The Arab Gulf States Institute in Washington

Building bridges of understanding

Petro Diplomacy: Challenges to the Energy Transition in the Gulf Countries

Conference Report

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Event Report

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The Arab Gulf States Institute in Washington (AGSIW), launched in 2015, is an independent, nonprofit institution dedicated to providing expert research and analysis of the social, economic, and political dimensions of the Gulf Arab states and key neighboring countries and how they affect domestic and foreign policy. AGSIW focuses on issues ranging from politics and security to economics, trade, and business; from social dynamics to civil society and culture. Through programs, publications, and scholarly exchanges the institute seeks to encourage thoughtful debate and inform the U.S. foreign-policy, business, and academic communities regarding this critical geostrategic region.

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About This Report

This report was compiled by Kate Dourian, non-resident fellow at the Arab Gulf States Institute in Washington and regional manager for the Middle East and Gulf at the World Energy Council, and Colby Connelly, research associate at AGSIW, following the conference "Petro Diplomacy: Challenges to the Energy Transition in the Gulf Countries" held on October 2, 2019.

For the fifth consecutive year, AGSIW convened its Petro Diplomacy conference, bringing together private and public sector stakeholders from the United States and the Gulf Arab countries to discuss emerging trends in energy markets and regional politics.

All sessions, except the lunch keynote, were held under the Chatham House Rule and participation was limited to speakers and discussants.

The world of energy is transforming rapidly and advances in technology are changing the traditional models where oil and gas were the main building blocks. AGSIW leverages its position as a trusted source for analysis on the Gulf Arab states in Washington to provide access to Gulf perspectives on energy markets and politics. In this context, Petro Diplomacy offers a unique forum for industry experts to engage with policymakers and analysts looking closely at how oil and gas producers in the Middle East are preparing for the possibility of a peak in demand for oil, and the region's geoeconomic and domestic political drivers.

Video of the conference's keynote session is available online at:

https://agsiw.org/programs/petro-diplomacy-challenges-to-the-energy-transition-in-the-gulf-countries/

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Foreword

Ambassador Douglas A. Silliman, President, AGSIW

On behalf of the Arab Gulf States Institute in Washington's board of directors and staff, it is my pleasure to present you with the report of our fifth annual energy conference:

"Petro Diplomacy: Challenges to the Energy Transition in the Gulf Countries."

Held on October 2, the conference brought together experts and analysts from various sectors, including the energy industry, government, financial services, media, and academia, to deliberate the obstacles that the energy industry and policymakers in the Gulf face as they deal with lower fossil fuel prices, declining investment in hydrocarbon resources, pressure to reduce their carbon footprints, and a global energy mix that is increasingly turning to renewable sources of energy.

Speakers and participants addressed all of these issues against the backdrop of geopolitical tensions in the region that escalated into attacks against the energy and shipping industries, raising critical questions about the security environment of the Gulf and the commitments that external powers have made to their regional partners.

I would like to thank our corporate sponsors, especially Aramco Services Company, for continuing to make Petro Diplomacy possible each year and for their support of our work in the energy field. I hope you find this report informative.

I look forward to welcoming you to many more of our events in the future.

Ambassador Douglas A. Silliman
President, Arab Gulf States Institute in Washington

Executive Summary

The main challenge facing oil producers is new competition from fuel sources that appeal to consumers concerned about the impact of fossil fuels on the environment and whether this will bring about peak demand for oil sooner than anticipated.

The Arab Gulf States Institute in Washington held its fifth annual Petro Diplomacy conference on October 2, 2019 on the theme "Challenges to the Energy Transition in the Gulf Countries." The conference brought together public and private sector stakeholders to debate the issues facing the Gulf states and the larger Middle East after another year of oil price volatility and rising geopolitical tensions. They also explored what, if any, measures the oil-producing states are adopting to manage the global transition to renewables and alternative energy sources and how this will impact demand for oil in the decades ahead.

