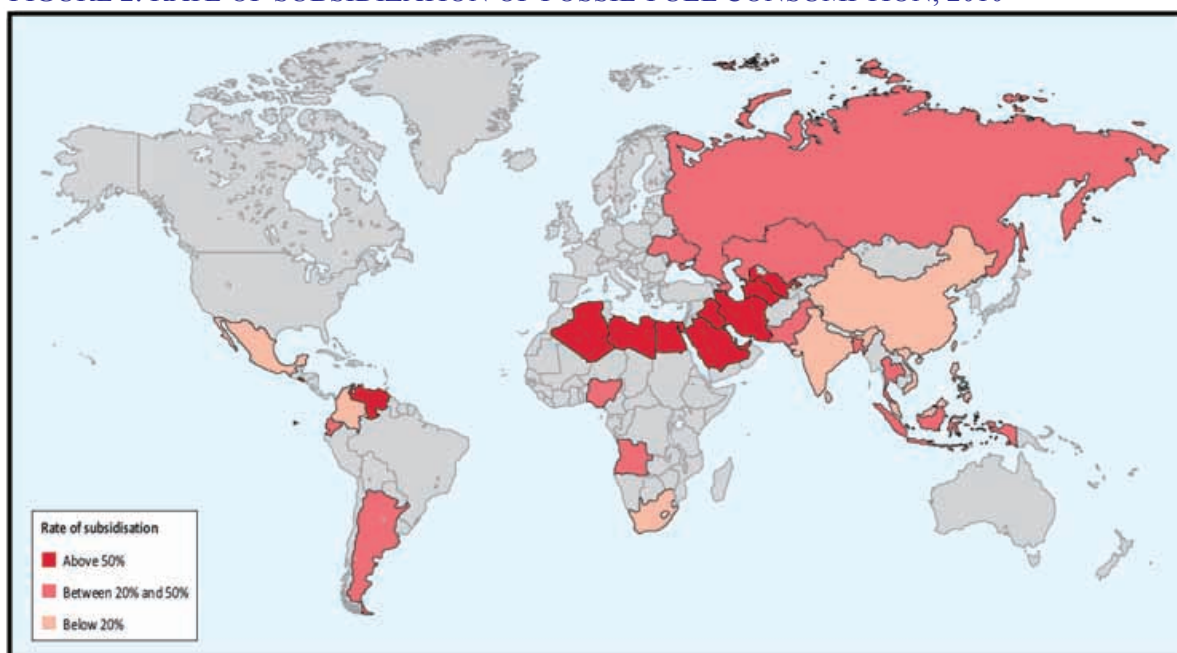
APPENDIX

FIGURE 1: U.S. LIQUIDS IMPORTS BY SOURCE FROM SELECTED COUNTRIES, 2010 and 2020



Source: EIA, National Energy Board, Petrobras

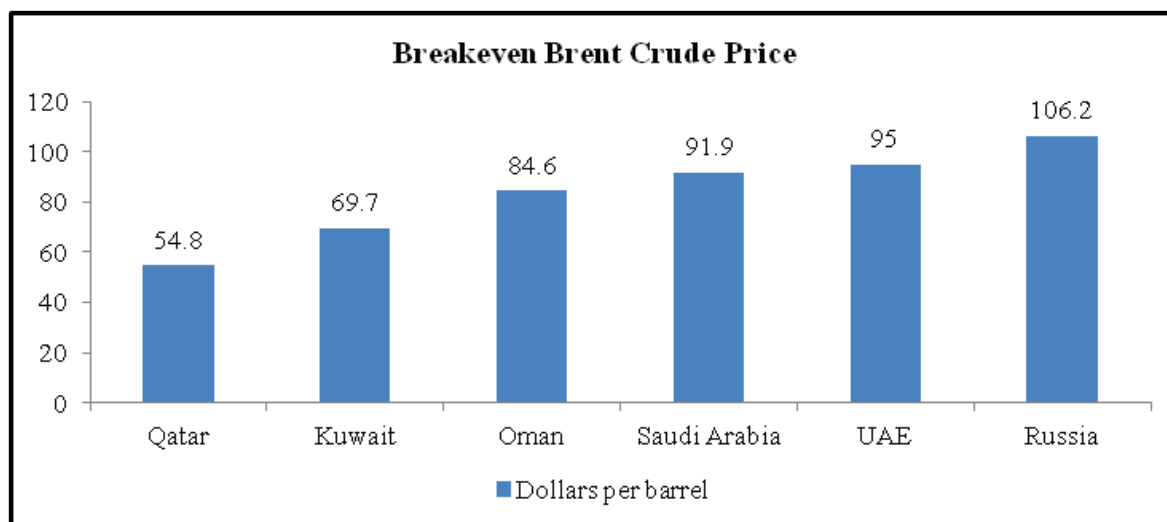
FIGURE 2: RATE OF SUBSIDIZATION OF FOSSIL-FUEL CONSUMPTION, 2010



