JUNE 2016

THE NEW GREAT GAME

Changing Global Energy Markets, The Re-Emergent Strategic Triangle, And U.S. Policy

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Acknowledgements

The authors would like to acknowledge Shawn Brimley, Ed Chow, Peter Harrell, Bruce Jones, Ed Morse, and Rachel Ziemba for their comments on drafts of the report. They would also like to acknowledge Bogdan Belei and Ryan Ouwerkerk for their tireless research assistance, Jacob Stokes for his extraordinary help, particularly in early stages of research and report drafting, and Colin Kahl, Agnia Grigas, Ely Ratner, Rachel Rizzo, Julie Smith, Nikos Tsafos, and Richard Weitz for their help in framing some of the themes of the report and assistance with research along the way. Finally, they would like to thank Melody Cook and Maura McCarthy for their assistance with the production of this report. This publication was made possible by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the authors.

About the Energy, Economics, and Security Program

The Energy, Economics, and Security program analyzes the changing global energy and economic landscape and its national security implications. From the shifting geopolitics of energy to tools of economic statecraft, such as trade policy and sanctions, to security concerns tied to a changing natural environment, the program develops strategies to help policymakers understand, anticipate, and respond. The program draws from the diverse expertise and backgrounds of its team and leverages other CNAS experts' strengths in regional knowledge, defense, and foreign policy to inform conversations in the nexus of energy markets, industry, and U.S. national security and economic policy.

Cover Photo
The United States/Russia/China "strategic triangle" is reemerging with energy at its core. These countries will bend their energy advantages to strategic ends in the new great game which will increasingly play out in the Asia-Pacific. As a new energy power, the United States will have to update and adapt its energy policy to reflect the changing global landscape.

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EXECUTIVE SUMMARY

This report explores the interface between energy market changes and great power politics. With Chinese President Xi Jinping's embrace of China's rise as a major power and subsequent assertive moves in the South China Sea (SCS), and Russian President Vladimir Putin's efforts to directly challenge U.S. aims in both Eurasia and the Middle East, the United States/Russia/China "strategic triangle" is again shaping global politics. Energy issues are at the core of this new contest. This report focuses on China's and Russia's energy assets, vulnerabilities and strategic goals, and the extent of, and limitations to, their new energy-centered strategic partnership. The report lays out a pathway forward, and specific policy recommendations, for how the United States can leverage and strengthen its energy assets in the years to come to support its national security interests and foreign policy goals.

As recently as three years ago, energy markets were dominated by assumptions of continued rapid demand growth and doubts about the security of supply, especially given growing instability in the Middle East. These factors reinforced one another in placing continued upward pressure on energy prices. The "peak oil hypothesis" – the notion that the world was soon to reach the maximum point of oil production as the depletion of existing sources sped ahead of available new sources – shaped both financial and corporate strategies, and consumer country fears.

But enormous shifts on the supply-side in the United States and the demand-side in China have transformed global energy markets. Technological innovation gave rise to the unconventional energy boom in the United States in which crude oil and natural gas production increased by over 80 percent and 50 percent respectively in less than a decade.[1] The Obama administration, in the face of opposition from environmentalists, recognized that the shale boom could be a source of economic growth and, given the lower carbon footprint of natural gas, create a global "bridge strategy" away from coal.

After accounting for 60 percent of total global energy demand growth over the past decade,[2] the China energy surge is over as the country moves away from spending 25 percent of GDP in fixed asset investment through building hundreds of new cities. President Xi has put the country on a course to rebalance its economy from one based on manufacturing to services, investment to consumption, and exports to domestic spending.[3] As a result, the growth targets for the Chinese economy have declined by some 40 percent, while its energy intensity is declining very rapidly. In turn, this depresses the pace of global energy demand growth.[4]

These market changes have shifted the risks in global energy markets from consumers to producers, and have created major opportunities for both the United States and China. The United States is on the cusp of a new era as a major energy exporter, and has exercised its new energy leverage in promoting international sanctions on Iran that helped to bring Tehran to the negotiating table over its nuclear program. For China, new market conditions have eased concerns around supply vulnerability, creating new options for global energy partnerships and the context for China's ambitious new Silk Road project that aims to connect East Asia to the Middle East and Europe.

For Russia, whose economy is highly dependent on its energy resources, the impact of these market changes are much more problematic, both in terms of falling prices and greater competition among producers. The changes in global energy markets coincided with Russia's conflict with the United States and its European allies over Ukraine. In the aftermath of Russia's annexation of Crimea, the West imposed a series of sanctions on Russia, most importantly on key technologies and financing streams critical to Russia's energy production expansion. Putin refused to buckle to Western demands and instead announced Russia's own "pivot to Asia," especially to China.

Senior leaders from both Russia and China have met frequently, vowing each time to boost some aspect of their ties. Putin has stated that Russia and China have no major differences on key global issues, and the two countries have signed scores of high-level agreements. A number of huge deals to send Russian gas to China were closed, with the clear intention that China would become the major financier of Russia's future energy development. In the military sphere, Russia and China held joint naval exercises in the Mediterranean, Sea of Japan, and South China Sea in 2015. Russia has also agreed to sell China critical surface-to-air missile technology and top-of-the-line fighter planes, which could enable China to project greater presence into the South China Sea.

But China-Russia energy ties have not played out so smoothly, tempering the possibilities for a true strategic convergence. Two years after the big gas deals, the Russia-China energy axis appears to have lost a good deal of momentum, despite continued memoranda of understanding and other agreements. Slowing Chinese energy demand, and proliferating Chinese natural gas options, have removed some of the urgency behind the Russia-China energy détente. The Chinese have not responded to the new opportunities for investment that Moscow put forward. In general, China is demanding

more, including lower prices and control of timetables, from these deals, and the Russians have been unwilling to continue to give in, as they did on pricing in the large gas deals in 2014, and remain wary of becoming China's "resource appendage."[5]

Rather than a quick pivot to Asia, Russia is coming to terms with its limited energy choices and the growth of stiff competition – and with them, continued dependence on European markets. Today, Europe and Russia are economically intertwined around oil and gas, which is unlikely to change drastically in the near future. Russia and Europe are mutually dependent on one another for exports and imports in the energy sector. However, given the recent friction between Russia and its neighbors, Europe – encouraged by the United States – is renewing its long-term effort to wean itself off Russian energy.

For its part, the United States is not yet well positioned to take advantage of the new energy market circumstances to advance many of its national interests. Unlike China and Russia, which reacted fairly quickly and are pursuing policies to counteract their energy vulnerabilities and expand resilience, U.S. leaders have been slower to grasp opportunities for advancing U.S. global leadership, balancing a tense relationship with China, and working to contain Russian foreign aggression.

The report argues that the United States needs to update its perspectives and policies to reflect the country's new position as a major energy power. Such a new approach should seek to develop new norms, arrangements, and even institutions around market resilience, technological innovation, and global stability that will help reassert and convey U.S. leadership on energy on the global stage. It must approach energy security and climate change as two sides of essentially the same coin, rather than as distinct policy arenas. Despite the agreement last year between the administration and Congress to lift the 40-year ban on crude oil exports, energy trade policy and regulation in the United States lag well behind the emergence of the United States as a major oil and natural gas producer.

The rise of the United States as an energy producer and the weakening of China's acute sense of vulnerability create the possibility of energy becoming a source of tension mitigation rather than exacerbation in the Pacific and beyond. But neither the United States nor China have yet developed a serious initiative to engage the other in a more cooperative manner on energy, nor are the countries able to place their shared energy interests in a broader regional framework with other East Asian nations. Shortcomings in U.S. leadership have contributed to confusion and a lack of confidence broadly in Asia about the role the United States will play as an energy power. This is particularly notable when it comes to Asian concerns about the role the United States will play in the sea lanes linking Asia with Middle Eastern producers, which have been crucial for the economic development of all countries in the region, and the degree to which U.S. regional allies will get caught in the U.S.-China power struggle.

In light of these concerns the report makes recommendations for U.S. policymakers to present a clear framework for the role the United States will play in promoting and protecting global energy market flows and efficient trading, and adapting domestic energy policy for resilience and maximization of strategic interests. It also urges U.S. leaders to establish a new Pacific Energy Forum with several East Asian counterparts and expand bilateral energy cooperation between the United States and China. Additionally, it recommends a strategy to address Russian coercive energy market activities abroad by expanding cooperation with European and other partners to bolster European energy resilience, and specific policies to maintain security commitments in the Asia-Pacific to protect energy market stability unilaterally and through international security cooperation.

CHAPTER 1
Introduction

China's President Xi has bade farewell to his predecessors' rhetoric that China is merely a developing country and has embraced its rise as a major power. Russian President Putin, at the same time, has embarked on a series of assertive moves to directly challenge U.S. and Western aims in both Eurasia and the Middle East. As a result, the United States/Russia/China "strategic triangle" that dominated the final decades of the Cold War is making a comeback. Geopolitics is again in vogue.

But the dynamics of the latest round of great power contestation are different from the 1970s and 1980s. Then, the United States exploited constant Sino-Soviet tensions, and Moscow feared total isolation, especially after President Richard M. Nixon went to China in 1972. The United States used its leverage to win agreements from the Soviets on strategic arms limitations and to gradually normalize relations with Beijing. This time around, U.S.-Russia tensions are high, and China is positioned to play Russia and the United States against one another.

A second element in which this round of triangular geopolitics differs from the end of the Cold War is the role of energy. Energy issues were peripheral to the earlier triangle; they are at the core of the new one. Indeed, recent changes in global energy markets have elevated the significance of the United States as a major producer, while Russia finds itself in a much more competitive environment as a leading producer. Furthermore, Asia will be the center for global energy and economic growth for years to come, and the strong pivot to Asia of energy superpowers Russia and the United States makes the Pacific an increasingly important center of gravity for economic and strategic relations.

As for China, all significant energy producers, consumers of energy-intensive Chinese goods, and those neighbors and transit states that are conduits for such trade are watching closely for commercial opportunities. Though many nations are stakeholders in this trade, particularly Gulf energy suppliers, new and dynamic relationships in the Asia-Pacific will dominate strategic competition in the decades to come. The energy-linked trade flows in the region will drive new ties, new trade terms, and new security opportunities.

Over time, and in step with energy market moves, China, Russia, and the United States will each individually attempt to bend their energy advantages to strategic ends. This is the new "great game." Putin made the first move in this game, with his declaration of an energy-centered "pivot to Asia" and the signing of a series of gas agreements with China in 2014 following the Russian annexation of Crimea and the ensuing imposition of Western sanctions.

But China and the United States are the stronger corners of this triangle, and will have greater opportunities to translate their energy interests into either bitter competition or a source for collaboration and mutual benefit in the bilateral relationship. In today's buyers' market, China may even have the strongest set of cards to play, offering investment capital, a growing consumer base, and long-term commercial and security commitments in order to expand its international stature and influence in its immediate neighborhood and far beyond. It is expanding energy links with Russia, though the combination of slowing Chinese growth, weak energy prices, and a growing range of partners has meant that China's response to Putin's moves have been disappointing to Russia, which has fewer options.

For the United States, the last decade's phenomenal growth in unconventional oil and gas output slowly has led to a rethinking of the decades-old perception of domestic energy scarcity and vulnerability into one of abundance and clout on the world stage, even during the current downturn in oil prices. As a result, U.S. exports are forcing energy suppliers from Russia, the Gulf, Africa, and elsewhere to compete with a new class of high-tech U.S. energy producers.

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This revolution and the growing penetration of renewable energy are altering the way we think about energy security. Policymakers increasingly prioritize a more diverse array of energy inputs at home and abroad. They also increasingly focus on lower-carbon or no-carbon fuels globally to reduce pollution, minimize energy-driven economic shocks, and help adapt to the need to address the social costs of carbon.

The changing definition of energy security also includes a new view of U.S. foreign commitments linked to energy. Even while the United States has decreased its dependence on imported energy, and expanded its view of energy resources beyond oil, policy commitments to safeguard the flow of oil in global sea lanes remain

significant for the United States and its economy, given that a major disruption of the global oil market could send prices skyrocketing for all consumers. But the 1980 Carter Doctrine, which offered U.S. maritime security to the Gulf, no longer captures the right set of key energy market players, and its implication that a single powerful actor should provide global energy security is antiquated.[6] What must be re-examined are the concessions the United States may exact for this provision, and the cooperative opportunities that appreciation of its security benefits can create.

U.S. policymakers have yet to fully take into account the energy dimension of global geopolitics, and the need to integrate this with broader security and foreign policy perspectives.

The most challenging aspect of such a transformation will be changing the long-held view that energy interests between producers and consumers are overwhelmingly competitive, which had been true when Organization of the Petroleum Exporting Countries (OPEC) dominated the market and consumer countries feared the cartel's market power. But in today's more diverse and resilient supply context, the main fear has shifted to the producer side, where intense competition over the ability to sell now defines the market.

In this context, U.S. leaders must clarify – for themselves and for the rest of the world – an updated set of priorities on both international energy trade, given U.S. unconventional energy's rise, and the U.S. role in providing maritime security for energy. The United States and China, for example, are global giants as energy consumers, importers, and emitters. This coincidence creates a range of shared interests in the economic sphere and increasing options for cooperation rather than competition. The deep and growing trade ties between the two only expand shared interests in peaceful and uninterrupted commerce. But U.S. policymakers have yet to prioritize this and use it for leverage in the broader bilateral relationship.

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The competitive aspects of the U.S.-China relationship have made it difficult for each to focus on shared interests. Abundant misperceptions exist in China that the United States is not open to the energy investment of Chinese companies, and that Chinese traders would be cut off from U.S. energy exports in a crisis. Cool relations between China and the United States are one driver in the China-Russia energy relationship, which offers both Western Pacific nations an opportunity to balance the United States' role and influence in the Asia-Pacific.

Russia, a militarily powerful nation with a history of using coercive gas pricing and its transit infrastructure as leverage to advance its political interests in Central Asia and Europe, is nonetheless a junior partner to China in the Asia-Pacific. Pinched by low oil prices and Western sanctions, Russia is externalizing domestic economic discontent in foreign adventurism. This may expand President Putin's stature at home, but it makes Russia a more unpredictable and potentially dangerous actor in the global arena. While Putin portrays energy as one of the key tools in Russia's international political playbook, changing energy dynamics are not moving in Moscow's favor. Russia is a massive supplier to the West, while having a relatively small role in the East. But Russia's position in Europe is being challenged both in natural gas and oil. The EU is pushing to be better prepared for energy supply disruptions, European gas demand is stagnant, and a surplus of liquefied natural gas (LNG) supply will enter global and European markets.[7] On the oil front, Russia is facing competition from Saudi Arabia and Iran. Saudi Arabia and Russia have discounted their crude to Europe, and Saudi Arabia has targeted countries like Sweden and Poland, where Russia has long been the dominant supplier.[8] Iran has regained 900,000 barrels per day of market share since the lifting of sanctions.[9] This means that the threats to Russia's market share in Europe are difficult to balance from a buildup in the East.

This paper explores the interface between energy market changes and geopolitics. It is especially focused on China's and Russia's energy assets, vulnerabilities and strategic goals, and their implications for U.S. interests. Geographically, the paper focuses on the Pacific Basin. Given the growth in U.S., Brazilian, and Canadian production, the Atlantic Basin has dried up as a growth market for out-of-area producers, leaving the Pacific as the area where intense competition among producers will play out. The paper concludes by exploring how the United States is positioned to address these circumstances, calling out deficiencies and making policy recommendations for U.S. leaders that leverage and strengthen U.S. energy assets in the years to come.

CHAPTER 2

Setting the Stage

The Permian Basin, spanning parts of Texas and New Mexico, is one of the top U.S. oil and gas producing regions. (blake.thornberry/Flickr)

The New Global Energy Market

As recently as 2012 and 2013, energy markets were dominated by assumptions of continued rapid demand growth, driven especially by China's extraordinary pace of urbanization and economic growth, and doubts about the security of supply tied to limited opportunities for new geographic areas to produce oil and gas and the continuation of political uncertainty in producing regions – especially the Middle East. These factors reinforced one another in placing continued upward pressure on energy prices. The "peak oil hypothesis" – the notion that the world was soon to reach the maximum point of production as the depletion of existing sources sped ahead of the ability to access new sources – shaped both financial and corporate strategies, and consuming country fears.