Before looking at the longer-term prospects for the Middle East's oil producers, there were a number of immediate and short-term developments that provided insights into the evolution of the energy landscape. The conference took place just two weeks after the brazen attack on the Abqaiq oil gathering complex and Khurais oil field in Saudi Arabia, briefly knocking out 5.7 million barrels per day of Saudi production, roughly half of the kingdom's oil output. With Iranian oil exports practically halted because of U.S. sanctions, Venezuelan oil production plummeting, and Libyan oil output erratic, some 9 mb/d of oil supply, approximately 10% of total global supply, was lost. Yet after an initial spike in oil prices immediately after the attacks, the oil market fell back, despite the heightened tensions in the Gulf region. The dramatic rise in U.S. shale oil production had destabilized the market, which in part explains the market's complacency. Further pressure has come from a weaker energy demand outlook amid predictions of an impending global economic slowdown, partly because of trade disputes.

There was general agreement among the experts gathered that the Middle East would remain a strategically important region for decades to come. Energy demand is set to rise by 30% between now and 2040. An additional 70 mb/d of oil and natural gas liquids, taking into account natural decline from existing fields, will be needed.The main challenge facing oil producers is new competition from fuel sources that appeal to consumers concerned about the impact of fossil fuels on the environment and whether this will bring about peak demand for oil sooner than anticipated. Participants had different views on the impact that the rise in the number of electric vehicles and electrification would have on oil demand, though the consensus view was that continued investment in oil and gas is needed even in a scenario of a more rapid transition to lower-carbon solutions.

Introduction

More energy sources than ever are available at declining cost – solar and wind technologies have advanced to the point where they are competitive with natural gas without subsidies.

The global energy market is undergoing structural changes that have come into sharp focus

in 2019. This was apparent in the oil market's somewhat muted response to the September 14 attacks on Saudi Arabia's Abqaiq oil gathering complex and Khurais oil field. The loss of 5.7 million barrels per day of oil from Saudi Arabia would have spooked markets in the past. Instead, a short spike in the price of oil on the international oil market was followed by a retreat to prior levels. So, has oil lost its luster?

The transition to a lower-carbon economy is under way in many parts of the world with new technologies and environmental awareness forcing a change in consumer and investor behavior. More energy sources than ever are available at declining cost – solar and wind technologies have advanced to the point where they are competitive with natural gas without subsidies. So, oil is under pressure to clean up its act. Yet, oil and gas demand will continue to grow with gas taking a larger share of the pie at the expense of coal. Energy demand is set to rise by 30% over the next two decades and an additional 70 mb/d of oil and natural gas liquids will be needed to meet demand, with oil and gas accounting for roughly half of the energy mix. This will require a total investment of $20 trillion. The problem is not a lack of funds but a shift in the geography of investment flows. The Gulf states will need to adapt their fiscal regimes to attract the necessary investments. Despite holding 40% of the world's crude oil reserves and 30% of global gas reserves, the Gulf region accounts for just 6% of investments by international oil companies because of high government royalties of 90%, which are even higher in some instances. Comparatively, 48% of IOCs' investments go into the U.S. upstream, where the oil majors have become big players in the booming shale oil industry.

The dislocation in oil markets as the United States has overtaken Russia and Saudi Arabia as the world's largest oil producer has led to a measure of complacency in the market, which has shrugged off geopolitical tensions in the Middle East and the attacks on Saudi oil facilities and tankers around the Strait of Hormuz in recent months. This is because geopolitical risk has been mitigated by downward revisions for oil demand growth, high commercial inventories, and a bearish global economic outlook. While shale oil and gas production in the United States will continue to rise, the rate of growth may slow unless the problem of gas flaring can be managed. While it is true that production costs have come down – the breakeven price in the Permian Basin is estimated at $30 per barrel – infrastructure limitations persist and may curb growth unless resolved.

As IOCs fight a decline curve in their industry, national oil companies in the Gulf must confront the reality of a consumer base that is progressively more concerned about the effects of energy production and consumption on climate change.