Source: IEA

APPENDIX

FIGURE 3: REQUIRED BREAKEVEN OIL PRICE FOR MIDDLE PRODUCERS



Source: DeutscheBank Energy Markets Research

ANNEX 1: CONFERENCE AGENDA

The Brookings Doha Energy Forum 2012

At the Energy Fault-Line: What Shifts in Global Economics and Local Politics Mean for Middle East Suppliers and Their Customers

February 20th

- 8:30 AM – 10:30 AM **Registration**
- 11:00 AM – 11:10 AM **Introduction and Welcome**
Ambassador Martin Indyk, Vice President, Foreign Policy, Brookings Institution
Mr. Salman Shaikh, Director, Brookings Doha Center
- 11:10 AM – 11:30 AM **Keynote Address**
H.E. Sheikh Hamad bin Jassim bin Jaber Al-Thani, Prime Minister and Minister of Foreign Affairs, State of Qatar
- 11:30 AM – 11:50 AM **Opening Remarks**
H.E. Dr. Anwar Gargash, Minister of State for Foreign Affairs and Minister of State for Federal National Council Affairs, United Arab Emirates
Mr. Andrew Swiger, Senior Vice President, Exxon Mobil Corporation
- 11:50 AM – 1:30 PM **First Plenary: The Changing Nature of Global Energy Markets**
Moderator: Dr. Charles Ebinger, Senior Fellow and Director, Energy Security Initiative, Brookings Institution
Panelists: Mr. Saad Sherida Al Kaabi, Director of Oil & Gas Ventures, Qatar Petroleum
Dr. Bassam Fattouh, Director, Oil and the Middle East, Oxford Institute for Energy Studies
Dr. Andrey Konoplyanik, Professor, Russian State Oil and Gas University
Mr. Toshikazu Masuyama, Director General, JOGMEC
Mr. Fareed Mohammadi, Vice President, Industry Analysis, Statoil
- This plenary session will outline the major technical details of the shift in global energy markets. A shift in demand patterns is likely to have wide ranging economic and strategic implications for both Middle East supplier states and consuming states.*
- 1:30 PM – 2:30 PM **Lunch**
- 2:45 PM – 4:30 PM **Working Groups Session 1**
Working Group 1
Working Group 2
Working Group 3
- 7:30 PM – 9:00 PM **Dinner**