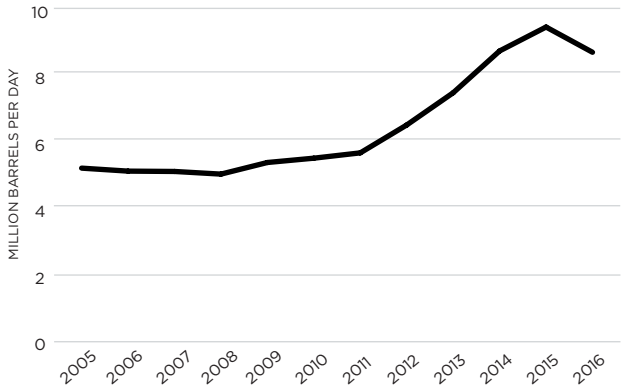
We are now in a very different world. In recent years China's economic growth has slowed from over 10 percent to under 7 percent, and its government is committed to a new and much less energy-intensive growth model. The unconventional energy revolution has boosted production in North America with the potential to do similarly in other global regions at the same time as investment in renewable energy is bringing more of these sources into the market. And while Middle East instability has deepened in the last several years, what had been viewed as its inevitable consequence – higher oil prices – has not come to pass.

A Surge in North American Energy Production

Over the last few years, the United States has experienced remarkable increases in oil and gas production from tight oil and shale resources. Since 2005, crude oil and natural gas production increased by around 80 percent and 51 percent respectively.[10] According to the latest available figures, in 2014 the United States was the world's largest producer of oil and natural gas.[11] If Pennsylvania were a country, it would be the world's fifth largest producer of dry natural gas.[12] Technological innovation, which combined hydraulic fracturing and horizontal drilling, gave rise to the unconventional energy boom in the United States, as well as a production surge in Canada. The Obama administration, in the face of opposition from environmentalists, recognized that the shale boom could be a source of both economic growth and, given the lower carbon footprint of natural gas, create a global "bridge strategy" away from coal.

For a nation long accustomed to regarding energy as a scarce resource, and conditioned to think that reliance on imported oil is a grave vulnerability and competition with global energy superpowers inevitable, the surge in U.S. unconventional energy production is overturning prevailing perceptions. America is no longer a "price-taker" and a "consumer" country; it is a producing giant

U.S. Crude Production Rose 82% Over the Last Decade[13]



**Note: 2016 production figure is projected.*

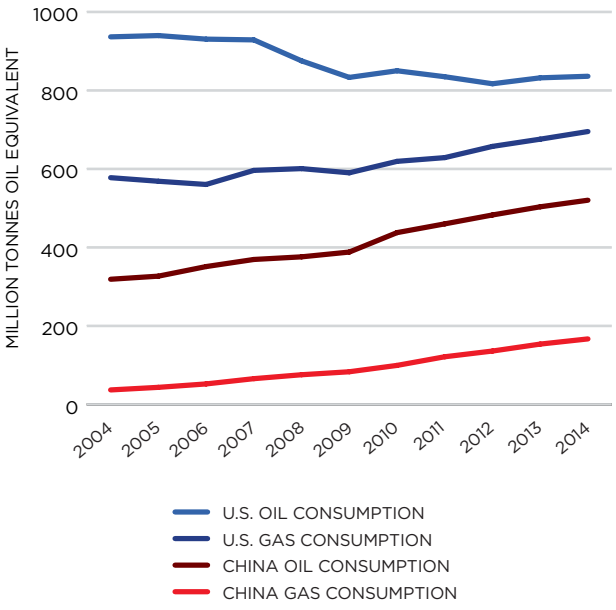
with extraordinarily strong pricing power in the oil and LNG markets. In 2015, Congress and the administration cooperated to lift the long-standing ban on the export of crude oil, and in early 2016 policymakers and industry leaders alike applauded the launch of a major U.S. LNG export facility on the Gulf Coast. These new steps to expand U.S. capacity as an exporter are already underscoring an increase in U.S. pricing power in global energy markets; in the next decade the growing volumes of anticipated energy exports will make the United States an unrivaled energy pricing hub, depriving Russia, Qatar, or any other energy exporter of pricing power in the global market. Moreover, the U.S. energy revolution has prompted a reexamination of America's new role as a producer, exporter, trader, and technological and innovation leader in energy, and how these assets could support the country's foreign policy and national security.

China's Rebalance

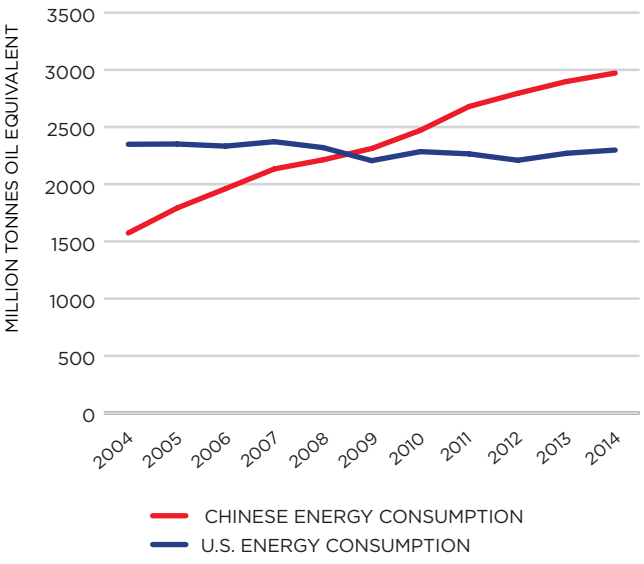
China accounted for over one-half of total global energy demand growth over the past decade[14] and was a key reason why, except for the interlude provided by the global financial crisis in 2008 and early 2009, energy prices rose almost continually from the first years of the new century through mid-2014. Indeed, China's fiscal and credit stimulus in 2009 was a major contributor to the bounce back in global oil (and other commodity) prices later that year. But the China energy surge is over as the country moves away from 25 percent of GDP in fixed-asset investment and building hundreds of new cities, as was the case in the past 20 years. President Xi has articulated a course to rebalance the Chinese economy from one based on manufacturing and construction to services, investment to consumption, and exports to domestic spending in an effort to achieve a "new normal," a slower but more sustainable growth trajectory.[15] An economy that had been growing relentlessly at 10 percent or more annually for three decades[16] slowed to under 7 percent in 2015, the economy's slowest annual growth in 25 years.[17]

The steep fall in Chinese stocks last summer and subsequent currency devaluation, both of which were basically repeated in January 2016, confirmed to some the narrative of China's economy going over a cliff. The reality is less dramatic, but hugely consequential for

U.S. and Chinese Oil and Gas Consumption[18]



U.S. and Chinese Energy Consumption[18]



energy markets. Deceleration does not mean economic depression, and China still has fiscal levers and $3.25 trillion in financial reserves.[19] China's economic rebalance is a challenging transition that will have its ups and downs, but it is happening. Resilient growth in domestic private consumption and the service sector is offsetting somewhat the deceleration of fixed investment.[20] Five percent growth, which is less than what China is targeting, would be a huge success for most economies in the world. Despite the slowdown, China's economy is twice the size it was six years ago and will likely continue to be responsible for about one-third of world growth in coming years.[21] But that growth will give China the space to emphasize clean energy and address the country's woeful urban air pollution problems. It will also mean a dramatic slowing down of China's urban building boom. As a result, there will not be a return to the China-led global energy demand growth of the first 15 years of the new century.

The Saudi Strategy

These big changes in energy market supply and demand provide the essential context for Saudi Arabia's decision, at the November 2014 OPEC meeting, not to cut production in order to defend market share.[22] The Saudis acutely remembered the 1980s when they bore virtually the entire responsibility for slashing output in a largely futile effort to prevent a steep drop in prices.[23] Moreover, they believed that the loss of OPEC market share and the fact that the unconventional energy revolution enabled far less "lumpy" investments and a much shorter timeline for bringing production on-line and taking it off had rendered price management efforts more challenging. In this context, the option of squeezing shale and other non-OPEC producers, while at the same time creating a more competitive environment for Iran (if, as the Saudis expected, a nuclear deal would be concluded) was attractive, especially compared to the alternative. Saudi Arabia's Oil Minister Ali al-Naimi commented that if the kingdom cut its production, "the price will go up and the Russians, the Brazilians, US shale oil producers will take my share."[24]

At the core of the Saudi strategy was the notion that lowest cost producers are best positioned to sustain production and market share as prices decline. "If the price falls, it falls . . . Others will be harmed greatly before we feel any pain."[26] That message was directed primarily at non-OPEC members, from whom OPEC expected cuts to enable the cartel to keep up production. Those cuts have been much smaller and slower to materialize than the Saudis expected, resulting in a much steeper price collapse.

But Saudi Arabia remains acutely focused on Iran's calls on producers to "make way" for its return following the lifting of sanctions early in 2016. Key to Saudi Arabia's strategy is its determination to maintain market share, especially against a post-sanctions Iran, and set the benchmark for who deserves to dominate the oil market, which the kingdom considers to be its rightful domain and source of clout on the global stage.

Lower Prices Are Here to Stay

The cumulative impact of the emergence of U.S. shale producers, China's economic rebalance and new domestic politics of air pollution, and Saudi Arabia's strategy of opting for market share marks the beginning of a new era in energy markets. Oil prices have dropped dramatically from June 2014, when they last reached highs of approximately $112 per barrel,[27] to around $50 per barrel at the time of writing.

But Russian output actually increased[28] and the drop in U.S. shale production has been much less than expected,[29] due to the rapid cost cutting and efficiency gains made by U.S. producers in the face of falling prices. Low prices have created incentives for "pro-cyclical" behaviors as countries seek to restore through volume increases what they are losing from falling prices.

Saudi Arabia remains unwilling to cut its production to stabilize markets despite the considerable financial pain it is experiencing, largely because it knows that would mean ceding market share to fellow OPEC member Iran, and possibly Iraq. In the early months of 2016, oil markets have been extremely volatile due to almost weekly rumors of new efforts at supply management, which temporarily raise prices, only to see them fall again when agreements are not reached. This pattern will likely continue given that all producers benefit from even short period of higher prices, while coming to actual burden-sharing arrangements to limit supply remains very difficult, and is thus unlikely.

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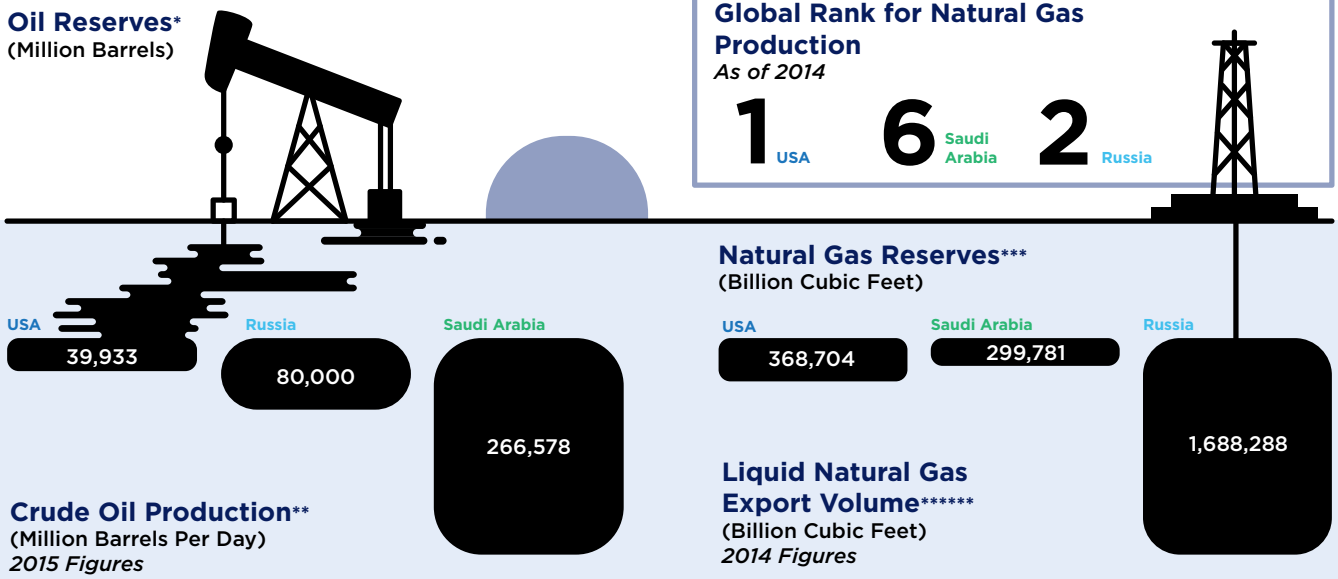
The World's Energy Producing Giants[25]

OIL PRODUCERS SINCE

Russia	USA	Saudi Arabia
1745	1859	1938

Oil Reserves*
(Million Barrels)



Global Rank for Natural Gas Production
As of 2014

1 USA 6 Saudi Arabia 2 Russia

Natural Gas Reserves***
(Billion Cubic Feet)

Crude Oil Production**
(Million Barrels Per Day)
2015 Figures

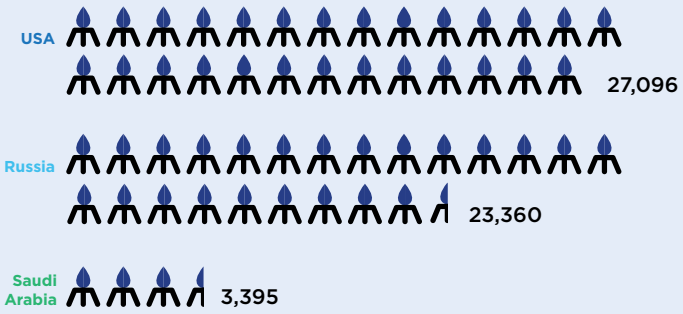
Liquid Natural Gas Export Volume******
(Billion Cubic Feet)
2014 Figures

USA	14
Russia	512
Saudi Arabia	0

Global Rank for Liquids Production
As of 2014

1 USA 2 Saudi Arabia 3 Russia

Dry Natural Gas Production
(Billion Cubic Feet)
2015 Figures



Liquids Production
(Million Barrels Per Day)
2015 Figures

Natural Gas Pipeline Export Volume*****
(Billion Cubic Feet)
2014 Figures

Liquids and Refined Product Export Volume****
(Million Barrels Per Day)
2014 Figures

USA	4.09
Russia	8.93
Saudi Arabia	7.10

Notes

** U.S. oil reserves figure is as of December 31, 2014, and the reserves figures for Russia and Saudi Arabia are as of January 2016.*
*** Russia's crude oil volumes include lease condensate.*
**** U.S. figure is as of December 31, 2014, and represents dry gas reserves, and Russia and Saudi Arabia are as of January 2016.*
***** The U.S. and Russia figures represent crude and product exports. The Saudi Arabia figure includes crude oil, NGLs, and other.*
****** According to the EIA International Energy Statistics, Saudi Arabia did not export dry natural gas in 2014.*
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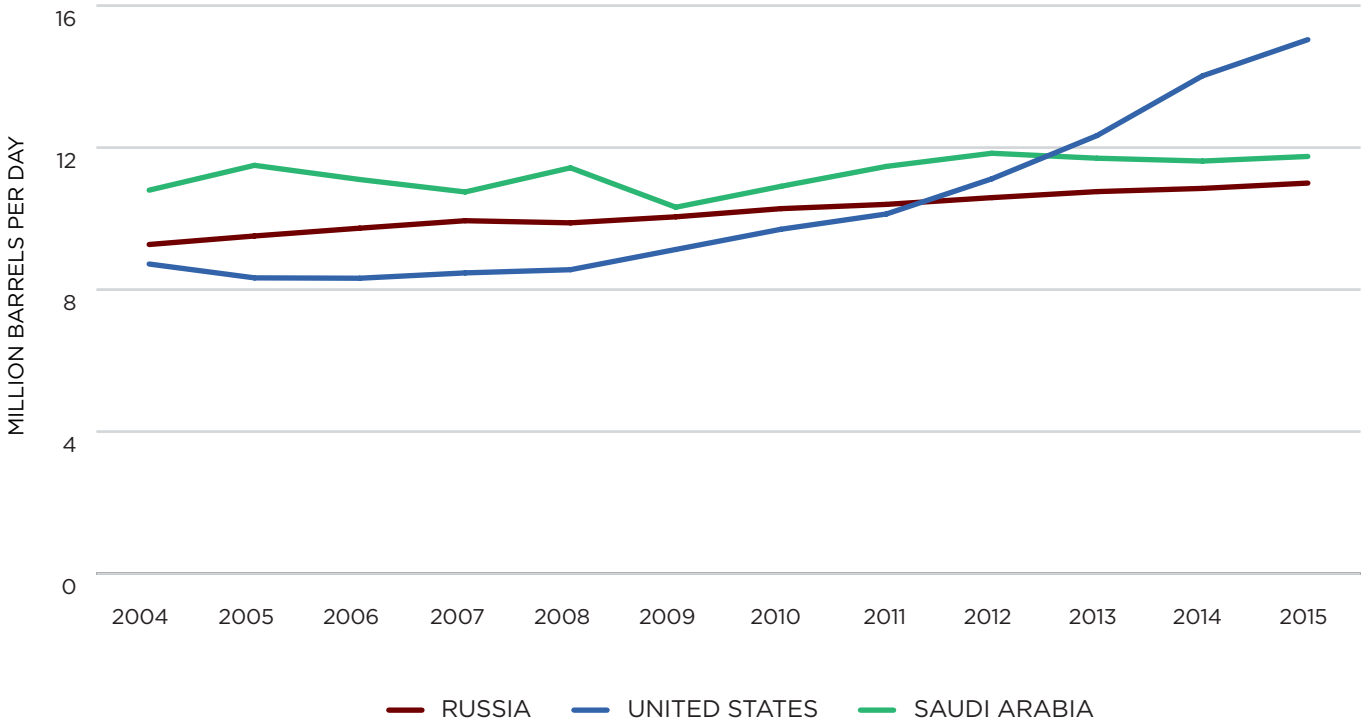
Liquids Production Among the World's Energy Giants[30]



With the world awash with oil and gas, eyes have turned to China for reassurance on renewed growth and exchange-rate stability that would prevent a "race to the bottom" currency war. As this year's G20 host country, China will continue to craft reassuring messages, but its increasing lack of transparency will make regaining market confidence a long-term endeavor. Moreover, China's interests and those of several other large economies are not necessarily consistent.