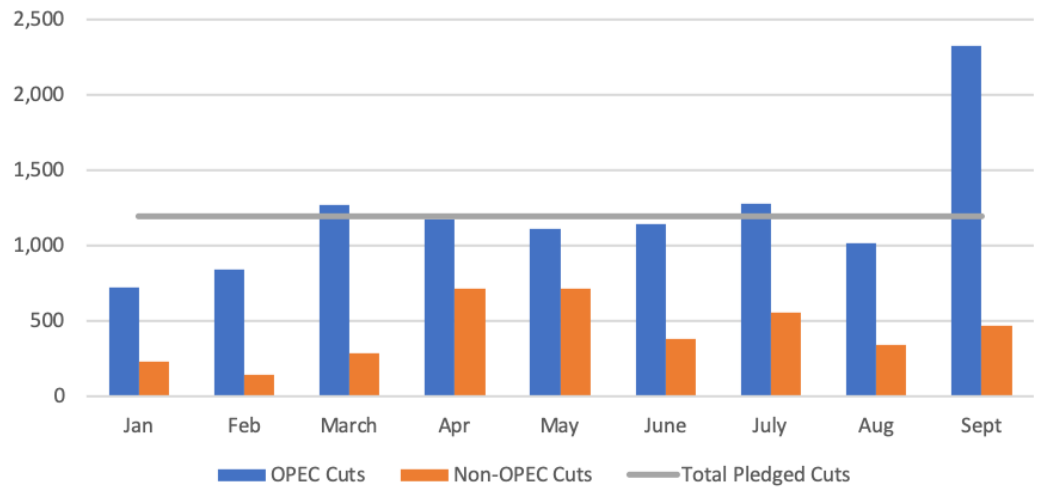
A World Without Oil?

Fossil fuels cannot be excluded if the world's energy needs are to be addressed.

The market's muted response to the attacks on Abqaiq and Khurais should not be seen as diminishing the role of oil in the energy complex now or in the future, though it does reinforce the perception that supply concerns are no longer the predominant drivers of market sentiment. This reaction was perhaps reflected in prices that were relatively unaffected throughout the summer of 2019 by acts of seizure and sabotage as well as outright attacks on international energy shipping around the Strait of Hormuz and beyond, as well as earlier

attacks on Saudi oil pipelines. For years, this type of escalation in the Gulf region was precisely the scenario that would lead to a substantial increase in oil prices, and yet with each incident leading up to September 14, this failed to materialize. There were more sellers in the market than buyers after the dramatic attacks on Saudi Arabia's vital oil installations. In addition to geopolitical developments, Saudi- and Russian-led production cuts from the alliance of OPEC and non-OPEC producers (OPEC+) have done little if anything to boost prices, even while Iranian and Venezuelan exports have remained offline. Some 9 mb/d were offline at one point, and the market shrugged off the disruption.

OPEC+ Production Cuts in 2019
(In thousands of barrels per day)



Source: "Saudi Attacks Pushed OPEC Deeper into Oil-Cuts Compliance," *Bloomberg*, October 22, 2019.

This poses a dual challenge to the efforts by the OPEC+ group to lift oil prices to levels that will meet their budgetary needs by maintaining a policy of production restraint. But this restraint in the past two years has failed to lift oil prices significantly while resulting in a loss of market share to the United States and other independent producers. Should the United States agree to abandon its "maximum pressure" campaign on Iran and ease sanctions, the return of Iranian oil to markets would upset fundamentals and exert more pressure on oil prices. While lower oil prices are good for oil-importing countries, they do not bode well for future investment in new oil production capacity. A short-term dip in demand does not mean that the world can do without oil in the longer term.

Future demand for oil will be driven by petrochemicals, heavy transportation, and aviation. There is no room for complacency when it comes to investment in new upstream capacity because of the steep decline in investments in the three years after the 2014-15 oil price collapse. This may have an impact on supply in the early part of the next decade, and investment will have to pick up to avoid a long-term mismatch between supply and demand, but it is important to invest in value-driven projects. Much of the investment in recent years – up to 70% of total upstream spending – has gone into short-cycle projects such as shale oil

rather than conventional upstream projects that typically take longer to come online.

OPEC in its World Oil Outlook projects demand for oil to increase by 14.5 mb/d to 112 mb/d by 2040 with petrochemicals accounting for 4.5 mb/d of the total.[1] OPEC does not see peak demand occurring before then. That's not to say that all regions are equal. There will be ups and downs and demand is expected to peak in the Organization for Economic Cooperation and Development countries but not beyond.

Even if the number of electric vehicles rises significantly, it will still make up a small percentage of vehicles on the road by 2040. Most of the growth in the transportation sector will be for conventional combustion engine vehicles while electric vehicles will make up around 13% of the total fleet by then.