February 21st

- 8:30 AM – 10:00 AM **Second Plenary: The Impact of a Revolutionary Middle East on Global Energy Markets**
Moderator: Mr. Salman Shaikh, Director, Brookings Doha Center
Panelists: Mr. Nasser Al Jaidah, Chief Executive Officer, Qatar Petroleum
H.E. Talmiz Ahmad, Former Indian Ambassador in UAE, KSA and Oman
Dr. Christian Burgsmueller, Counselor and Head of Section, Delegation of the European Union to the United States of America
Dr. Herman Franssen, Executive Director, Energy Intelligence Group, Washington DC
Mr. Nader Sultan, Chairman, Ikarus Petroleum Industries
- This session will seek to outline the links between the political challenges of the Middle East and the changing global energy landscape. With political uncertainty facing key oil producers like Saudi Arabia, Iraq, Iran and Libya, the market is in flux. The impact of higher oil price is already being felt around the world and will likely continue to be an important issue.*
- 10:15 AM – 11:45 PM **Working Groups Session 2**
Working Group 1
Working Group 2
Working Group 3
- 12:00 PM – 1:00 PM **Lunch**
- 1:15 PM – 2:45 PM **Third Plenary: Energy Investments in the Middle East**
Moderator: Dr. Jean Francois Seznec, Professor at Georgetown University
Panelists: H.E. Sheikh Faisal Al-Thani, Deputy Managing Director, Maersk Oil Qatar
Mr. Brad Bourland, Chief Economist and Managing Director, Jadwa Investment
Dr. Zhao Changhui, Chief Country Risk Analyst, Export-Import Bank of China
Dr. Ken Koyama, Chief Economist and Managing Director of the Institute of Energy Economic, Japan
- This session will frame the major issues associated with a change in the investment system and its implications for trade and governance. These changing dynamics are likely to have implications for the financing of energy projects, the strategic relations between Western governments and supplier states, and the relations among supplier states themselves.*
- 3:00 PM – 4:30 PM **Working Groups Session 3**
Working Group 1
Working Group 2
Working Group 3
- 4:30 PM – 4:45 PM **Coffee Break**
- 4:45 PM – 5:45 PM **Presentations of Findings and Plenary Discussion**
- 5:45 PM – 6:00 PM **Concluding Remarks and Farewell**

ANNEX 2: PARTICIPANTS LIST

Name	Title/Position	Company/Institution	Country
Abdul Latif Al-Naemi	National Development Manager	Exxon Mobil Qatar	Qatar
Abdulaziz Sager	Chairman	Gulf Research Center	KSA
Adel A.M. Hussain	Energy Technology Manager	KISR	Kuwait
Adel Albuainain	General Manager	Dolphin Energy Ltd.	Qatar
Adrienne Fleming	Communication Advisor	Exxon Mobil Qatar	Qatar
Ahmed bin Ali Al-Qahtani	Ambassador of the Kingdom of Saudi Arabia in Qatar	Government of Saudi Arabia	Qatar
Al Wood	Energy Analyst Office of Economic Analysis	U.S. Department of State	USA
Alain Gouriten	Deputy Commercial Advisor, Embassy of France in Qatar	Government of France	Qatar
Ali Aissaoui	Senior Consultant	Oxford Institute for Energy Studies, Apicorp	KSA
Ali Al Mannaei		Ministry of Foreign Affairs	UAE
Andrew Swiger	Senior Vice President	Exxon Mobil Corporation	USA
Andrey Konoplyanik	Professor	Russian State Oil and Gas University	Russia
Anwar Gargash	Minister of State for Foreign Affairs and Minister of State for Federal National Council Affairs	United Arab Emirates	UAE
Ashish Rana	Senior Economist	Reliance Industries	India
Barry Peters	Business Development Manager	FATA Gulf	Qatar
Barth Cahir	President and General Manager	Exxon Mobil Qatar	Qatar
Bassam Fattouh	Director, Oil and the Middle East	Oxford Institute for Energy Studies	UK
Brad Bourland	Chief Economist and Managing Director	Jadwa Investment	KSA
Bruce Jones	Director of Brookings Managing Global Order	Brookings Institution	USA
Bryan Wesselink	Development Manager	Exxon Mobil Qatar	USA
Charles Ebinger	Senior Fellow and Director, Energy Security Initiative	Brookings Institution	USA
Christian Burgsmueller	Counselor and Head of Section, Delegation of the European Union to the United States of America	European Union	USA
Daniel Stoll	Associate Dean for Academic Affairs	School of Foreign Service, Georgetown	Qatar
David B. Roberts	Deputy Director	RUSI (Royal United Service Institute of Defence)	Qatar
David Kirsh	Managing Director of Research and Advisory	Energy Intelligence	UAE
Elias Haddad	Energy Consultant	Independent	Qatar
Elias Saber	Vice President	Energy Intelligence	UAE
Erec Isaacson	President	Conoco Philips Qatar	Qatar
Erica Strecker Downs	Fellow	Brookings Institution	USA
Faisal Al-Medaihki	Associate Communication Manager	Maersk Oil Qatar	Qatar
Fareed Mohammedi	Vice President, Industry Analysis	Statoil	UK
Govinda Avasarala	Senior Research Assistant, Energy Security	Brookings Institution	USA