A slower-growth world, with major innovations on the energy production side, big impending efficiency gains in energy utilization, and a much less compelling case for attempting supply management, means that markets are likely to be in a structurally more bearish state at least into the final years of this decade. It is not that the market will fail to rebalance and prices will be frozen at low levels, but that just as the first years of the century saw big secular price increases, today's market is returning back to the more "normal" era before the Chinese urbanization/high growth super-cycle and the panic around "peak oil." As oil prices head back toward $50 per barrel and above, U.S. unconventional energy producers are again poised to rapidly increase output. This is likely to create a ceiling on prices until the drop in production capacity expansion investments of the past year and a half begin to kick in at the end of the decade.[31]

While market players in the energy space are acutely aware of the expanded U.S. role on energy, policy leaders inside the United States and abroad have yet to seriously integrate new market realities and opportunities into broader strategic thinking about great power relations. The United States needs to update and create policies that befit its status as a major player in this new era of energy markets. This process has already begun, with the gradual opening up of LNG exports, and the successful passage of legislation last year ending the crude oil export ban. But significant domestic political and policy differences remain about how to balance the new U.S. role as a heavyweight fossil-fuel producer with an ambitious climate change agenda, and how to integrate that balance into broader foreign and security policies.

With the world awash with oil and gas, eyes have turned to China for reassurance on renewed growth and exchange-rate stability that would prevent a 'race to the bottom' currency war.

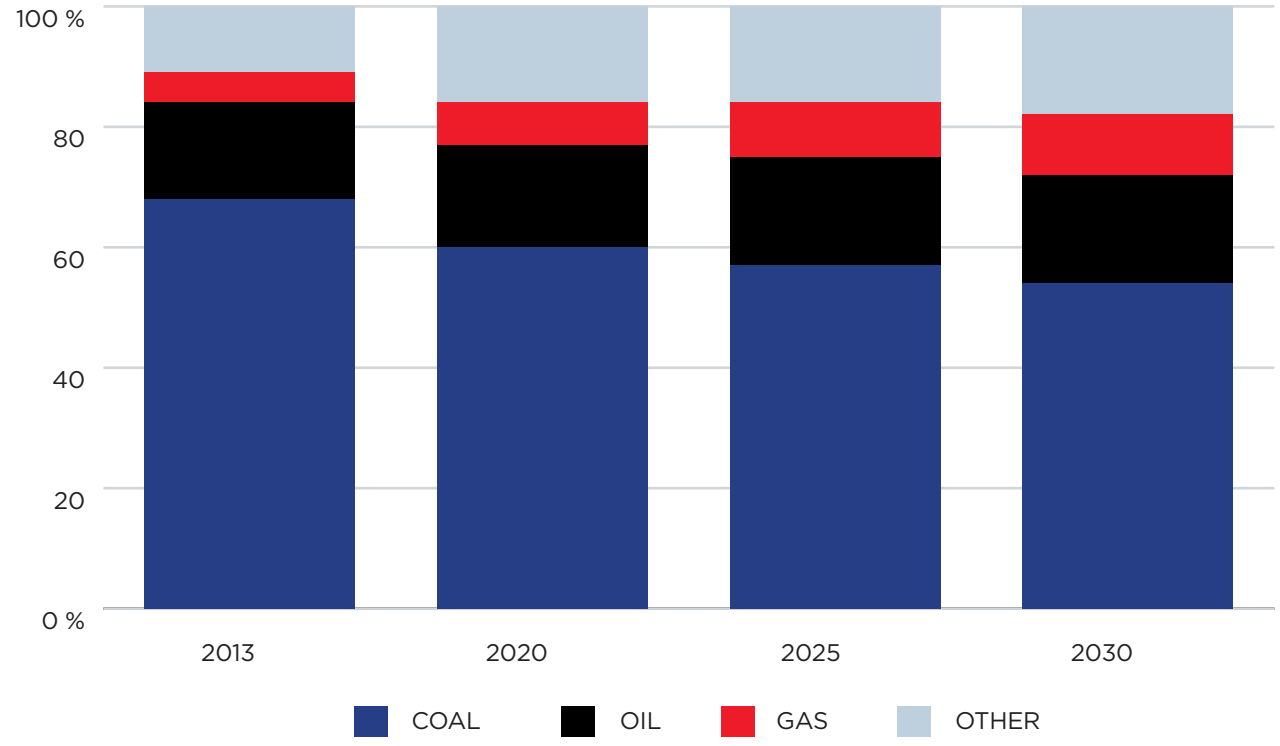
A Closer Look at China's Energy Sector and Outlook

China's rapid development and continuing concern with supply vulnerability are driving Beijing toward a policy of expansion and diversification in its energy fuel sources and trading partners. China's huge economy confers significant market leverage and spurs growing activism on international political, economic, and security issues. China has prioritized the expansion of its economic and political influence in Asia and along key energy trade routes and wants to develop its leadership on multinational energy governance. As such, it increasingly demonstrates the will and capacity to address many of the technical challenges that constrain domestic energy development and efficient pricing in the Asia-Pacific region and beyond. Nevertheless, Beijing is increasingly reticent about letting geopolitical energy interests outweigh the commercial side of deals and has shown itself to be a tough negotiator with trading partners. Managing an economic downturn and the need to rebalance its economy, as well as a corruption purge among party elite aimed to consolidate power, limit Beijing's commitments of massive amounts of capital to ambitious foreign energy projects, notwithstanding its vision for its One Belt, One Road (OBOR) development strategy, to which it has pledged at least $160 billion.[32] Introduced in 2013, this initiative seeks to create energy, economic, and transport corridors that stretch from China all the way to the borders of Europe. Through overland and maritime infrastructure investment, Beijing seeks to increase its connectivity with Eurasia and create linkages between China, the Middle East, and Europe.[33] This is a key pillar of China's strategy for achieving great power status.

Key Energy Assets and Vulnerabilities

China's greatest energy asset is its overwhelming market strength as the largest global consumer and a continuing source of substantial demand growth through the next decade and beyond.[34] As previously mentioned, it achieved this status after 35 years of rapid industrial development, which drove economic growth to 9.8 percent annually from 1978 to 2014.[35] During this period, China accounted for 41 percent of global energy demand growth.[36] Now, however, China's slowing growth and shift away from an energy-intensive model, as well as its commitment to increasingly efficient energy utilization

Total Primary Energy Demand in China by Fuel Type[42]



**Note: These figures are for the IEA WEO 2015 New Policies scenario.*

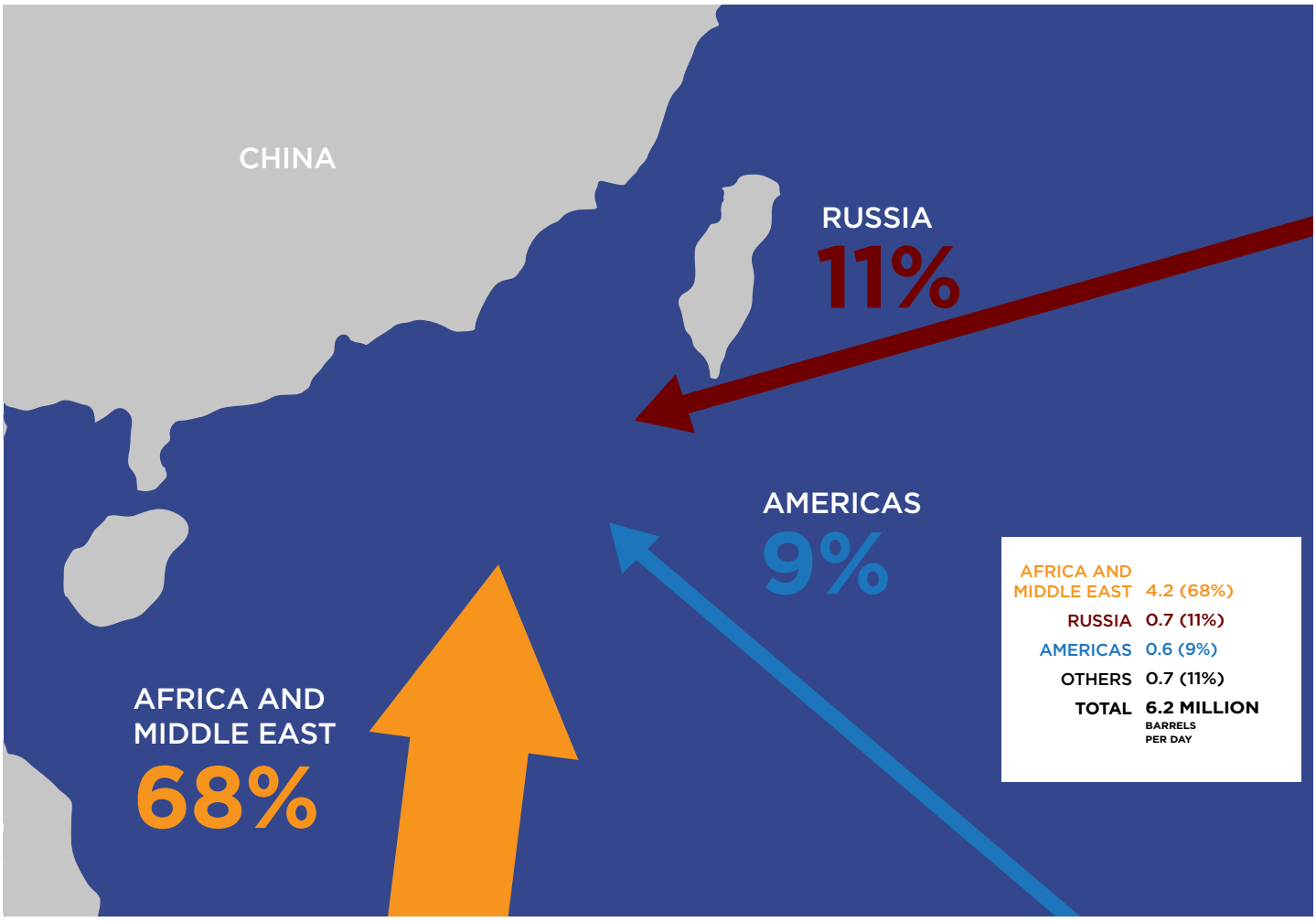
portends energy demand growth falling substantially. Estimates vary on when China's energy demand will peak, with some arguing peak demand as early as the late 2020s, while others believe that energy demand will continue to grow past 2040.[37] Diesel demand growth has already peaked, and given China's huge investment in enhancing energy efficiency, this may signal a faster trajectory to "peak demand."[38]

But it will be in natural gas, which Chinese leaders see as key to meeting politically critical domestic climate and pollution goals, where China's volume of demand will grow most sharply, even as efficiency increases.[39] Natural gas demand is expected to rise 220 percent between 2013 and 2040.[40] The government's current targets mandate gas reaching 10 percent of primary energy demand by 2020, although IEA only projects 7.3 percent by decade's end.[41]

In both oil and gas markets, significant demand from China has translated into growing financial market power as Chinese commodity exchanges see more and more volume of trading in energy contracts. Expanding energy trading activity at these budding exchanges will attract more financial market interest in the years ahead. It will also mean that China will acquire some significant energy price-formation influence with implications for traders and consumers far beyond its shores.

Chinese officials and scholars look at China's huge energy demand as both an asset and a liability. They recognize the power and influence that their energy market heft affords,[43] yet at the same time, China's huge energy needs and especially its dependence on imports to satisfy them create a number of first- and second-order vulnerabilities. President Xi recognized this fact when he said, "[energy security] is of the utmost importance for our prosperous development, the improvement of people's lives, and social stability."[44]

China is Highly Dependent on Imported Oil[49]



**Note: These figures are from 2014.*

Beijing perceives its growing dependence on energy imports as its greatest energy vulnerability. China imported 59 percent of its oil in 2014 and 30 percent of its gas in 2013, and those numbers will continue to rise.[45] Until recently, Chinese strategists particularly worried about the country's vulnerability to price shocks and physical supply disruptions.[46] While the collapse in oil prices has diminished the short-term risk of high import bills and supply disruptions, a more volatile price environment could make economic planning extremely difficult for the state.[47] Chinese officials are buoyed somewhat by the fact that broader energy market shifts have supported their efforts to erode the "Asian premium," the high natural gas prices in Asia relative to Europe and North America deriving from Asian contracts being commonly indexed to the oil benchmark price rather than an international natural gas benchmark or tied directly to regional demand.[48]

China sees an additional source of energy vulnerability in the U.S. dominance of the key shipping lanes linking China to Middle East producers. Given China's large and growing dependence on maritime energy shipments, and given its ambitions to serve as a land and maritime hub for energy trade in Asia, the lack of control over maritime security is deeply concerning.[50] But at the same time, China is neither prepared nor willing to take on the mantle of security provider for maritime and port installations to an extent sufficient to protect stable energy flows.[51] China is also increasingly attuned to the risk of political destabilization in energy-producing countries. China does not wish to become embroiled in security matters far from its own shores, but because instability in producing regions threatens energy supply as well as the security of Chinese citizens in those countries, it may not be able to avoid this. By 2010, well over a million Chinese citizens resided abroad as business people or workers, many in extractive industries in the Middle East and North Africa, where workers have been threatened by violence and instability.[52] China has significant direct investments in countries that are teetering in the present depressed energy market conditions, such as Venezuela, Angola, Sudan, and elsewhere.

The guided missile destroyer USS Arleigh Burke *(DDG-51) transits the Persian Gulf in support of maritime security operations. The United States has played the role of guarantor of global energy trade through strategic sea lanes. China regards its dependence on energy supplies that transit maritime routes as a source of vulnerability. (U.S. Department of Defense/Flickr)*

Strategic Objectives for the Use of Energy

China's leaders want to mitigate both the environmental and security vulnerabilities associated with its energy use. The 13th Five Year Plan (for 2016–2020) envisions China promoting efficiency measures and cleaner forms of energy, diversifying its import portfolio, and expanding its influence along key energy trade routes.[53] It is also seeking to increase its pricing power in energy markets and craft a role in global energy governance to bolster its own stature in this market and the efficiency and stability of the global energy system.

China seeks to hedge against price shocks and physical supply disruptions by diversifying both the sources and routes of its imports as well as developing the refining, intake, and storage capacity to support that footprint.[54] China sourced major crude imports from over a dozen countries in 2014, compared to roughly seven in 2005–6.[55] It has also built or contracted for major oil and gas pipelines from Myanmar, Turkmenistan, Kazakhstan, and Russia, and built LNG terminals on China's coast.[56] The central government has reportedly prioritized international pipeline construction irrespective of Chinese oil companies' commercial concerns in order to reduce reliance on seaborne imports, although it is difficult to gauge the true driver of the policy.[57]

The government believes unlocking innovation and investment in domestic energy production will help mitigate import dependence and improve the efficiency of its energy system. Chinese national oil companies' (NOC) "going out" strategy to pursue deals abroad of investing in foreign companies and entering into joint ventures with international firms allows them to access technology and expertise that can support improved exploitation of domestic resources.[59] In recent years, observers have noted a preference for investing in stable markets with greater prospects for technology transfer, especially in Canada and to a much lesser extent the United States.[60] At home, Beijing seeks to foster competition in exploration and production, midstream pipeline

distribution, and downstream refining.[61] The government has announced that it aspires to spin out domestic pipeline operations in a new mixed-ownership entity.[62] It wants more private participation in upstream exploration and production, and there is evidence that the policy signals are motivating slow entry of private Chinese capital into the domestic energy sector.[63] In 2015, the first year that small local refineries were allowed to import oil directly, they accounted for nearly one fifth of crude imports.[64] While change is likely to be slow – Beijing was supposed to release an overall plan for energy sector reform by the end of 2015 – it remains a serious goal of Chinese leaders.