BP in its Energy Outlook 2019 laid out two scenarios: the Evolving Transition and the Rapid Transition.[2] In both scenarios covering the period to 2040, oil will continue to make up a significant component of the energy mix. Oil today accounts for a third of total energy use. In the Evolving Transition scenario, oil accounts for 27%, or 100 mb/d, and in the Rapid Transition scenario, it accounts for 23%, or 80 mb/d. There is a new wave of supply coming online that has already been approved with an additional 50 mb/d expected to become available. But even in the lower demand scenario of 80 mb/d, this would leave a supply gap that cannot be filled without new investment.

Some NOCs have started responding to projections of slower oil demand growth and are investing more in downstream projects and expanding their gas production. Petrochemicals is the biggest demand growth sector and NOCs have responded with stepped up investment in integrated oil refinery and petrochemical plants at home and overseas to lock in demand for oil, particularly in the Asian market, and extract the maximum value from crude oil.

The oil industry realizes that the future will be more challenging. However, as OPEC Secretary General Mohammad Sanusi Barkindo has said, the industry "has a responsibility to be part of the solution to the challenge of climate change."[3] In order to do so, the industry needs to have a seat at the table and a level playing field. Fossil fuels cannot be excluded if the world's energy needs are to be addressed.

Several IOCs have responded to the growing clamor from investors and shareholders to curb emissions arising from oil and gas extraction. While gas is considered a cleaner fuel and a reliable feedstock for power generation, methane emissions need to be dealt with. This realization may take hold more slowly in the boardrooms of Gulf NOCs, most of which do not have shareholders holding them to account. As such, they are less susceptible to public opinion, and as state-owned companies they have more influence over policy in their respective countries. Some Gulf NOCs are starting to restructure along the lines of IOCs, becoming more transparent and stepping up overseas investments, some in joint ventures with IOCs. Saudi Aramco, which is preparing for an initial public offering, has opened its books for the first time

1 OPEC, *2018 World Oil Outlook 2040* (Vienna: OPEC Secretariat, September 2018).

2 BP, *BP Energy Outlook: 2019 Edition* (BP, 2019).

3 Mohammad Sanusi Barkindo, "Plenary Remarks by OPEC Secretary General at the Kuwait Oil & Gas Show and Conference," *OPEC*, October 13, 2019.

in preparation for the IPO.

The structural and operational differences between IOCs and NOCs are essential to any debate surrounding the energy transition. A world without oil is not in the cards in the immediate future, but what is certain is that both the multinationals and state-run oil companies will need to adapt if they are to survive in an era of rapid transition. The pace of change matters. If there are technological breakthroughs to deliver a lower-carbon world, fossil fuel-dependent countries may not have time to adapt and that could lead to spillover problems.

Will Natural Gas Keep Rising?

Even as renewable sources of energy are integrated into the global energy mix, gas will have a role as a reliable baseload fuel for power generation.

Natural gas will witness higher demand growth than oil as it is seen as a reliable and cleaner energy fuel and, as the price of gas has come down, as an alternative to coal. In the United States, emissions have fallen sharply because of the shift from coal to gas. Even as renewable sources of energy are integrated into the global energy mix, gas will have a role as a reliable baseload fuel for power generation. In BP's Evolving Transition scenario, renewable energy led by wind is the fastest growing source of energy. Renewable and natural gas together account for almost 85% of the growth in primary energy.

However, in the Gulf region, demand for gas has slowed. This is partly because of slower economic growth, geopolitical tensions, energy price reforms, and more end-user efficiency measures. However, the Middle East has seen the fastest demand growth for natural gas after Asia, a trend that is expected to continue. But in all countries of the region except Qatar, gas demand has outstripped supply, which is not evenly distributed across the region. Although Qatar is the only Gulf state that can really be considered a major player in the global gas trade, NOCs elsewhere in the region are investing more into development of gas resources, along with a notable push by Saudi Aramco to enter the gas trading sector. The biggest supply growth is expected from Qatar, which is planning to expand its liquefied natural gas production in coming years. Doha intends to expand its gas production capacity from 77 million tons per year to 110 million tons per year and expand its fleet of LNG carriers to more than 100 tankers in the next decade.

Saudi Arabia and Kuwait still burn a lot of crude oil and other liquid fuels for electricity generation. In some countries like Iraq, large volumes of gas are being flared because there is no infrastructure to gather and utilize the gas produced in association with oil.