Gulfaraz Ahmed	Chief Operating Officer	Petroleum Exploration	Pakistan
Hamad Al-Mohannadi	Managing Director	RasGas	Qatar
Herman Franssen	Executive Director	Energy Intelligence Group	USA
Hiroshi Kondo	Deputy General Manager, Paris Representative office	Tokyo Gas	Japan
Ibrahim Bahr Alolom	Former Iraqi Oil Minister	Iraq Energy Academy	Iraq
Ilyas Ali	Deputy General Manager	HPCL	India
Issa Al-Ghanim	Director, Strategic Planning & Policy	Qatar Petroleum	Qatar
Issam Chalabi	Consultant & former Iraqi Oil Minister	Former head of the Iraqi National Oil Company (INOC).	Jordan
James Jensen	Independent Gas Consultant	Jensen Associates	USA
Jean Francois Sez nec	Professor	Georgetown University	USA
Jean Pierre Gaultier	Second Counselor, Embassy of France in Qatar	Government of France	Qatar
Johan Van Rijn	Policy Planning Department	Ministry of Foreign Affairs	UAE
Jorg Wojahn	First Secretary	European Union	KSA
Jos Evens	Senior Vice President, Gas & Power Marketing	Exxon Mobil Qatar	Qatar
Juma Rashed Saif Aldahri	Ambassador of the Embassy of the UAE in Qatar	Government of the UAE	Qatar
Justin Dargin	Professor	Harvard University	USA
Kazuya Okuno	Deputy Division Chief Planning and Strategy Division	Japan Bank for International Cooperation	Japan
Ken Koyama	Chief Economist and Managing Director	Institute of Energy Economic	Japan
Kenjiro Monji	Ambassador of Japan in Qatar	Government of Japan	Qatar
Kenneth Carter		Exxon Mobil Qatar	Qatar
Kenneth Freeling	Partner	K & L Gates LLP	Qatar
Kevin Massy	Assistant Director, ESI	Brookings Institution	USA
Khalid Al Jufairi	Government & Community Affairs Advisor	Exxon Mobil Qatar	Qatar
Khalifa bin Mubarak Al Hinai	Senior Advisor to the Ministry of Petroleum and Gas	Minister of Petroleum and Gas	Oman
Lewis Affleck	Managing Director	Maersk Oil Qatar	Qatar
Li Lanzhong	Country Manager	PetroChina Investment (Hong Kong) Limited	China
Li Yao	Chief Representative	PFC Energy	China
Luay J. Al-Khateeb	Executive Director	Iraq Energy Institute	Iraq
Luke Reynolds	Economic Officer, Embassy of the United States in Qatar	US Department of State	Qatar
Mahesh Patel	Assistant Manager, HSE Liaison (National/International)	Qatar Petroleum	Qatar
Martin Indyk	Vice President, Foreign Policy	Brookings Institution	USA
Maxime Schenkery	Head Market Analysis and Forecast - PLA	Qatar Petroleum	Qatar
Michael Gfoeller	Middle East & North Africa Int'l Government Relations Director	Exxon Mobil	USA
Mikkal Herberg	Research Director	National Bureau of Asian Research	USA