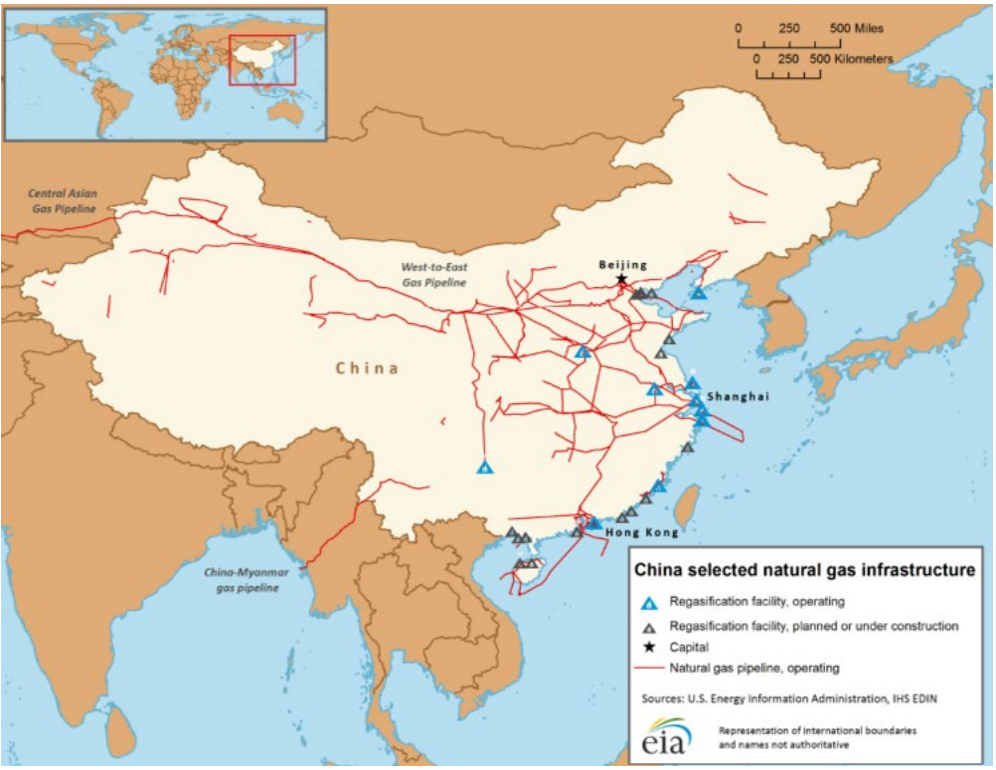
China also seeks to convert its market size into pricing power to shape regional oil and gas trade.[65] Chinese officials are promoting the creation of a "China oil [& gas] price" through the creation of benchmark contracts for oil and gas and the physical infrastructure necessary to support their operation. They see this as both increasing China's pricing power and as a spur to a somewhat more market-based domestic energy price system. But China will need greater transparency and rule of law to support a robust benchmark contract; the limits thereof explain the halting nature of early efforts to develop this market status.[66] Moreover, Shanghai contracts are priced in renminbi, in line with the policy of internationalizing the currency, but which adds currency risk for global partners and limits liquidity, hindering adoption by international traders.[67]

China is also aiming to strengthen resilience against price shocks and supply disruptions by building up its strategic petroleum reserve that will match the International Energy Agency (IEA) standard of 90 days of import cover by 2020, even while it is not seeking to become a full member bound by commitments to coordinate with others in a supply crisis. The reserve will hold 550 million barrels in both state- and privately-owned facilities.[68] Reports indicate that stockfill is accelerating due to depressed oil prices, even as the legal and administrative frameworks governing the reserves are still evolving.[69]

In line with China's broader aim of playing a larger role in global governance, Beijing seeks a greater role in regional and global energy governance, albeit in ways that allow it to set the agenda and that support its foreign lending and investment initiatives. At the 2015 Boao Forum, Xi Jinping said, "[China] will work towards an energy and resources cooperation mechanism in Asia to ensure energy and resource security."[70] While the call for this apparatus currently lacks specifics, Xi mentioned it in the context of China's efforts to help shape regional energy infrastructure through its Asian Infrastructure Investment Bank (AIIB) and its regional infrastructure development plans. Also in 2015, China both signed the new International Energy Charter and became the IEA's first Associate Member. The IEA and China are in the process of opening a joint energy cooperation center in Beijing.[71] More importantly, it is making energy governance a key theme of its G20 presidency this year. One possible priority in this setting could be promoting energy access in developing economies, which China would be well positioned to provide through its foreign investment initiatives.[72]

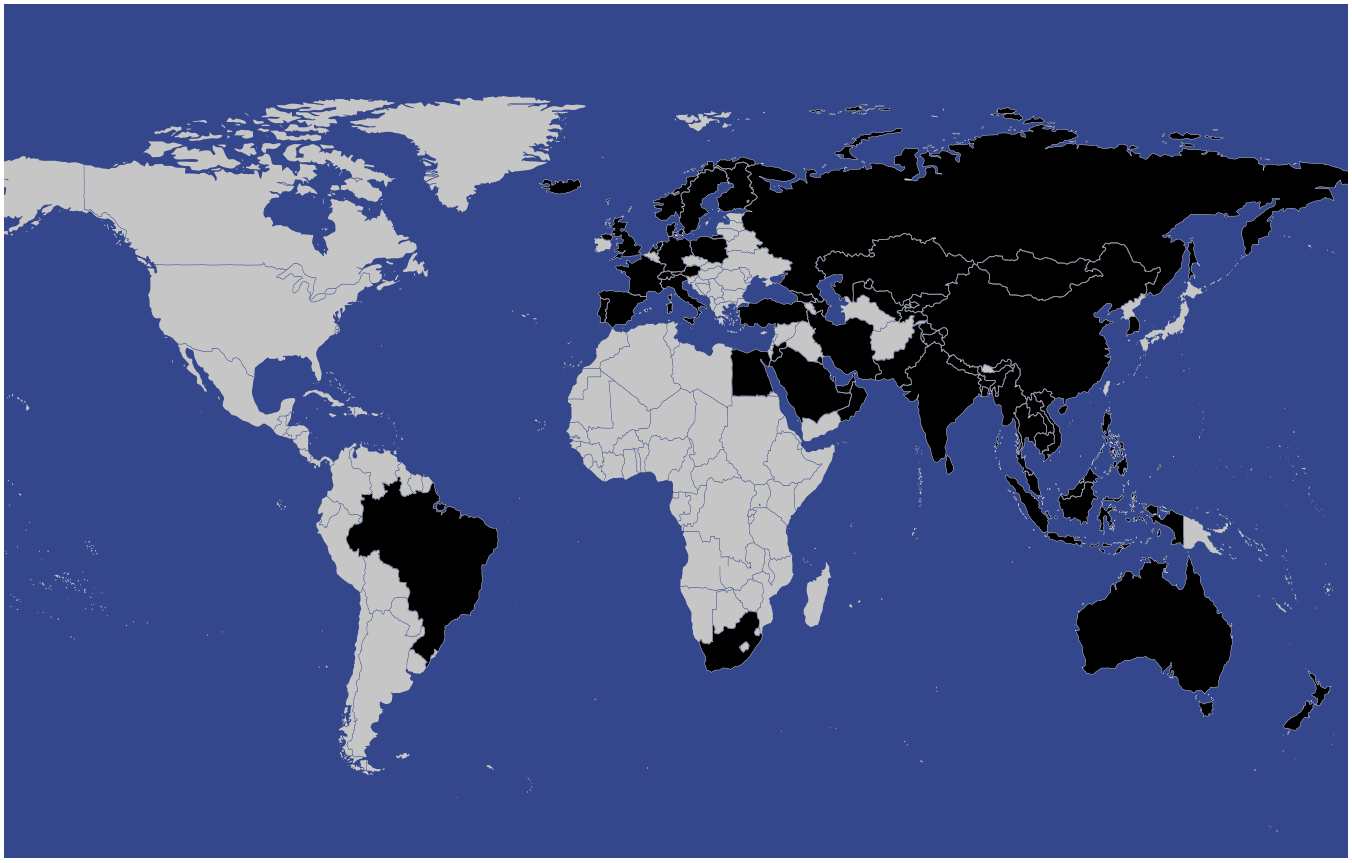
Like the United States, China is yet to develop a full-blown strategy linking energy and national security, but its growing overseas energy interests are driving new types of security activism. It has deepened political relationships and defense ties with Russia and increased its engagement with producing countries in the Middle East.

Selected Natural Gas Infrastructure in China[58]



**Note: Data is from 2014.*

Membership in the Asian Infrastructure Investment Bank (AIIB)[73]



Despite its continued "non-interference" rhetoric, it has become more active in the domestic affairs of its weaker energy partners, especially Sudan and Myanmar, to quell instability that could hurt Chinese energy interests.

In addition, the need to protect overseas interests, including energy investments and Chinese workers abroad, substantially drives Beijing's pursuit of expeditionary military capabilities.[74] At present, China is developing seaborne and airborne strategic lift and replenishment platforms, as well as port access and replenishment agreements that can help sustain extended deployments. By 2030 the People's Liberation Army will be able to conduct high-end maritime interdiction, opposed noncombatant evacuation, counterterror strike, and humanitarian assistance/disaster relief operations across much of the Indian Ocean region. It will also likely be able to hold U.S. forces at risk beyond Asia.[75] Of course, Beijing's expanded security activism also presents greater opportunity for international collaboration, exemplified by Chinese contributions to the anti-piracy mission off the coast of Somalia. At present, China is more focused on asserting influence in its bordering sea lines of communication (SLOCs) and maritime approaches, such as the South China Sea. But longer term, it will also grow more active beyond the Western Pacific, motivated significantly by its energy needs.

Like the United States, China is yet to develop a full-blown strategy linking energy and national security, but its growing overseas energy interests are driving new types of security activism.

A Closer Look at Russia's Energy Sector and Outlook

Russia has a vast energy resource base, which provides the fiscal basis for state spending, foreign exchange earnings,[76] and leverage (particularly for gas) in the international energy marketplace. But the Russian economy's extreme dependence on the resource sector in a lower price environment and the rise of intense competition among producers makes Russia's position in the new global energy market very challenging. The combination of low oil prices; Western financial sanctions; and a slow pace of financial, business environment, and tax reform by Moscow have significantly reduced Russia's economic leverage and ability to expand energy and strategic ties abroad, despite President Putin's energy "pivot to Asia" in the aftermath of Russia's annexation of Crimea and the imposition of sanctions by the United States and the EU. Against this backdrop, Russia is now reorienting its energy – and economic – growth strategy toward building on long-standing energy supply ties to Europe. It has not abandoned hope that it will eventually become a more prominent player in Asian markets, though that looks like a remote prospect in the current market context.

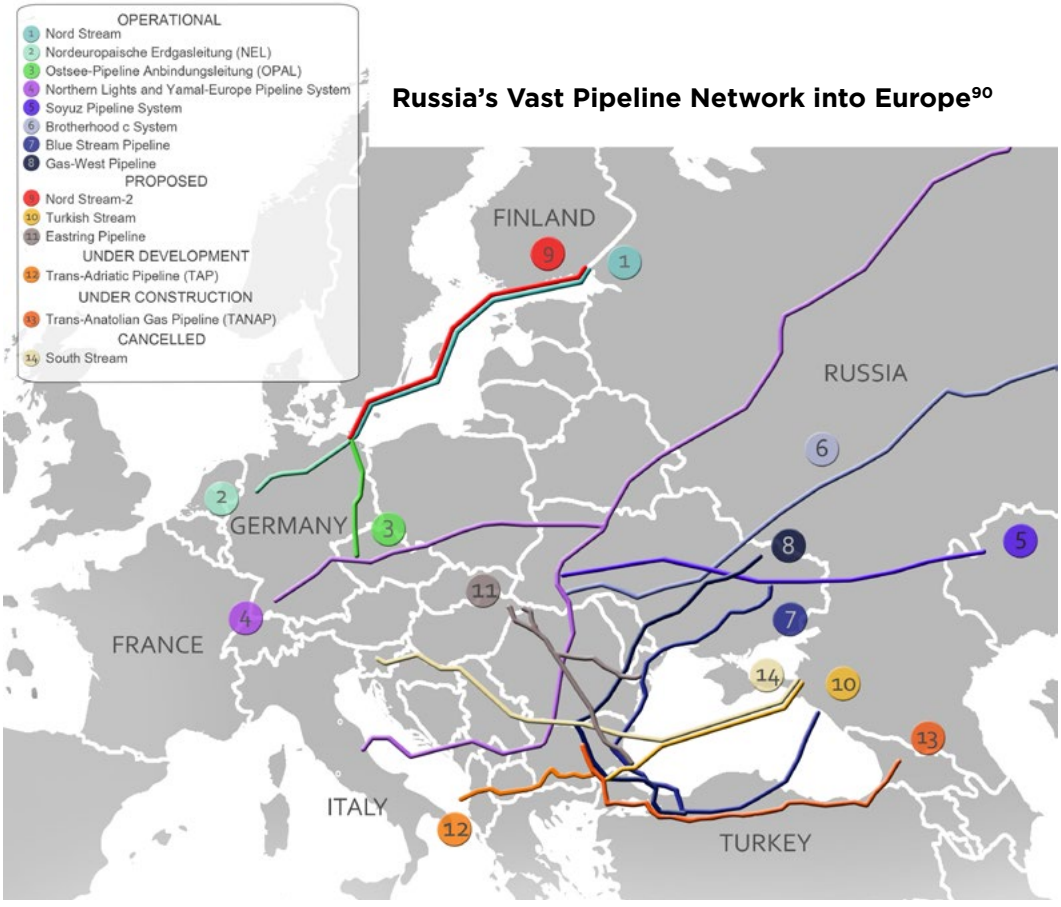
During the energy demand boom years of the last decade, Russia was slow to launch gas projects in its resource-rich Far East,[77] and with now limited access to Western capital market financing[78] Russia finds itself struggling to sustain momentum in energy projects, especially those with China.[79] In Central Asia, Russia no longer has the upper hand in energy trade, now finding itself competing with the former Soviet states to supply China with oil and natural gas. Russia is ostensibly working to advance domestic economic reforms and offer opportunities for private investment in the energy arena. But Putin's continued dependence on his support network in the existing political structure offers scant hope that Russia will soon emerge out of its present economic malaise.