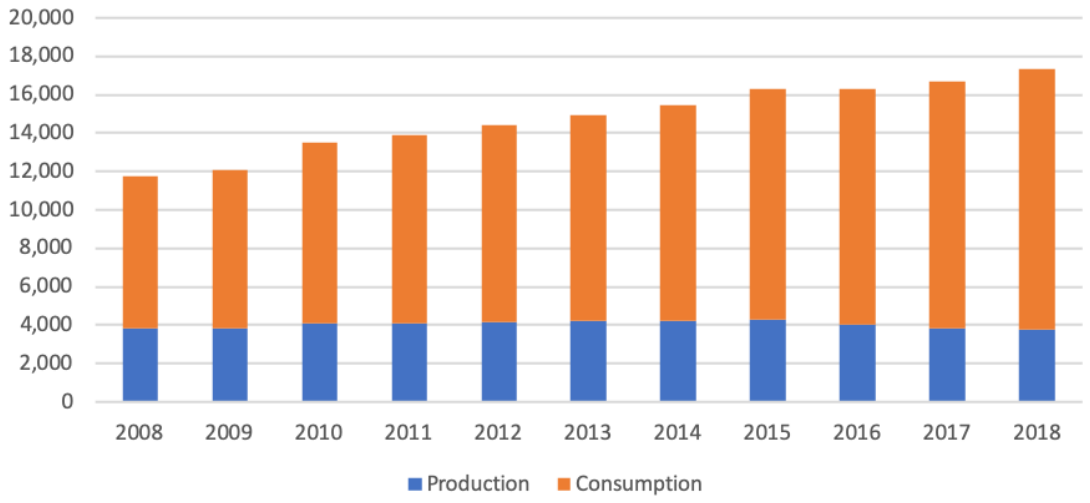
The Eastern Mediterranean is a promising new region for gas development, but Egypt's massive offshore Zohr gas field, which was brought online in recent years, is already witnessing a steep decline rate. Most of the gas from Egypt's new fields will be consumed in Egypt with little prospect for exports. Unless new fields are brought online in the Eastern Mediterranean, a boom-bust scenario cannot be ruled out. Gas has been discovered off Israel and Cyprus and may lead to more cross-border gas business, especially between Jordan and its neighbors Israel and Egypt. However, geopolitics are hampering any significant regional gas integration and prospects for wider trade in gas.

Even countries with substantial gas reserves, such as the United Arab Emirates and Kuwait, have become net importers of gas, either via pipeline or in the form of LNG. In the future, some countries in the region may have a gas surplus as they invest in new gas resources, including sour gas in the UAE and unconventional and offshore gas in Saudi Arabia. Supplies from Yemen and Libya continue to be disrupted by civil strife and it is unclear when normal production will resume.

Renewable energy technologies are being deployed across the Gulf region. Solar capacity has doubled in the past four to five years, while nuclear power in the UAE is expected to replace a significant volume of gas. Demand will continue to grow but at a lower rate and more in the industrial sector. The record low prices for producing electricity from renewable or alternative sources of energy have helped to curb demand for gas and do not require government subsidies. Gas is also being displaced in the water desalination sector, where some countries in the Gulf region are using reverse osmosis.