Mohammed bin Nasser bin Hamad Alwahibi	Ambassador of the Sultanate of Oman in Qatar	Ministry of Foreign Affairs, Oman	Qatar
Mohammed Nasser	Managing Director	IECO Petroleum Services	Qatar
Mohammed Saleh Al Sada	Minister of Energy	Ministry of Energy	Qatar
Moza Al Nuaimi		Qatar University	Qatar
Nader Sultan	Chairman	Ikarus Petroleum Industries	Kuwait
Narendra Taneja	President	World Energy Policy Summit	India
Nasser Al Jaidah	Chief Executive Officer	Qatar Petroleum	Qatar
Neil Quilliam	Energy Advisor	Climate Change and Energy Group	UK
Nourah Al-Yousef	Professor	King Saud University	KSA
Paul Taylor	Head of Communications	Maersk Oil Qatar	Qatar
Pravin K. Agarwal	Director	TERI (Energy and Resources Institute)	India
Rami Qasem	Senior Executive and GM	GE Energy	UAE
Rashid Al-Seilani	Protocol Officer	Maersk Oil Qatar	Qatar
Reiji Takeishi	Professor	School of International Relations T.I.U.	Japan
Reza P. Oskui	Senior Researcher	KISR	Kuwait
Richard Newell	Director	Duke University	USA
Robin Mills	Head of Consulting	Manaar Energy	UK
Saad S.S. Al-Jandal	Senior Researcher Energy Group	KISR	Kuwait
Saad Sherida Al Kaabi	Director of Oil & Gas Ventures	Qatar Petroleum	Qatar
Saleh Almanaa	Vice President Public & Government Affairs	Exxon Mobil	Qatar
Salman Shaikh	Director, Brookings Doha Center	Brookings Institution	Qatar
Saud M. Al-Fattah	Director	Kapsarc	KSA
Sheikh Faisal Al-Thani	Deputy Managing Director	Maersk Oil Qatar	Qatar
Sheikh Hamad bin Jassim bin Jaber Al-Thani	Prime Minister and Minister of Foreign Affairs	State of Qatar	Qatar
Shirine S. Solh	Public & Government Affairs Manager	Exxon Mobil	Qatar
Shokri Ghanem	Former Prime Minister in Libya	Former Chairman National Oil Corporation	Libya
Subodh Kumar Jain	Director	South Asia Gas Enterprise (SAGE)	India
Surya Brakash Sethi	Visiting Professor LKY School of Public Policy,	National University of Singapore	India
Susan L. Ziadeh	Ambassador of the United States Of America in Qatar	U.S. Department of State	Qatar
Talmiz Ahmad	Former Indian Ambassador in the UAE, KSA, and Oman	Government of India	India
Tilakal K. Doshi	Principal Fellow and Head	Energy Studies Institute	Singapore
Toshikazu Masuyama	Director General	JOGMEC	Japan
Wael Al-Athram	Head of Energy & Gas Market	Gas Exporting Countries Forum (GECF)	Qatar

Wael Sawan	Vice President for Commercial, New Business Development	Shell	Qatar
Wang He	Business Development Manager	CNOOC Middle East Ltd.	Qatar
Xiang Hua	President	CNOOC Middle East Ltd.	Qatar
Yasser M. Mufti	OPEC Governor	Ministry of Petroleum and Minerals	KSA
Yoshinori Satake	First Secretary of the Embassy of Japan in Qatar	Government of Japan	Qatar
Young Seok Moon	Vice President	Korea Energy Economics Institute	South Korea
Zhao Changhui	Chief Country Risk Analyst	Export-Import Bank of China	China
Zuhair Hamed	Assistant Researcher	Arab Center for Research and Policy Studies	Qatar

ABOUT THE BROOKINGS DOHA CENTER

Based in Qatar, the Brookings Doha Center is an initiative of the Brookings Institution in Washington, D.C., and undertakes independent, policy-oriented research on socioeconomic and geopolitical issues facing Muslim-majority states and communities, including relations with the United States.

Research and programming are guided by the Brookings Doha Center International Advisory Council, chaired by H.E. Sheikh Hamad Bin Jassim Bin Jabr Al Thani and co-chaired by Brookings President Strobe Talbott. Salman Shaikh, an expert on the Middle East peace process as well as state-building efforts and dialogue in the region, serves as Director.