Key Energy Assets and Vulnerabilities

Russia's energy reserves and productive capacity place it in the top tier of global energy players. Russia was the top global oil producer, pumping 10.73 million barrels a day (mb/d) of oil and gas condensate, in 2015.[80] It was the second largest natural gas producer in the world at the same time, producing 52.92 billion cubic meters (bcm), or 1.82 bcm a day, in February 2016.[81] Russian energy companies have a wide array of foreign technical and investment partners, including ExxonMobil and BP.[82] Western sanctions have limited, but not ended, many of these partnerships; in June 2015, BP bought a 20 percent stake in Rosneft's Taas-Yuryakh Neftegazodobycha oil and gas field in Eastern Siberia for $750 million, creating a joint venture.[83]

Russia's energy assets include long-standing foreign supply relationships and an extensive pipeline network stretching

Russia's Vast Pipeline Network into Europe[90]



Pivot to Asia: Russia's Energy Infrastructure in the East[91]

throughout Russia, Central Asia, and into Europe. Russia has the second longest pipeline network after the United States.[84] In 2013, Europe received around 30 percent of its natural gas and crude oil supplies from Russia.[85] Going east, and by contrast, in 2014 Russia accounted for 11 percent of China's crude oil imports, 8 percent of Japan's crude oil imports,[86] and 4 percent of South Korea's crude oil imports,[87] though it hopes to double flows of oil and gas to Asia over the next two decades.[88] In 2015, in the face of falling prices, Russia succeeded in expanding its oil market share in China, on the back of the gas agreements of 2014, despite competition from Saudi Arabia. Russia's success largely came as a result of a direct pipeline to northern China, the proximity of the Kozmino port to China, and new rules allowing small independent refineries in China (known as "tea pot" refineries) to buy imported supplies.[89]

But Russian firms are pulling back on earlier expansion plans in Asia and instead are seeking to refresh and expand energy supply relationships with traditional consumers in Europe. Particularly given the financial pinch, Russia cannot afford to lose European sales, which provide the main source of its hard currency revenues.[92] In this region too, however, Saudi Arabia is seeking to erode Russian market share. Saudi Aramco has recently beat out Russian crude cargoes in some European markets, including Poland and Sweden, and stoked Russian producers' interests in adaptation, and price discounting, to avoid ceding market share to Aramco.[93] In gas markets, Gazprom plans for a major expansion of its Nord Stream pipeline in the Nord Stream 2 project, an effort that would concentrate 80 percent of the EU's gas imports from Russia onto this single route and provide an alternative to using Ukraine as a transit route.[94] It has also put forward a series of proposals for a new gas corridor through southern Europe.[95]

Moscow has not abandoned its pivot to China, but this prospect is much further off and will be marked by stiff competition for market share in an increasingly diverse supply market. It may be viable for Russia to progress with its plans to double flows of oil to China to 600,000 b/d by 2018 via its East Siberia-Pacific Ocean (ESPO) pipeline as part of the $270 billion, 25-year supply deal reached between Rosneft and CNPC in June 2013.[96] But moving more Russian gas into Asia will be much more difficult. In early 2014, Russia shipped around 6 percent of the gas it produced to the Asia-Pacific as LNG,[97] but the energy price collapse has delayed or virtually canceled many expansion projects. Construction on the Power of Siberia gas pipeline to deliver 38 bcm of gas per year to China is delayed.[98] The prospects for the Altai pipeline, which would see Russia sell 30 bcm of gas to China for 30 years via a route linking Western Siberian fields with western China, remains uncertain at best.[99]

Notwithstanding its massive resources and delivery network, Russia's energy sector carries serious vulnerabilities and challenges. The recent collapse in oil prices has hit Russia's economy very hard. Energy accounts for roughly 25 percent of Russia's total GDP,[101] 50 percent of the country's federal budget,[102] and 68 percent of total export revenues before the price collapse.[103] Since the 2014 oil price collapse, Russia's economy has contracted, by 3.7 percent in 2015 and a likely further 1 percent in 2016.[104] In response Russia has adopted a siege mentality to ride out the double threat of oil price collapse and sanctions. Moscow has let the ruble depreciate, which has had the effect of preventing the loss of hard currency reserves, keeping Russia's foreign account balance positive.[105] But in the absence of economic diversification, to which President Putin has done little more than pay lip service for years,[106] Russia's future growth will be overwhelmingly influenced by fluctuations in oil prices.

Access to foreign technology and project management expertise, as well as financing, to develop unconventional energy production will be important for Russia to turn around its energy sector growth prospects. Russian firms rely on foreign suppliers for as much as 80 percent of their equipment in some of the more challenging areas involving complex seismic software, hydraulic fracturing technology, and equipment for offshore operations.[108] Western sanctions target these areas in particular; they have already clipped Russian firms' ability to develop some, but not all, unconventional resources and have increased investor anxieties about the decline of Western Siberian oil fields.[109]

In the face of sanctions, Russian companies have turned to Chinese and other non-Western energy equipment producers[110] and Chinese lenders for support, with limited success. China Insurance Investment Ltd. has backed Novatek in developing the Yamal LNG project, and Gazprom secured a five-year, $2.17 billion loan from Bank of China.[111] However, such Chinese financing is extremely limited relative to the scale of Russian capital requirements in the sector, and deeply felt mistrust in the China-Russia relationship, stemming from historical grievances, and a Russian desire to limit economic dependence on its rising neighbor China, will ensure that the growth of this relationship will be moderate at best.[112]

Compounding Russia's challenges to competing successfully in the global market of the future is its unwillingness to address serious misallocation of state economic resources, or promote structural reform and competition in the energy sector. Russian leaders are still trying to adjust, react, and adapt to present circumstances rather than taking a proactive position and setting forth a strategy or set of principles.[113] In 2014, discussion of what became known as the Russian oil "tax manoeuvre," or changes to the tax regime, began in order

Key Proposed Russian Pipeline and LNG Terminal Projects[100]

PROJECT NAME	COMPANY	TYPE	MARKET	ORIGINALLY PROJECTED DATE OF OPERATION	STATUS
Altai Pipeline (Power of Siberia-2)	Gazprom	Gas	China	2015	Postponed indefinitely.
Yamal LNG	Novatek	Gas	Global LNG market	2016	Scheduled to start shipping gas in 2017. After delays in financing, the project finally received $12 billion in loans from Chinese state banks in April 2016.
Power of Siberia Pipeline	Gazprom	Gas	China	2018	Deliveries expected to begin in 2019, but supplying lower volumes than initially expected.
East Siberia-Pacific Ocean Pipeline	Rosneft	Oil	China	2018	China failed to expand its part of the pipeline. By 2015, capacity was expected to increase from 15 million tons to 20 million tons.
Nord Stream II Expansion	Gazprom	Gas	Europe	2019	Under deliberations in the European Commission.

to compel oil companies to invest in refinery improvements and expand crude exports.[114] However, foot-dragging over broader tax reforms in the sector stalled implementation.[115] A market competition initiative to chip away at Gazprom's monopoly over Russian pipeline gas exports has fallen by the wayside, with the October 2015 declaration that Russia's natural gas should not "compete with itself abroad" for at least five years.[116] A current EU anti-trust challenge of Gazprom, even if ultimately damning of the firm's monopolistic and manipulative practices, will do little to change Moscow's dim view toward competition.[117] While Russian officials maintain that they are intent on pursuing energy sector reform, President Putin is unlikely to embrace any initiatives that would challenge his influence over lucrative Russian energy market activities or undermine the leaders of state energy firms, some of his strongest allies.

Russian GDP Contracts in Line with Global Oil Prices[107]

Strategic Objectives for the Use of Energy

The Kremlin's primary objective for the energy sector is to maximize global market share in an effort to offset price declines and thus sustain sufficient domestic spending to ensure political stability. Compared to the 2008–09 crisis, Russia's current recession has severely affected the general population, reducing living standards to those of a decade earlier.[118] Despite such diminishing conditions, public opinion polls suggest President Putin continues to enjoy high public approval ratings and the majority of the Russian public believes the country is moving in the right direction.[119] However, the absence of broad popular discontent today does not mean that it is impossible in the future. As economic constraints cut sharply into middle and lower income segments of the population, the Kremlin may face political pressure at roughly the time it is preparing for presidential elections in 2018.[120]

Russia touts its energy resources as an important asset for the Kremlin's foreign policy, especially by linking its ability to sign ambitious energy deals in the face of Western sanctions with global strength. This has been true with European corporate and political leaders backing the Nord Stream 2 project, the centerpiece of the Kremlin's effort to sustain its market share in Europe.

With regard to China, President Putin's overtures to expand energy links between the two countries were clearly designed to be a show of commercial and strategic strength to Western nations who took action against Russian behavior in Ukraine. During Putin's visit to China last year the two leaders signed a host of contracts, and Putin offered a confident view of the influence that bilateral ties would play on the stature of the two countries globally. But the reality of the Russia-China energy alliance has lagged well behind the rhetoric, as the two countries have made little progress on most of the signed contracts.

In the face of very limited Chinese uptake of Russian investment opportunities, the Kremlin has proposed selling stakes in state companies, including to foreign partners, potentially raising about 1 trillion rubles ($12.5 billion).[121] But Russian leaders have emphasized that external ownership must not translate into outside control. The state directly controls more than half of Russian oil production, and just five companies account for more than 75 percent of Russia's total oil output.[122] The heads of major public companies, many of whom are close Putin associates, also promise to fight a loss of control. Igor Sechin, head of state-controlled Rosneft, has rejected proposals to privatize Rosneft, arguing that a national oil champion is required to develop new energy frontiers through partnership with Western oil majors.[123]

Russia has doled out stakes in state-owned assets to foreign investors before. Most prominently, BP owns a nearly 20 percent stake in Rosneft.[124] But Russia's upstream energy sector is characterized by preferential treatment of Russia's state-owned companies in the licensing and development of large fields[125] and it would be a marked change to allow private or foreign interest into this circle. Selling some stakes now could raise money for Moscow, but is likely to attract Russian oligarchs while foreign firms and funds hang back. Investors abroad are cautious given continuing sanctions, ruble volatility, the poor investment environment, and doubt that the Kremlin will take meaningful steps to improve rule of law and property rights. Additionally, the threat of an asset grab by the Kremlin if economic conditions contract further cannot be discounted.

CHAPTER 3

Key Implications for China's and Russia's Geopolitical Aspirations

The major new trends in global energy markets – the North American shale revolution, the profusion of potential gas players, the end of China's frenetic urbanization binge, and the erosion of OPEC's ability to manage the market – alter the economic position and objectives for most energy market players. For some of the market's biggest participants, and for global superpowers, the new conditions tied to energy markets are becoming a fundamental factor in policy planning for the future and the development of national strategies for global leadership and projection of influence. This chapter explores how Russia and China are responding to the challenges and opportunities created by the evolving energy market realities, focusing on their own interaction as well as on Russia's evolving approach to Europe.

China's Energy Exposure and Its Quest for Leverage

Long aware of its energy insecurity, China's engagement on the global scene has substantially focused on strategies to mitigate this risk. Even as Beijing's acute insecurities have diminished in recent years as a result of the profusion of new forms and sources of energy supply, China has embarked on the long-term OBOR initiative. But China's "big move west" is taking it into one of the least stable geographies in the world, at a time of growing influence by Islamist extremists and terrorist groups.

Managing Chinese Energy Insecurity

China's inability to control or guarantee energy resource supply, critical to economic growth, job creation, stable prices, and in turn regime stability, has driven foreign policy concerns over previous decades. State leaders responded to this situation in several ways that sought to both limit their vulnerability and create more leverage for themselves.

First was the "going out" strategy of buying energy production facilities in a range of different global regions. What began cautiously was accelerated sharply in the early years of the last decade as markets tightened and prices rose. Chinese oil companies became major producers of other countries' oil and gas, with production from Chinese firms outside the country amounting to 2.5 million barrels of oil equivalent per day in 2013, and they now rank among the world's international operators.[126] But, gaining real security and influence from these investments has proved elusive. Both the Chinese government and Chinese firms have not had an easy time managing these investments, and may have drastically overpaid for some of them.[127] Chinese firms often offset their technical shortcomings by accepting greater political risk, making investments in some of the world's least stable environs. Without the ability to project coercive influence, China found itself vulnerable to local political pressures and unilateral changes to contracts. The enhancements to China's energy security from the "going out" strategy was as much or more a function of increasing total global oil production as it was China's ownership of that production.

Second, and somewhat more successful, was China's aggressive assertion of influence and sovereignty rights in both the East and South China Seas. In the past five years, China has expanded its definition of "core interests" beyond Taiwan sovereignty, Tibet, and non-interference into its domestic political affairs, to include sovereignty over vast areas of the South China Sea (defined by the so-called nine-dash line) and islands and surrounding waters in the East China Sea. At the same time, it created new missions – and began building a vast array of new capabilities – to enable the Chinese navy to aggressively patrol in these waters, setting up the possibility of stand-offs (or worse) both with regional countries such as Japan, Vietnam, and Philippines, and more ominously with the United States.

> **China's dilemma, in terms of creating a regional sphere of influence, is that its efforts to do so create powerful incentives for other regional states to both 'bandwagon against' such efforts, and, even more importantly, to seek ever closer ties with the United States and U.S. military forces.**

Energy has played a role in motivating China's behavior here, although the relatively small amounts of energy believed to be found in the South China Sea hardly seems to justify China's willingness to provoke its neighbors. Two other factors are much more important in explaining Chinese actions in this realm: Beijing's desire to have more control over sea lanes through which a majority of China's oil imports pass, and the almost inevitable effort of a rising power to establish its sphere of influence and exercise historical claims. China's dilemma, in terms of creating a regional sphere of influence, is that its efforts to do so create powerful incentives

for other regional states to both "bandwagon against" such efforts, and, even more importantly, to seek ever closer ties with the United States and U.S. military forces.

Third, and most successful, China intensified its efforts to diversify its sources of energy, and especially, the means by which energy is transported to China. This is the source of China's interest in an expanded energy relationship with Russia, but also the motivation for building the deep-sea port at Gwadar, on the Pakistani shore of the Arabian Sea, with an ambitious rumored pipeline to Shanghai. China has been particularly active in neighboring Central Asia, where several countries, especially Turkmenistan, had partially fallen out with Russia.

Turkmenistan was interested in China even before its tensions with Russia became acute, as negotiations between Turkmen and Chinese leaders started in 2006. A decade later, China has financed and constructed what will soon become the longest gas pipeline network in the world, with current capacity of 55 bcm annually and plans to grow to 85 bcm over the next decade. Broadly speaking, Central Asia's energy relationship with China has increased Beijing's influence, and Chinese investment has flourished in what has traditionally been Russia's backyard.

However, Central Asian gas reserves are not sufficient to meet vast Chinese demand, and China will need additional sources of supply. Since 2014, China has turned to Russia, thus making Central Asia and Russia somewhat competitive as suppliers of gas to China. As discussed, China and Russia have built a robust energy relationship through a range of high-profile oil and gas deals. Xi Jinping's 2013 visit to Russia – his first overseas destination as president – was followed shortly by the agreement for Rosneft to triple crude deliveries through the Eastern Siberia–Pacific Ocean pipeline that runs from East Siberia to China's Daqing oil field.[128] As a result, Russia became China's largest crude oil supplier at several points during 2015.[129] Of greater long-term consequence are the Power of Siberia and Altai gas deals signed in the aftermath of Russia's intervention in Ukraine and annexation of Crimea, deals that if completed could meet nearly 20 percent of China's gas demand, although both are now on hold.[130]

China's Great Power Strategy

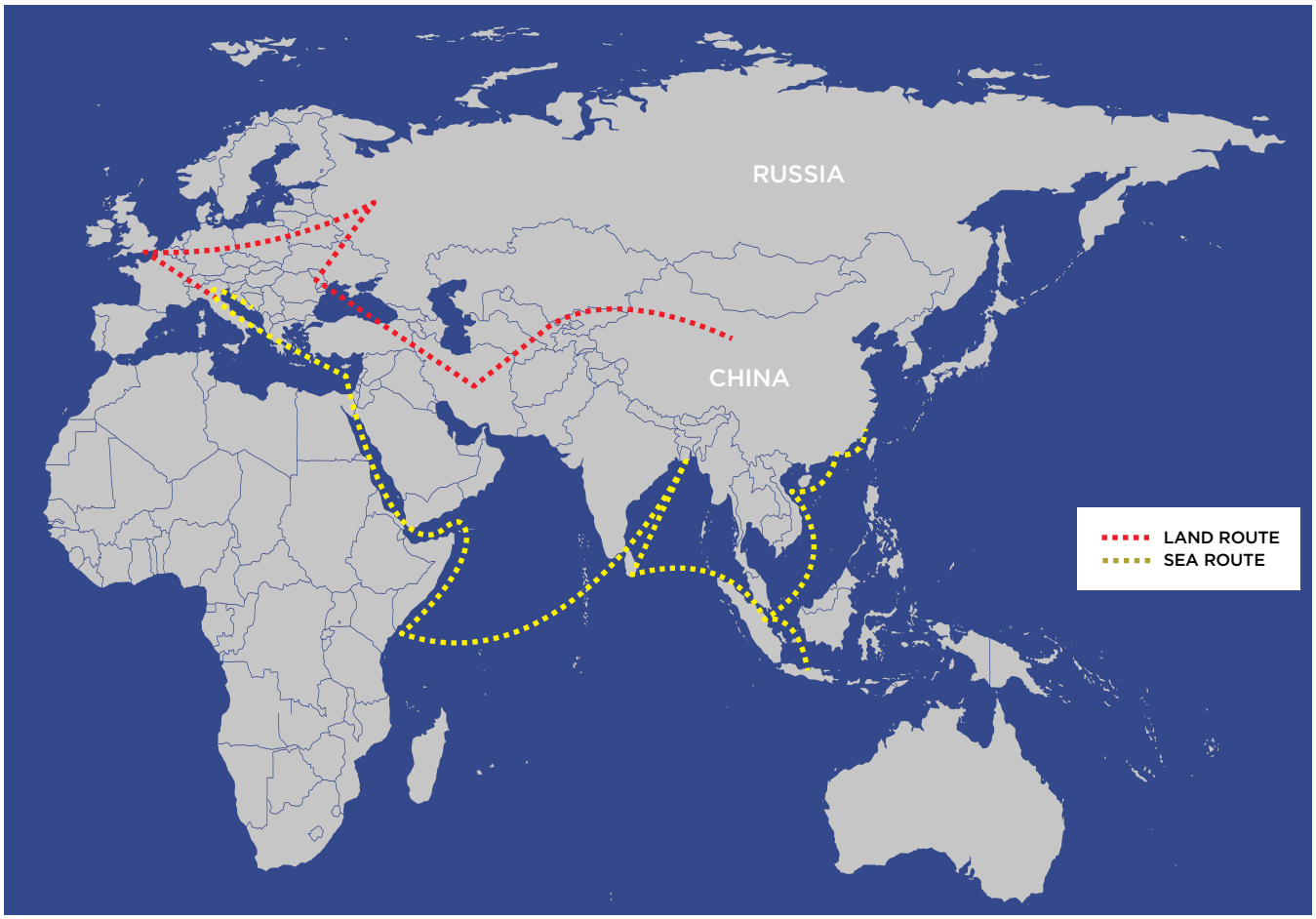
Even more ambitious and potentially consequential than China's expanded bilateral energy ties with Russia is the emergence of Xi Jinping's broader vision for foreign policy that will befit and cement China's great power status. Through massive investments across Central Asia and the Indian Ocean, of which energy is a key pillar, China aims to transcend its narrow regional ambit and "free-riding" moorings. The narrative of years past that China is just a developing country, if a very large one, has been dropped completely. The combination of softening Chinese energy demand growth and an oversupplied global market has offered Xi the chance to broaden China's energy focus from being primarily driven by the need to secure energy resources to encompassing other foreign policy and economic objectives. The best example of this is Xi's promotion of OBOR, composed of the Silk Road Economic Belt and 21st Century Maritime Silk Road initiatives.[131] As China's government puts it, "drawing Central Asia and Southeast Asia into ties of mutual interest with China will bring new force to China's robust, sustainable economic development; at the same time it will carry huge geopolitical benefits . . . and ensure domestic energy security."[132]