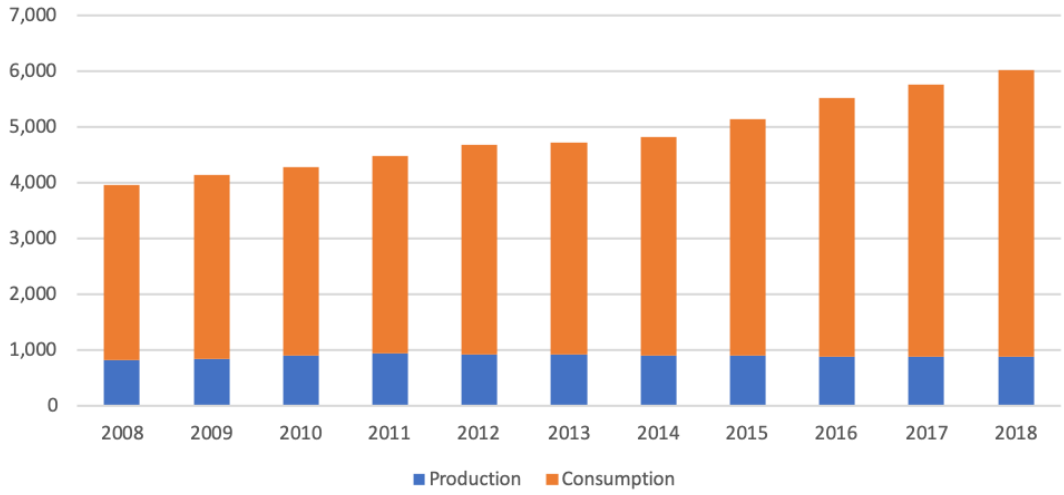
As more gas comes online, the industry will continue to struggle with low prices. Much more new supply has been coming online over the last several years, especially in the United States, though the rate of growth will be determined by how quickly new infrastructure to transport the gas is completed. Gas flaring is unsustainable at current rates because of environmental restrictions. Globally, the LNG market in particular is struggling with low oil prices. India and China account for the largest growth in gas demand. In India, plans to create a $4 trillion to $5 trillion economy will need an enormous amount of energy, while China's "Blue Skies" policy has boosted demand for gas in recent years as the country switches from coal to gas for environmental reasons. Between 2012 and 2018, half of the growth in global demand came from China. In Southeast Asia, gas prices are not competitive due to transportation costs and the need for large investments in infrastructure. As a result, coal has re-emerged as a more economical source of power generation.

China's Oil Production vs. Consumption, 2008-18
(In thousands of barrels per day)



Source: BP Statistical Review of World Energy 2019

India's Oil Production vs. Consumption, 2008-18
(In thousands of barrels per day)



Source: BP Statistical Review of World Energy 2019

Despite the time and capital required to develop gas infrastructure, demand for gas will probably increase steadily for some time, especially in countries where economic growth initiatives or energy policies favor gas. If additional gas resources are not developed, the global gas trade may struggle to provide enough gas at a time when needed. The Gulf states may be a part of the solution to the supply gap, though it is much more likely that domestic energy supplies will be a primary concern for these states. If regional disputes such as the boycott of Qatar by some Gulf states and Egypt persist, greater gas integration in the Middle East is not likely to materialize. And hydrogen is not a likely alternative fuel in the immediate future because of the high cost associated with its production.

The Geopolitics of Oil – U.S.-Gulf Arab Relations under Trump

The Trump administration's "maximum pressure" campaign against Iran elicited a campaign of "maximum resistance" in response, and the Gulf Arab states are bearing the brunt of the military response from Iran and its regional allies and proxies.

The United States under the administration of President Donald J. Trump has stoked geopolitical tensions in the Gulf and its security commitment to the region is no longer assured.

Despite Trump's strong ties to Saudi Arabia's new rulers, there seemed to be little appetite to rush to the kingdom's defense in the aftermath of the September 14 attacks even among some of the most traditionally hawkish foreign policy voices in the country. The Trump administration has consistently cited its desire to end "forever wars" in the Middle East, a policy point that is relatively bipartisan after nearly two decades of U.S. military operations in the region, though there remains a great deal of disagreement as to how such an initiative

should be managed.

While Trump has failed to condemn the killing of Saudi journalist Jamal Khashoggi or Saudi Arabia's role in the war in Yemen, there has been a backlash against Riyadh from both Republican and Democratic lawmakers – an uncharacteristic show of bipartisanship in an era marked by extreme polarization. Congressional Republicans have broken with the administration's push to make emergency arms sales to the Gulf states on multiple occasions, and while some have arguably been more concerned with the executive's efforts to bypass the legislative branch of government, the end result has been a negative spotlight on the Gulf.

With the 2020 U.S. presidential election barely a year away, U.S. support for Saudi Arabia has been a consistent feature of discourse during the Democratic primary race, as has the U.S. military commitment to the region. This doubtlessly echoes the anxiety that Gulf states felt when the administration of former President Barack Obama and several other major powers signed the Joint Comprehensive Plan of Action nuclear agreement with Iran. Some Democratic contenders for the White House have expressed their desire to rejoin the JCPOA, but it is highly unlikely that a new Democratic administration would find a willing Iranian partner with which to achieve this goal. Whether the Gulf states find themselves partnering with a re-elected President Trump or a yet-unknown Democratic candidate, there is cause for concern over how far the United States will go in defending its regional partners. The lack of clarity in U.S. policy toward the Gulf has allowed Russia to step in, evidenced by the close relationship that has developed between Saudi Arabia and Russia since the two joined hands to balance the oil market through the OPEC+ alliance.