In pursuing its mission, the Brookings Doha Center undertakes research and programming that engage key elements of business, government, civil society, the media and academia on key public policy issues in the following three core areas: (i) Democratization, political reform and public policy; (ii) Emerging powers in the Middle East; (iii) Conflict and peace processes in the region.

Open to a broad range of views, the Brookings Doha Center is a hub for Brookings scholarship in the region. The center's research and programming agenda includes mutually reinforcing endeavors, including: convening ongoing public policy discussions with diverse political, business and thought leaders from the region and the United States; hosting visiting fellows drawn from significant ranks of the academic and policy communities to write analysis papers; and engaging the media to broadly share Brookings analysis with the public. The Brookings Doha Center also contributes to the conceptualization and organization of the annual U.S.-Islamic World Forum, which brings together key leaders in the fields of politics, business, media, academia and civil society, for much needed dialogue. In undertaking this work, the Brookings Doha Center upholds The Brookings Institution's core values of quality, independence and impact.

ABOUT THE BROOKINGS ENERGY SECURITY INITIATIVE

Designed to encourage the development, discussion, and dissemination of high-caliber energy research, Brookings' Energy Security Initiative (ESI) draws on the research and convening power of all five of the Brookings Institution's programs. Established in 2007, ESI provides research and recommendations to domestic and international policymakers on a broad range of energy and environmental topics. To complement and inform its research and to engage and educate stakeholders, ESI hosts briefings, panel discussions, workshops, and forums on critical energy policy issues.

Through its research and convening efforts, ESI examines key substantive aspects of energy security. From a strategic perspective, the Initiative focuses on the geopolitics of energy in a wide range of countries and regions. From an economic perspective, the Initiative focuses on supply disruptions and the economic impact of price spikes, shifting global consumption patterns, and the importance to global economic development of enabling affordable, reliable energy access to all income groups. ESI's research agenda also addresses environmental issues, including the impacts of a changing climate and mitigation and adaptation measures to combat those changes.

BROOKINGS DOHA CENTER PUBLICATIONS

2012

Brookings Doha Energy Forum 2012 Policy Paper

Brookings Doha Center Report

Electoral Programming and Trade-offs in Transitions: Lessons from Egypt and Tunisia

Brookings Doha Center-Stanford Paper, Ellen Lust

Libyan Islamism Unpacked: Rise, Transformation, and Future

Policy Briefing, Omar Ashour

Supporting Democratic Transitions in Egypt and Tunisia: The Role of Local and International Actors

Brookings Doha Center Transitions Dialogues

Drafting Egypt's Constitution: Can A New Legal Framework Revive A Flawed Transition?

Brookings Doha Center-Stanford Paper, Tamir Moustafa

Liberalizing Monarchies? How Gulf Monarchies Manage Education Reform

Analysis Paper, Leigh Nolan

2011

Young, Educated and Dependent on the Public Sector: Meeting Graduates' Aspirations and Diversifying Employment in Qatar and the UAE

Analysis Paper, Zamila Bunglawala

How Stable is Jordan? King Abdullah's Half-Hearted Reforms and the Challenge of the Arab Spring

Policy Briefing, Shadi Hamid & Courtney Freer

Nurturing a Knowledge Economy in Qatar

Policy Briefing, Zamila Bunglawala

Managing Reform: Saudi Arabia and the King's Dilemma

Policy Briefing, Leigh Nolan

Political Violence in North Africa: The Politics of Incomplete Liberalization

Analysis Paper, Anouar Boukhars

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“Liquid Markets: Assessing the Case of U.S. Exports of Liquefied Natural Gas”

Charles Ebinger, Kevin Massy, and Govinda Avasarala

2011

Energy and Security in South Asia: Cooperation or Conflict?

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Business and Nonproliferation: Industry’s Role in Protecting a Nuclear Renaissance

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THE BROOKINGS INSTITUTION
1775 MASSACHUSETTS AVE., NW
WASHINGTON, D.C. 20036-2103

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