While Russia is a participant in OBOR initiatives, they are arguably competing projects to Russia's own political and economic project for the region – the Eurasian Economic Union (EEU) established in 2014 and intended to unify the post-Soviet space, including Central Asia, under Moscow's lead. While Vladimir Putin officially maintains that "The EEU and the Silk Road projects can harmoniously supplement each other" and has signed a joint statement of cooperation with Beijing regarding them,[134] it is uncertain whether Russia will be able to fully launch the EEU and how long such a cooperation will last when China starts taking the lead in the Eurasian space with its OBOR investments.

> **One Belt, One Road is intended in part to use development to address instability in China's near abroad, especially Islamic extremism, which may spill over into western China.[135]**

One Belt, One Road is intended in part to use development to address instability in China's near abroad, especially Islamic extremism, which may spill over into western China.[135] Beijing is increasingly concerned. Up to now, China's fears about radical Islam have focused on its domestic impact in western China. But now China is looking further afield at Islamist threats, in the context of the NATO retreat from Afghanistan and the resurgence of the Taliban, the growing extremist threat in Pakistan (China's main ally in the region), and the resurgence of

China's One Belt, One Road Land and Sea Routes[133]



Islamic extremism across a wide swath of the Middle East. Yet, as OBOR development initiatives intersect with local politics and their impact becomes clearer, China may experience significant blowback, with terrorism becoming a serious stumbling block to the successful implementation of the strategy.

Moreover, there is a strong connection between China's internal challenges in its West, and the risks it faces beyond its borders. In the Islamist narrative, western China is portrayed as "East Turkestan," and is seen as a "natural" part of the Islamic world, but one in which the legitimate aspirations of the majority Muslim population are being thwarted by the government in Beijing. So, China's moves into the Muslim regions in central Asia and farther west will not be seen as benign by Islamist groups even if the governments in these states see the impact as positive.

China's New Security Challenges

Already, Chinese expectations that, following the U.S. military withdrawal from Iraq and Afghanistan, the pathway would be cleared for commercial expansion in these countries has been undermined by extremist-driven instability in both of those states. This has led Beijing to begin to wade into the complicated waters of conflict resolution efforts, especially in Afghanistan. There, China has hoped that its close ties with Pakistan might provide it the ability to mediate between the Taliban and the government in Kabul. So far, these efforts have come to nought.

In the OBOR initiative, China will face the same problem that has plagued all other superpower visions of recreating the old Silk Road. That is, these territories comprise some of the most unstable geographies in the entire world. And that was true even before the current resurgence of extremism and jihadism that is now spreading eastward from North Africa and the Fertile Crescent. In a phrase, "China is going west; jihadism is moving east."

China's security challenge in the OBOR is further complicated by the fact that it does not now, and will not for the foreseeable future, possess sophisticated intelligence gathering capabilities or power projection capabilities in the Central Asian land mass. Chinese military modernization efforts have focused overwhelmingly on naval capabilities and on maritime-focused air forces. The PLA land forces remain dedicated to internal defense, and have been much slower to evolve. Given falling rates of economic growth, and with it, a slower increase in budgetary resources, Beijing will face tougher trade-offs in its defense budget. It is not surprising that the issue of vulnerability to Islamic extremism in undertaking the OBOR initiatives is gaining more traction among Chinese policymakers.

The Russia-China Partnership

The new trends in global energy markets have created a series of major challenges for Russia, and for President Putin in particular, most of whose period in power has witnessed high prices enabling improving living standards for most Russians. Russia's tactical moves in response to recent market tightening, both economically and geopolitically, have been surprisingly (at least for the West) successful. But Putin's core strategic response has been the effort to deepen both energy and geopolitical ties with China, where the record is much more mixed, and where China is becoming the obvious senior partner.

Moscow Has Struggled for Stature

Most observers have highlighted Russia as one of the biggest losers from the profound changes in international energy markets. As an economy highly dependent on energy exports, in need of reasonably high prices to ensure sufficient foreign exchange earnings and budgetary resources, Russia's economy has clearly demonstrated its vulnerability to the price collapse. There is little question that Russia (along with North American unconventional energy) was seen as a key competitor that Saudi Arabia and OPEC sought to cut down to size by allowing prices to fall and competing for market share in late 2014. At the same time, the crisis over Ukraine was the first test case of the new geopolitics of energy, given that the Western response – which took any military option explicitly off the table – was based on the supposed leverage that could come from sanctions, including those on investment and technology transfer in the energy sector, against an already weakened Russia.

At the tactical level, Moscow responded to this very challenging environment in three ways, each of which has seen considerable success: First, as mentioned previously, at the financial level, beginning in late 2014 Moscow allowed the ruble to sharply depreciate, which enabled Russia to both husband its limited foreign exchange reserves while creating both fiscal space (as dollar-denominated energy exports created more rubles for the Russian budget) and incentives for import-substituting local production.

Second, on energy, also as mentioned previously, the currency depreciation helped Russian firms to double-down on sustaining and increasing output, as Moscow competed with the Saudis and other Gulf producers in oil and gas supply, especially to supply China.

And third, at the geopolitical level, Russia defied the United States and Europe on Ukraine through the extensive use of unconventional special forces that prevented the government in Kyiv from sustaining control in the southeast. Financial market sentiment, which had initially assumed that the West's geopolitical commitment to Ukraine would triumph, thus limiting political risk, reversed. Ukraine is now a financial basket-case. The Maidan revolutionaries' dream of Ukraine becoming a second Poland have receded, and Putin has dodged the bullet of being the leader who lost Ukraine to the West, while at the same time embarrassing Western leaders, especially President Obama, for whom bringing Ukraine more firmly into the Western orbit has become a geopolitical bridge too far.

Looking Toward Beijing

Beyond these tactical moves, at the core of Putin's strategy in response to the new challenges posed by changing energy markets has been to deepen Russia-China energy and geopolitical ties, both to develop the Russian Far East, a political imperative for Moscow, and to capture Asian energy markets.[136] Putin has made clear that he seeks a strategic partnership with China rooted in, but extending beyond, its energy resources. Burgeoning energy ties are coinciding with an apparent China-Russia strategic embrace across the spectrum of bilateral relations.[137]

Since 2013, senior leaders from both sides have met frequently, vowing each time to boost some aspect of their ties. Putin has stated that, "Our positions on the main global and regional issues are similar or even identical."[138] China and Russia signed more than 100 high-level agreements in 2014 alone.[139] Both countries have cast themselves as jointly engaged in the "democratization of international relations," which in Chinese parlance refers to opposing U.S. unipolarity.[140] They have sought to normalize "cyber sovereignty," which would

increase national governments' sway over digital activities within their borders at the expense of a free and open Internet, and have concluded a mutual agreement not to hack one another.[141]

In the military sphere, Russia and China held joint naval exercises in the Mediterranean, Sea of Japan, and South China Sea in 2015. Russia has also agreed to sell China its S-400 surface-to-air missile radar, which could significantly bolster China's counter-intervention capabilities aimed at blunting U.S. military power in the Western Pacific.[142] Russia also reportedly sold China 24 of its cutting-edge Sukhoi-35 multirole fighters, which Beijing has been seeking since 2006 and which could enable China to project greater presence into the South China Sea.[143]

President Putin and President Xi Jinping at a documents-signing ceremony during President Putin's visit to China in September 2015. Although the visit resulted in a number of deals, Russia did not secure financing for some major infrastructure and energy projects, serving to highlight the limits in this relationship.(Government of the Russian Federation)

Taken separately, either growing energy cooperation or closer military and political ties do not necessarily portend large geopolitical consequences. Might the combination of the two reshape relations between the two powers? By early 2015, many Western analysts were expressing anxiety about the challenge from a China-Russia "soft alliance."[144] Such an alliance could in principle provide great potential benefits for both sides. As noted above, both powers see themselves in a competitive or even conflictual relationship with the United States, however low-level, and this shared perception drives each to seek support from the other. In the triangular relationship with the United States, supporting Russia helps China because it shifts U.S. strategic attention to the more flagrant behavior of Russia, and it tempts U.S. policymakers to offer side payments to induce China to help restrain Russian behavior.

A new Council on Foreign Relations Special Report by Kurt Campbell and Robert Blackwill argues that, in the face of China's recent economic downturn and driven by President Xi's intensely nationalist orientation, we are likely entering into a period where China's external posture becomes increasingly assertive, more "Russia-like," which could reinforce the Russia-China partnership.[145] But the very different dynamics driving the economic downturn in China – especially around energy – suggests that the dynamics between domestic economic distress and external Chinese behavior will have a quite different outcome.

While falling energy prices are driving Russia's economic woes, they are mitigating the Chinese downturn, as China's import bill is falling and construction and industrial development are becoming cheaper to finance. For China, an oversupplied market means greater energy security and less anxiety about competition for limited supply. Unlike Russia, energy is a positive story for China's long-term outlook, and international cooperation around energy, in the OBOR and other endeavors, is working for China. More broadly, unlike Putin's Russia, China is effectively leveraging its increasing global economic footprint to enhance its international stature, deepen relationships with other major global actors, and entice others to support China's aims in the global arena, be they the creation of the AIIB or the inclusion of the renminbi in the IMF's Special Drawing Rights (SDR) basket. This is "soft power with Chinese characteristics."

That is not at all to imply that China will give up its territorial claims and ambitions in the Western Pacific waters, or its long-term goal of displacing the U.S. role in East Asia. But, whereas energy dynamics are likely to make Russia a structurally more challenging actor internationally, the same is not necessarily true of China.

Fault Lines in the Relationship

China-Russia ties continue to have fault lines and conflicts that will temper the possibilities for a true strategic convergence. For energy relations, even if top-level leaders can maintain broad agreement on goals, cooperation has already begun to founder when it comes to the details. Two years after the big gas deals, the Russia-China energy axis appears to have lost a good deal of momentum, despite continued memoranda of understanding and other agreements. Slowing Chinese energy demand, and proliferating Chinese natural gas options, have removed some of the urgency behind the Russia-China energy détente. The

Chinese have not responded to the new opportunities for investment that Moscow put forward, the proposed Altai gas pipeline (Power of Siberia-2) has been indefinitely postponed, and no Chinese partner came forward for the 49 percent stake Russia was offering in the giant Vankor oil field. In general, China is demanding more (lower prices, Chinese content, control of timetables) from these deals, and the Russians have been unwilling to continue to give in (as they did on pricing in the mega gas deals in 2014). Russia remains wary of becoming a "resource appendage" to China.146 Presidential amity aside, relations between Chinese and Russian ministries and companies are often quite poor.[147]

Rather than a quick pivot to Asia, Russia is coming to terms with its limited energy choices and the growth of stiff competition – and with them, continued dependence on European markets. While both Moscow and Beijing will continue to talk the talk of energy collaboration and partnership, the bottom line is that while Russia has been able to withstand sanctions, changing energy market conditions are a more formidable foe to its ability to execute a "strategic shift" to Asia. The low oil price environment, Russia's difficulties in raising cash under sanctions, and Russian firms' poor project management skills could all be contributing to delays.

An Unequal Partnership

Looking longer term, Beijing and Moscow will also have ample arenas for competition, in which energy will play a key role. In Central Asia, recent years have seen the two powers come to an informal division of labor where China drives economic growth while Russia maintains its security relationships in the region.[148] Yet Central Asian states will continue to compete with Russia for a share in the Chinese energy market, while, as one U.S. expert has said, "the Russian interest in dominating Central Asia politically and in the security sphere runs up against China's long-term economic interest,"[149] and especially what will be an expanding footprint as the OBOR projects begin to be constructed.

At the most abstract level, Beijing occupies the driver's seat in the relationship. More and more Russia finds itself in the role of junior partner – a reversal of the Cold War–era dynamic where the Soviet Union mentored the fledgling People's Republic of China, but one that Russia may be forced by its circumstances, namely its weak economy, dependence on the energy sector, and shrinking population, to accept. Chinese policymakers have been careful not to risk bruising Russia's sense of itself as a great power acting on an equal basis with China.[150] But even if a long-term alliance faces multiple stumbling blocks, Beijing and Moscow have significant short-term incentives to deepen cooperation in strategic areas such as energy and security, and this could facilitate a more durable and serious partnership.

Russia-Europe Relations

Having achieved less than he hoped in his energy "pivot to Asia" Putin is again focused on sustaining Russia's market share in a more competitive European space. Right now, Russia and Europe are bound in a mutually dependent gas relationship. But each is trying to create leverage for itself by creating options that minimize the interdependence. Russia's advantage is that it is a single actor able to play European nations off against one another. But if the EU can create greater coordination internally, the advantage will be theirs.

Europe's Gas Dependence

In the face of disappointments, Russia has recalibrated, and is again focusing greater attention on Europe. Since the end of the Cold War, relations between Europe and Russia have fluctuated between cold and warm as the West worked to integrate Russia into a number of Western institutions and organizations. Since 2012, when Putin returned to power, the relationship has tilted more toward the cold end of the barometer in light of Russian aggression in its immediate neighborhood (particularly the annexation of Crimea), human rights violations at home, and concerted efforts to divide Europe from within.

Today, Europe and Russia are economically intertwined around oil and gas, which is unlikely to change drastically in the near future. As discussed earlier, the two sides are mutually dependent on one another for exports and imports in the energy sector. However, given the recent friction between Russia and its neighbors, Europe is renewing its long-term effort to wean itself off Russian energy. This is especially true in the Baltic states. Of the three, Lithuania has made perhaps the most dramatic progress. In October 2014, a floating LNG terminal, aptly named "Independence," arrived at its port town of Klapeida. Though the terminal is currently only utilized at 10 percent capacity, the terminal could theoretically cover 80–90 percent of the Baltic region's LNG demand at full capacity.[151]

Breaking Ties with Moscow?