What the Gulf states need at this time is more consistency and sobriety in U.S. policy. The Trump administration's "maximum pressure" campaign against Iran elicited a campaign of "maximum resistance" in response, and the Gulf Arab states are bearing the brunt of the military response from Iran and its regional allies and proxies.

Iranian oil exports have plummeted since May when the United States stopped extending waivers that allowed some countries to continue buying Iranian oil. Iran's oil exports have dropped from around 2 mb/d in 2018 prior to the reimposition of U.S. sanctions to between 200,000 and 500,000 b/d. China, one of Iran's largest customers, has continued to buy Iranian oil though volumes are far lower than in the previous six months, when China had received a waiver. China imported 500,000-600,000 b/d of Iranian oil before the waivers expired. Imports are now down to 350,000 b/d. The problem of payments for these transfers remains, and while some oil is being supplied as part of debt repayments to China and India, it is not an arrangement that comes close to replacing what Iran has lost with the reimposition of U.S. sanctions.

The attacks on Abqaiq and Khurais were intended to send a number of messages, the loudest of which was directed at the Trump administration. Tehran is well aware that Trump is highly sensitive to the price of oil, and that gasoline prices are a hot topic during U.S. election cycles. Had oil markets experienced prolonged price volatility after September 14, it is possible that the administration's response would have been different. Yet the abundance of global supply led to a market reaction that was incredibly muted, aided by the response of Saudi Aramco. The company's announcement that it would be able to bring supplies back online fairly swiftly

helped to calm markets as did its move to maintain oil exports by tapping into its inventories.

Iran has threatened repeatedly to respond to the U.S. sanctions by shutting down the Strait of Hormuz, the main conduit for exports from the region. However, Iran has shown that it does not need to close the strait to disrupt regional shipping. Attacks on ships off the UAE's port of Fujairah, which lies outside the strait, and rocket strikes targeting Saudi Arabia's East-West pipeline believed to have been conducted by Iran or its allies have demonstrated that Tehran has the ability to disrupt shipping well beyond the strait. Perhaps surprisingly, Saudi Arabia and the UAE have been restrained in their responses to the attacks and this cautious approach is possibly why the oil price did not reflect a higher risk premium.

There is no methodology for measuring the geopolitical risk premium. The recent events, however, show that the premium has shrunk significantly from historical precedents during previous crises like the Iran-Iraq War and the first Gulf War. Even after the departure of John Bolton, the hawkish U.S. national security advisor, oil prices did not fall.

Other developments in the way oil markets function, such as fast-paced electronic and technical trading as well as an increase in hedging activity are also major factors that can determine oil market direction outside of geopolitical influences.

Conclusion

The challenge is to produce more energy while lowering carbon emissions.

The energy world is in a process of transition and is gradually moving away from fossil fuels and investing more in renewable and alternative fuel sources. Yet oil will retain a significant portion of the energy mix for decades to come, though the pace of demand growth is expected to slow. Energy demand is expected to rise by 30% over the next two decades but renewable energy led by wind and solar is making inroads and securing a larger share of the energy complex. The industry will need to invest $20 trillion over the next two decades to produce the 70 mb/d of additional crude oil and natural gas liquids that will be needed. Investors are becoming more averse to investment in oil projects, a reflection of the growing concern by consumers about the impact of fossil fuel use on the environment. The oil market today is well supplied despite outages from a number of producing countries. This is partly due to the dramatic rise in U.S. shale oil production, which has destabilized the market.

Further pressure has come from a weaker energy demand outlook in the near term. This partly explains the oil market's somewhat muted response to the attacks on Saudi oil installations with oil prices barely changed even as geopolitical tensions were heightened in the Gulf region. The risk premium that would normally be associated with disruptions of the scale seen recently has not been a factor with prices remaining under pressure. But this should not be interpreted as the end of oil. Even in a Rapid Transition scenario, oil demand will continue to grow and account for around 23% of total energy use.