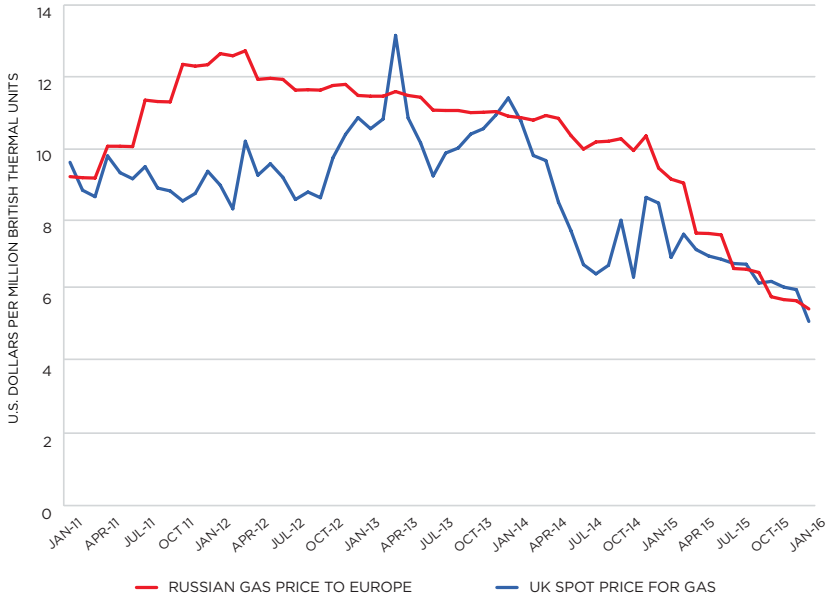
The United States has long pushed the European Commission's efforts to pursue a common energy policy and diversify away from Russian energy. The Ukraine

crisis has enabled more rapid progress. In February, the EU presented its energy security package, which includes proposals to increase oversight of gas supply contracts and compel member states to share gas in the event of an emergency.[152] In all likelihood, Europe will continue making changes over time that will fundamentally alter the nature of its relationship with Russia. However, doing so will be a long-term endeavor, particularly as European states remain divided on the top priorities and where to focus limited resources.

Russia will continue to maneuver and indeed look to take advantage of these divisions. In the first half of 2015, even as the flow of refugees into southern Europe increased dramatically, Italian Prime Minister Matteo Renzi and the other southern European leaders were unable to gain the attention of Germany, France, or the EU to the scale of what was happening. Putin was able to raise questions among these leaders about why Europe should be so focused on punishing Russia over Ukraine – the priority of Berlin and Paris – when Moscow was prepared to play a more active role in the Middle East and thus address the flow of refugees into Europe.

Ultimately, having raised expectations, Russian military actions in Syria have disappointed European leaders, even those whom Putin has courted, and has taken momentum out of the discussion of "renormalizing" Russia-Europe economic relations, i.e. an exit from sanctions. And Russia's energy pricing power in Europe is showing signs of eroding, as evidenced by Gazprom having to compete with alternative gas supplies moving into the European market, including U.S. LNG, and accepting lower prices to protect market share.[153] While there is European commercial interest in the expansion of Russia's Nord Stream pipeline, as long as sanctions remain in place building the new lines will be a relatively difficult financing and political prospect. Both expanding U.S. gas production and the new ability for conducting oil deals with Iran have made Russian prospects in Europe much more challenging.

Russia Has Had to Reduce Gas Prices in the Face of the Oil Price Drop and Competition[154]



Moscow's Geopolitical Bind

Going forward, Russia will use all of the tools at its disposal to capitalize on fractures within the European continent as well as divisions between the United States and Europe. But it will have to be careful not to overplay its hand. Any rash moves, for example, direct Russian action in the Baltic states or a Russian energy cutoff to the region, could actually spur greater transatlantic resolve and encourage Europe to move more quickly away from Russian energy dependence, as was proven in the case of Ukraine.

The new energy realities and the extremely vulnerable economic situation they create put Russia, and Putin in particular, in a geopolitical bind. On the one hand, Russia's economic successes under Putin were a function of the long commodity boom more than anything else. Now that Russia is mired in a deepening recession, Putin will struggle to retain legitimacy based on expanding prosperity. He will need to justify his rule in other ways and, as the Crimea annexations demonstrates, a reassertion of Russia's military and political heft abroad is one avenue to do so. On the other hand, Russia's strategic shift to Asia is quickly losing its credibility and its long-term oil outlook is more uncertain than ever. Together, these realities reveal Russia's need to restore better relations with Europe.

Putin's call for a grand multilateral coalition against extremism and terrorism at the 2015 U.N. General Assembly meeting created the hope among some in Europe that Russia might be turning away from its "revisionist" behavior. Hardly. But the direction Putin takes Russia in the coming months and years will reflect the tension in the two realities above. Russia's desire to behave as a global revisionist power will, if anything, be heightened by low energy prices and Putin's desire to legitimate his rule though non-economic measures. But these impulses will be tempered by the renewed need to regain Europe's good graces in an energy-abundant world, in which Russia will have to compete more vigorously than ever for markets.

CHAPTER 4

Assessing U.S. Strategy and Policy in the New Energy Age

The new economics of global energy should be a major strategic and political opportunity for the United States; but the country is not yet well positioned to take advantage of the circumstances. Unlike China and Russia, for example, which have reacted fairly quickly to the new energy market and are pursuing policies to mitigate or counteract their energy and geopolitical vulnerabilities and expand resilience, the United States has done relatively little to adapt energy and foreign policy to the new market. "Energy independence" rhetoric from the 1970s and a protectionist and misleading view that the United States can be secure if it looks inward (or only to the relatively small renewable energy market) is still pervasive. Policy leaders have so far largely failed to recognize opportunities to leverage energy market circumstances to address some of the most pressing national objectives with regard to advancing U.S. global leadership, balancing a tense relationship with China, and working to contain Russian foreign aggression.

U.S. leaders need to update their perspectives and policies to reflect the country's new position as a major energy power. Such a new approach must include a regard for energy as a means to develop and pursue shared interests on foreign policy goals, as opposed to a win-or-lose proposition, with a wide range of countries. It should also seek to develop new norms, arrangements and even institutions around market resilience, technological innovation, and global stability that will help reassert and convey U.S. leadership on energy on the global stage. A new policy approach must additionally approach energy security and climate change as two sides of essentially the same coin, rather than as distinct policy arenas. Addressing these various gaps in the current U.S. policy framework will offer significant security and economic dividends for the United States in the years to come, and will be significantly important as part of broader interactions with key partner and competitor nations of the United States. To begin this effort, decision makers must first fully understand deficiencies in the current policy framework. Several of the major conceptual and institutional challenges facing the United States are discussed in this chapter.

U.S. leaders need to update their perspectives and policies to reflect the country's new position as a major energy power.

Addressing U.S. Energy Perception and Policy Challenges

Several perceptions about the U.S. energy disposition and role in the world have characterized U.S. political sensibilities for decades and are sorely in need of an update. The most fundamental of these is also the most problematic: the assumption that the United States can only rely on itself for energy security and that it is capable of providing this security. This was never true in the first instance, but the individualism and self-reliance aspects of this perception have long held populist appeal and had a degree of resonance during the Cold War. This is grossly outdated now, however, and holding on to this antiquated idea actively undermines U.S. strategic interests.

Energy is Not a Zero Sum Game

Developing and advancing shared global energy security interests begins with addressing the prevailing mindset in the United States on energy, which thinks about the commodity in protectionist, "us versus them" terms. During the 2015 congressional debate over whether the United States should lift the ban on crude oil exports, members from both parties argued that U.S.-produced energy should be kept at home, or only shared with a selective group of countries. These views stem from long-held and widely shared concerns over energy scarcity and memories associated with the 1970s oil embargo. But it is important to note that the United States was the only country to formally ban crude oil exports. And imagine what the last 40 years would have been like if many countries followed the U.S. example. The United States would have been much more energy insecure during the years of its greatest import dependence. To continue to regard energy as a win-or-lose proposition hinders the ability of the United States to pursue strategic energy interests broadly in the context of a global, interconnected energy market.

To the extent that the United States has used its market power for specific foreign policy ends it was in coercive energy trade diplomacy – the more zero-sum side of the energy-enabled policy panoply – against Iran. The United States took advantage of changing market conditions to align nations in imposing energy sanctions on Iran to address shared concerns about Tehran's dangerous illicit nuclear activities. Sanctions reduced Iran's oil exports by 60 percent and inflicted significant economic pain, thus playing an important part in bringing Iran to the nuclear negotiating table.[155] This was enabled in large part by the United States adding about

Officials representing Iran, the European Union, and the P5+1 (China, France, Russia, the United Kingdom, the United States, plus Germany) announced the Joint Comprehensive Plan of Action regarding Iran's nuclear program in Vienna on July 14, 2015. (U.S. Department of State/Flickr)

1 million barrels per day of oil production annually.[156] Without that additional production, Iran oil sanctions would not have been possible, because our partners in the sanctions venture would have felt acutely vulnerable to limited supply and rising prices, and the United States would have been neither willing nor able to press them in that direction.

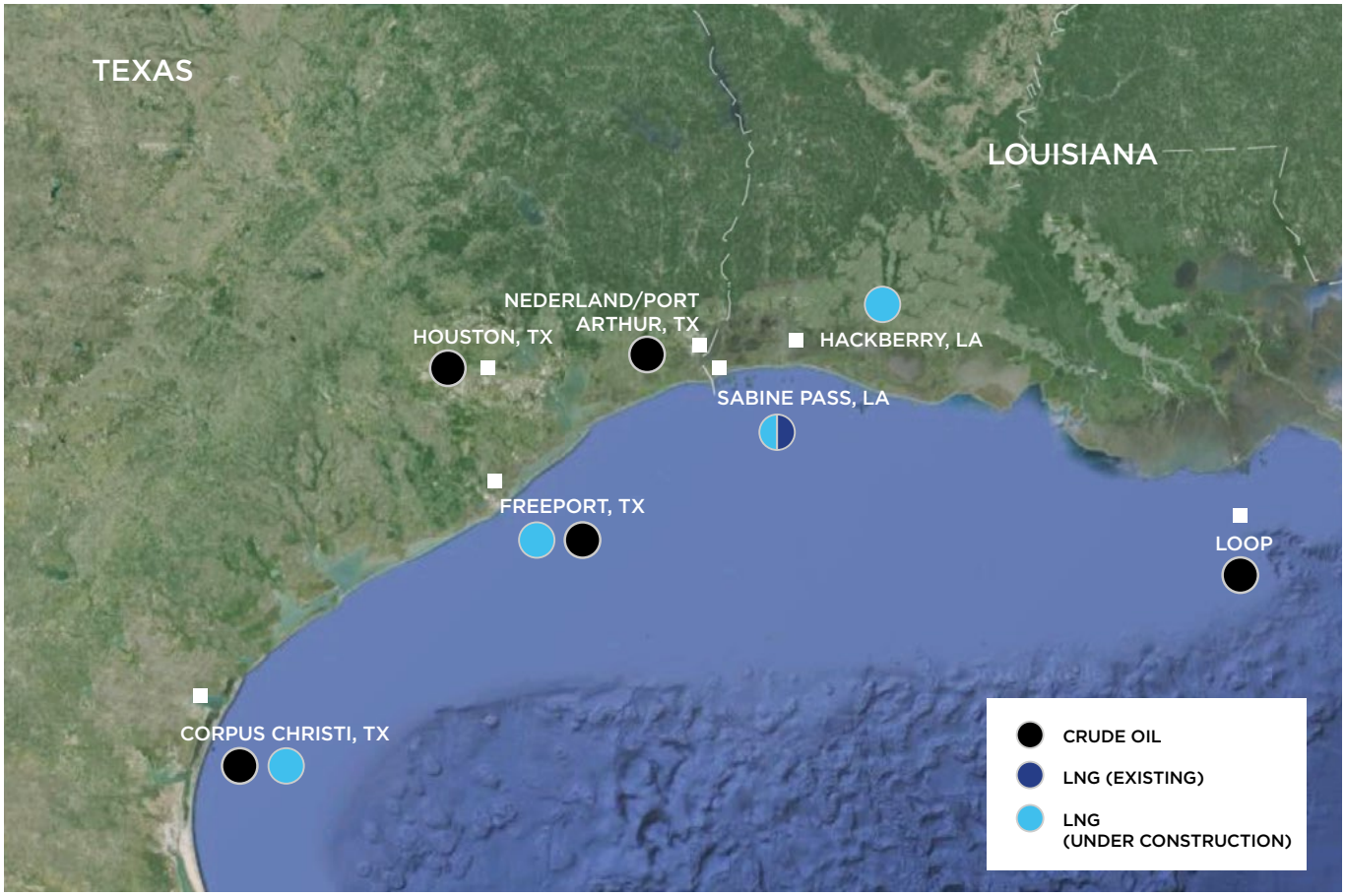
The use of coercive energy diplomacy is definitely called for in certain circumstances, and the effort to bring Iran to the negotiating table was surely one of those. Yet the United States has been much less active in building relationships, norms, and institutions around advancing shared interests in energy security broadly cast. And it has done surprisingly little to acknowledge or leverage shared energy interests with other key global energy stakeholders and strategically significant competitors and trading partners.

Uncoordinated Policy Approaches to Climate, Energy, and National Security

A major reason for the United States' inability to develop a comprehensive energy security policy is the treatment of energy and climate in distinct, and primarily domestic, policy processes. The Obama administration notes the connection between energy and its impact on the climate. However, its key policy frameworks, like the Climate Action Plan (CAP), do not substantially address the connections between climate and energy, and do little to address national security dimensions. The CAP focuses on slowing or reversing dangerous environmental trends and preparing the United States for impacts associated with climate change, and in fostering "environmental resiliency."[157]

Additionally, policy initiatives to manage and improve energy efficiency in the U.S. economy are outdated and inadequate. The best strategy for insulating the U.S. economy from energy price shocks is a robust effort to manage and limit energy demand, and to shift away from hydrocarbon fuels toward alternatives that have differentiated pricing structures and are not as closely linked to oil markets. The benefits of implementing such a strategy are economic, and they also contribute to U.S. security by limiting exposure to shocks, including those that may be caused by coercive and hostile energy supply policy by adversaries. Furthermore, advancing efforts to make energy production and transportation secure and limit sources of volatility in the system, whether at home or abroad, makes the United States a more prominent and respected leader on energy initiatives. This has a commercial aspect, as the United States is a pacesetter on proprietary new energy and energy-efficiency technologies, and U.S. companies will benefit if they are

U.S. Crude and LNG Export Capacity is Growing in the Gulf Coast[160]



more directly involved in producing those technologies around the world. Advancing energy production and secure markets also has a political significance, as the United States will be able to set important precedents on resource stewardship, energy production and transportation, and emissions management. In this position, the United States can establish the framework in existing and future rules-based institutions for climate management and energy market stability, to the benefit of U.S. economic and strategic leadership interests.

Bridging the gap between climate, energy and national security in U.S. policy is made more difficult by how these issues are addressed institutionally within the U.S. government, especially in the White House. Currently, the Energy and Climate Change office, located in the Domestic Policy Council and led by the President's top climate and energy advisor, and the Council on Environmental Quality (CEQ), part of the Executive Office of the President, focus on climate and energy.[158] There is very little, if any, interface between these units and the National Security Council. To the extent that there is an energy/climate nexus, it is in the arenas of domestic politics and policy, not foreign and national security policy. Furthermore, the CEQ, whose focus is, by definition, on the environmental side, is the focal point for implementation of issues at the nexus of climate and energy; this means that the administration's handling of the climate-energy nexus downplays the energy side of the equation.

U.S. Energy Trade Promotion Efforts and Mechanisms Need an Upgrade

Energy trade promotion and regulation in the United States lag well behind the emergence of the United States as a major oil and natural gas producer. Creating the regulatory structure to enable and encourage U.S. producers to serve international demand can strengthen U.S. economic growth and the balance of payments, contribute to global oil market stability and undermine the manipulative pricing power of other major producers such as Russia or the OPEC cartel. While the U.S. Congress agreed to lift the 40-year ban on crude oil exports last year, the regulations

that approve exports of LNG remain cumbersome and outdated. In principle, U.S. LNG exports to countries with which the United States has a free trade agreement (FTA) have no barriers; exports to countries without FTAs have to meet a "public interest" test. Nonetheless, requests for LNG exports from both FTA and non-FTA countries are both currently subject to review by the Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC). Their review determines whether or not the LNG exports would lead to a shortage of natural gas, deleterious environmental impacts, or domestic price increases.[159]

This process adds complication and delay to proposals to expand the LNG market for U.S. exports, especially beyond the 20 FTAs the United States has with other countries.[161] Of those 20, South Korea is the only FTA country that is a major importer of LNG, while the remainder of the countries either produce their own natural gas or are not major consumers.[162] The potential future implementation of the Trans-Pacific Partnership (TPP) would be beneficial in expanding U.S. LNG exports to 10 more countries beyond Japan, the only Asia-Pacific country that has received U.S. LNG exports as a non-FTA country.[163] Even in light of recent exports of LNG to Brazil from the Sabine Pass, one of four terminals in the United States authorized to export LNG to both FTA and non-FTA countries, the bureaucratic process around approving LNG for export will continue to make it more difficult for the United States to use the promise of further LNG exports to promote energy security among allies.[164] It will do so even assuming that large FTAs like the TPP and the proposed Transatlantic Trade and Investment Partnership (TTIP) can overcome domestic protectionist sentiment and are implemented.