The challenge is to produce more energy while lowering carbon emissions. Gas offers one solution but will require massive infrastructure investments as it competes with cheap coal in the Asian growth market. Renewable and alternative energy technologies are the fastest

growing energy sources but wind and solar alone cannot supply the energy needed by a growing and more prosperous global population. The Middle Eastern oil producers are adopting some measures by changing their energy strategies and restructuring their national oil companies. But they will need to prepare for the possibility of a more rapid transformation of the energy landscape if they are to survive in a highly competitive environment.

Ahmed Ali Attiga presents keynote remarks (left); Attiga answers questions from the audience during the question and answer session, moderated by Ambassador Douglas A. Silliman

Agenda

October 2, 2019

All panel discussions were held under the Chatham House Rule.

Session 1: A World Without Oil?

The buzzwords in today's energy world are solar and wind energy, hydrogen, electricity storage, electric vehicles, carbon capture, smart grids, and blockchain. Saudi Aramco President and Chief Executive Officer Amin Nasser has acknowledged that the industry is facing a "crisis of perception" and has spoken of the need to lighten the footprint of fossil fuels. The United Arab Emirates and Saudi Arabia are following these trends closely and have started to introduce new sources of energy to generate electricity. Both are testing the potential of hydrogen as a transport fuel. At the same time, Gulf oil producers need to invest in new production capacity to meet future demand and compensate for natural decline from their existing oil fields.

This panel addressed how Middle East oil and gas producers are tackling this shift away from traditional energy sources and the waning appetite of investors to put their money into oil and gas projects. Experts considered how these producers are preparing for the possibility of a peak in demand for oil as well as what the optimal energy mix is to meet growing global demand for energy in a sustainable manner without harming the environment.

Session 2: Will Natural Gas Keep Rising?

The giant natural gas discovery in Saudi Arabia's Red Sea, stepped up gas production in the UAE, rising gas production in Egypt, and a significant gas discovery off the coast of Cyprus have renewed interest in the concept of integrated gas hubs in the Middle East, North Africa, and Eastern Mediterranean regions. Demand for natural gas is rising rapidly, forcing some Gulf states to import liquefied natural gas at high cost.

This panel addressed the role of gas in the energy transition process and where it sits in the energy complex alongside renewable energy sources now being deployed in the region. How significant are recent gas discoveries in the region? What role can gas play in meeting high

demand for power generation and desalination in the region?

Keynote Address

Keynote Speaker:

Ahmed Ali Attiga, CEO, Arab Petroleum Investments Corporation

Moderator:

Ambassador Douglas A. Silliman, President, AGSIW

Ahmed Ali Attiga is the chief executive officer of the Arab Petroleum Investments Corporation and has over 25 years of experience in investment management, development finance, private equity, research, and teaching. Attiga previously worked with the World Bank Group's International Finance Corporation as a private sector development specialist and senior advisor to the board of directors. He was responsible for overseeing several investment and advisory services in the Middle East, including an investment portfolio of over $2.7 billion and advisory program of $200 million. Previously, Attiga served as an advisor to Saudi Arabia's Public Investment Fund on privatization and restructuring strategies. He is also a board member of the Emirates Development Bank, in addition to many other professional affiliations. Attiga holds a BA in economics, an MS in international economies, and an MBA and a PhD in finance and development from the University of Wisconsin–Madison.

Session 3: The Geopolitics of Oil – U.S.-Gulf Arab Relations under Trump

U.S. President Donald J. Trump's transactional approach to international relations has led many regional leaders to question the long-term U.S. commitment to security and stability in the region. While most of the Gulf states supported the U.S. withdrawal from the Iran nuclear deal and are fully behind the "maximum pressure" policy against Iran, irritants linger in the relationships with the United States. On the energy front, Trump has often criticized OPEC and its members, at times injecting himself publicly and directly into the affairs of OPEC.

This panel addressed the Trump administration's "maximum pressure" campaign on Iran as well as heightened regional tensions and the implications for oil markets and global oil supply. Experts also considered the fissures within the Gulf Cooperation Council and how congressional criticism of Saudi conduct at home and abroad impacts White House efforts to persuade Riyadh to pursue supportive energy policies.

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