Sabine Pass export terminal in Louisiana is one of four in the United States authorized to export LNG to both FTA and non-FTA countries. In February 2016, the first LNG cargo from the lower 48 states set sail from Sabine Pass to Brazil.(Think Defence/Flickr)

Neglect of the Strategic Reserve

The Strategic Petroleum Reserve (SPR) is a cornerstone, albeit antiquated, of domestic energy policy, and the primary U.S. commitment to security of supply. Guidance for the reserve has not been updated since the 1970s, and the failure of policy leaders to support the energy security principles that underpinned its creation has allowed legislators to order some of it to be sold off to satisfy unrelated budget requirements, including the generation of new funds to support highway and infrastructure construction.[165] While energy security is broader and more nuanced now than it was when the reserve was created decades ago, it is no less important to U.S. economic stability and national interests.

The SPR was created in response to the Arab oil embargo in the early 1970s to protect the United States from a physical supply disruption; it currently holds 694 million barrels of crude oil.[166] As the United States has not experienced a repeat of the 1970s oil embargo, the SPR has been used as a preemptive price stabilizer rather than in response to major supply disruptions. Recent increased U.S. energy production has resulted in calls to abolish or partially privatize the SPR,[167] and has contributed to the view that it is no longer as important as it once was to energy security. Advocates for retaining it argue that while increased U.S. production has lowered prospects for a major supply disruption affecting the country, there remain major risks for potentially destabilizing price spikes.[168] The Department of Energy's Quadrennial Energy Review (QER) called for an update of the release authorities of the SPR to tap crude oil in the event of a supply disruption that is "likely" to cause a spike in the price of petroleum products.[169] Though this occurs in practice, a broader question regarding the criteria for use of the reserve is the degree to which the United States should use the SPR as an active price stabilizer. Should this be done in a multilateral framework through a strengthened IEA? What might be China's role, given that it has been taking advantage of low energy prices to build a very large SPR itself?

There is no policy consensus on the appropriate way to deploy the SPR to best protect U.S. energy security and foreign policy interests. More concerning, there is no robust debate about this topic and little understanding about the sustained source of security it provides and the leverage it affords to U.S. policymakers in global politics and markets. Without this debate there is little hope that political leaders will be able to craft a plan to manage the major infrastructural upgrades necessary to update the reserve and its distribution system to function well in current market conditions.[170]

A Lack Of Cooperation On Energy Among Key Global Counterparts

The rise of the United States as an energy producer and the weakening of China's acute sense of supply vulnerability create the possibility of energy becoming a source of tension mitigation rather than tension exacerbation in the Pacific and beyond. But neither the United States nor China has yet developed a serious initiative to engage the other in a more cooperative manner on energy, nor are they able to place their shared energy interests in a broader regional framework with other East Asian nations.

Energy is a Security Driver in East Asia

It was not surprising that during the period of rising prices and tight energy markets over the turn of the last decade, energy security concerns became one of the key drivers of growing geopolitical tensions in East Asia, and in the South China Sea in particular. While the SCS does contain some energy resources, the main issue of contention has been its function as one of the most traversed and important regions in the transportation of energy and other supplies. More than 14 million barrels of crude oil pass through the South China Sea daily, and around 6 trillion cubic feet of natural gas annually.[171] These numbers are projected to grow as the region is expected to increase consumption by 2.6 percent annually until 2035.[172]

Many Chinese strategists have believed that the United States would use its dominant position in Asian waters, especially in the Strait of Malacca, to coerce China and stem its rise as a global power.[173] China has responded by increasing its military footprint in the SCS and upgrading its status as a "core" Chinese security interest akin to Taiwan and Tibet. China has unilaterally declared its sovereignty over large swaths of the SCS included in the so-called "nine-dash line."

Middle East Energy Supply Vulnerability Contributes to Diversification and Efficiency Goals

High dependence on the Middle East and growing uncertainty about the SLOCs from there to East Asia have compelled countries in the region to develop plans that improve efficiency and diversify resources and energy mix to insulate themselves from crises that could lead to supply disruptions. Over the last several decades, China and Japan have developed domestic energy policies to mitigate the insecurity associated with their heavy reliance on seaborne trade of energy. While this dependence is not likely to lessen any time soon, the recent changes in global energy markets have diminished the acute energy insecurities of the Asian powers, and create an opportunity to develop multilateral arrangements that ensure security of supply and sea lanes for all of the key stakeholders, including China, Japan, and the United States.

In the meantime, China has begun implementing fuel efficiency standards for its vehicle fleet and a national cap-and-trade system to reduce greenhouse gas emissions from the electrical generation sector, and is expanding its electricity generation portfolio to include 15 percent renewable energy by 2020.[174] Large investments in infrastructure and research have led to a 141 percent increase in installed renewable energy capacity from 2008 to 2014.[175] While China will continue to be dependent on oil and natural gas transported via the South China Sea for decades, these programs to increase efficiencies and minimize energy security risks are aimed at insulating China from conflicts that may arise both in the South China Sea or the Middle East.

Japan's decision to invest heavily in nuclear energy during the 1970s was a response to its continuing vulnerability to disruption of imports. But in the aftermath of the 2011 Fukushima nuclear plant meltdown, Japan closed all 48 of its nuclear power plants, which had accounted for 30 percent of its energy generation.[176] As a result, Japan has come to depend more on foreign imports for its energy supplies, in particular LNG and oil.[177] Restarting the nuclear plants has been politically controversial in Japan, giving Tokyo a major stake in strengthened cooperation and dialogue in the Western Pacific.

No Clear Framework Exists for Regional Coordination on Energy Interests

There is no multilateral organization that enables all of the major energy players, particularly the consumers, in the Pacific region to cooperate on shared interests or in the event of a crisis. Northeast Asian states share broad interests in a resilient supply framework that includes a wide range of energy types and geographies, access to new technologies on both the energy supply and demand side, and political stability in oil and gas producing countries and security along the main SLOCs. These interests are supported by growing trans-Pacific flows of both energy products and technologies, and by strong trans-Pacific cooperation on the security dimension of global energy issues. Perhaps most fundamentally, they share an interest

in energy as a fundamental commodity for economic growth and in minimizing import vulnerability.

There are a number of multilateral fora in which some of the Pacific nations can discuss energy issues, such as the Association of Southeast Asian Nations (ASEAN); the Asia-Pacific Economic Cooperation (APEC); the East Asia Summit (EAS); and the U.S.-Asia Pacific Comprehensive Energy Partnership. However, these organizations either do not bring all of the major energy consuming countries together or lack sufficient focus on energy supply security. ASEAN+3, for example, seeks to expand ASEAN's ability to work with non-members such as China, Japan, and South Korea. However, it does not include the United States.[178] APEC, EAS and the U.S.-Asia Pacific Comprehensive Energy Partnership include the region's major energy consuming countries, but their focus is primarily on promoting renewables, sustainable use of energy, and lowering energy intensity in each economy and not on cooperation on the political side of energy security issues.[179]

Shortcomings in U.S. leadership on conventional energy issues have contributed to confusion and a lack of confidence among countries in Asia about the role the United States will play as an energy power. This extends to uncertainty about the role the United States will play on SLOCs, which have been crucial for the economic development of all countries in the region, and the degree to which U.S. regional allies will get caught in the U.S.-China power struggle. Without the United States exerting a strong voice on energy, no clear institutional order has emerged to shape energy relations in the region or to update the decades-old and antiquated power dichotomy in energy markets between OPEC, representing the producers, and the IEA, representing Western consumers.

Furthermore, with Russia – a major potential future supplier of energy commodities in the neighborhood, engaged in military buildup, foreign adventurism, and the use of energy as a coercive instrument of foreign policy – East Asian nations are uncertain about how energy market movements will influence great power competition on energy in the future. Without clear institutional frameworks for information sharing and the promotion of measures to enhance energy market security and stability in the region, it is more likely that antagonism and competition may contribute to strife in trade and the political relations of the region.

The good news for all of the East Asian energy importing countries is that for the foreseeable future, competition has shifted to the other side of the supply/demand equation. That is, competition now exists primarily among producers over which is going to be able to sell into the most important geography in the world to meet rising energy demand. In particular, there is intense competition among Russia, Saudi Arabia, and Iran on both oil and gas markets. This creates new opportunities for cooperation and coordination among players in the region.

Shortcomings in U.S. leadership on conventional energy issues have contributed to confusion and a lack of confidence among countries in Asia about the role the United States will play as an energy power.

Barriers To Greater U.S.-China Energy Cooperation

The relationship of mistrust and competition between China and the United States, particularly in the security arena, has colored economic relations between the two countries. This impediment, coupled with a growing U.S. disdain and opposition to foreign trade and trade agreements, has limited U.S.-China energy cooperation. China's impediments to U.S. investment have also checked U.S. efforts at cooperation in this arena and indeed frustrated many of China's own objectives to accelerate its own energy production, achieve greater technical sophistication in its energy sector, and shift toward cleaner energy alternatives.

A Missed Opportunity to Balance an Important Relationship with a Major Competitor

Setting aside the mutual disappointment of companies that have failed to establish robust commercial energy links between China and the United States, the more significant missed opportunity for the United States is the failure to develop stronger ties with the most strategically significant U.S. energy competitor and trade partner, China. U.S. initiatives and efforts to lead internationally on climate change with China are a step in the right direction on building opportunities around shared energy interests. The cooperation demonstrated between the two countries ahead of the 2015 Paris Climate Conference was not only a model of strong bilateral cooperation, but also a very significant precedent for the two largest economies working jointly on a multilateral issue and reshaping global governance in the area of climate change management. But broadly speaking, institutional coordination between the two countries remains quite narrow in scope. In fact, in the last 18 months, in the absence of a U.S. global energy strategy, China was able to craft a credible multilateral message about the importance of infrastructure, especially in the energy sector, that enabled it to gain the support of many U.S. allies (despite Washington's opposition) when it launched the AIIB last year. China's creation of the AIIB is really its first serious effort to provide institutional leadership in addressing global issues, including energy interests. It will not be its last.

As mentioned previously, the United States lacks a well-articulated public statement of shared energy security interests with China, even while many shared interests exist. The Obama administration's "Blueprint for a Secure Energy Future," Climate Action Plan, "The All-of-the-Above Energy Strategy as a Path to Sustainable Economic Growth" as well as various joint statements all focus on addressing climate change as the big shared interest with China.[181] However, promoting the production of energy from a variety of sources, transitioning to cleaner energy, and improving energy efficiency are important factors to both U.S. and Chinese views of energy security.

Additionally, and fundamentally, the United States and China share concerns about Middle East stability and secure flow of energy from key producing regions to the global market to prevent price spikes and market shocks. To date, the United States has provided the overwhelming proportion of assets to secure those flows. But the decline in U.S. direct dependence on Middle East energy sources combined with the Chinese OBOR initiative creates the basis for a much more explicit dialogue between Washington and Beijing on both burden-sharing and on ensuring that U.S.-China relations over the Middle East remain cooperative rather than competitive.

Cultivating stronger bilateral engagement on shared energy interests, beyond the existing narrow focus on climate, will not be easy. But there is a clear business and strategic case for such an effort. Many in Washington's policy community do not realize the significant benefits that could be derived from leveraging U.S.-China shared energy interests to balance competition and hostility that exist in other areas. Facilitating stronger communication and commercial interaction around energy interests may de-escalate tensions in bilateral ties and act as a deterrent to more aggressive competition in the security sphere. In turn, acknowledging and elevating commonality between the United States and China on energy interests may help China pursue access to non-Russian energy sources and balance Russia's role in the Asia-Pacific.

Commercial Mistrust and Intellectual Property Rights Infringement in the U.S.-China Relationship

One reason why energy issues have not been prioritized in the U.S.-China relationship is U.S. concerns regarding intellectual property right infringement and technology transfer abuse by Chinese entities. U.S. oil companies have reportedly been victims of Chinese cyberattacks in the past, during which Chinese hackers stole sensitive information about oil and gas field operations, project financing and bidding documents.[182] A wide range of U.S. firms have cited lack of effective and consistent protection of intellectual property right, as well as pressure from Chinese government entities to share technology with Chinese partners, as sources of concern.[183]

President Obama and President Xi Jinping offer toasts during Obama's visit to China in November 2014. The United States and China should seize opportunities to expand bilateral cooperation on shared energy interests. (White House/Flickr)

Mutual mistrust on commercial dealings is another reason that energy is not a larger part of U.S.-China cooperation and trade. From the U.S. perspective, such tensions stem from China's incomplete transition to a free market economy.[184] Major areas of concern for U.S. firms include China's anti-competitive investigations of foreign firms to limit foreign market share, a mixed record on implementing World Trade Organization (WTO) obligations and failure to join the WTO's Government Procurement Agreement, use of industrial policies to promote and protect favored industries, and interventions to control the value of the Chinese currency.[185]

On the Chinese side, mistrust is fueled by misinformation that reinforces the perception that the United States is using energy to contain and constrain China. For instance, Chinese officials and analysts in the foreign policy and energy industry communities mistakenly believe that the U.S. government has a policy of preventing the sale of LNG to China or barring LNG exports in the event of a crisis.[186] They also remember the difficulty and political hostility surrounding CNOOC's interest in buying Unocal in 2005, and believe U.S. security leaders remain quite cool to direct Chinese investment in the United States.[187] Chinese companies played a remarkably small role among the ranks of foreign investors or financing partners in unconventional energy resources or LNG facilities in the United States over the last decade.[188] Mistrust of the United States harbored by security and energy leaders, as well as the belief that secrecy confers an energy trading advantage, are the reason for China's unwillingness to disclose detailed information about its energy sector, including its oil reserves, which Beijing is rapidly building up.[189] The strained ties between the two countries are indicative of China's mistrust of the United States and the broader international community, but fosters distrust in response.

Finally, the lackluster commitment from both Washington and Beijing to the Bilateral Investment Treaty (BIT) negotiations continues to limit prospects for furthering energy cooperation. The BIT negotiations, tracing their beginnings to 2008, have spanned 21 rounds. During President Xi's visit to the United States in September 2015, China agreed to shrink the list of sectors it wants to exclude from the BIT, but negotiations are not close to the final stage.[190] Mistrust on commercial deals, Beijing's halting commitment to economic liberalization, and an overcrowded U.S.-China agenda dominated by climate change, cybersecurity and territorial disputes in the South China Sea are barriers to concluding the BIT. But both sides prioritizing the conclusion of a high standard BIT would create the context for moving ahead with broader energy cooperation.

CHAPTER 5

Recommendations for Updating U.S. Policy and Strategy

As previously discussed, U.S. energy policy and foreign policy have lagged in their adaptation to new energy market circumstances. They have not taken advantage of new opportunities to leverage domestic high-tech energy productive capacity and the ability to export oil and gas abroad to advance U.S. political goals, particularly with respect to key competitors and partners in the Asia-Pacific region. And when the United States has acted, it has been largely for punitive ends to isolate Iran or Russia through sanctions. U.S. policymakers correctly perceive important strategic opportunities they now have to undermine the manipulative energy pricing power of Moscow or Riyadh by supporting and encouraging a strong U.S. energy production and export capability. This can be a powerful lever to check adversaries or unwelcome aggression on the international stage. However, it is an insufficient approach to the new U.S. energy market power due to its lack of focus on positive levers to advance national interests. The United States should more actively link its energy assets to positive U.S. strategic and security leadership globally, including on new forms of global energy governance, and to facilitate more efficient, stable and secure global energy market and economic functioning.

A series of recommendations for U.S. leaders below lays out a new set of national-level energy and foreign policy objectives oriented toward a strategy of cooperation and communication in an era of market abundance, rather than zero-sum and protectionist competition. The recommendations highlight the development of greater interaction, data sharing, and institutional platforms internationally to help leverage new domestic energy resources for the advancement of strategic objectives. The strategies focus significantly on expanding ties in the Northern Pacific, the site of important energy trade and strategic interaction in the years ahead, with the aim of cultivating a commercial and political framework that can help to balance sources of conflict in the region. They also include force posture and projection recommendations for U.S. forces that bring together the significant need to support stable energy supply to global markets and fundamental U.S. principles for maritime security. Additionally, they include foreign policy recommendations for the United States in Europe, which will address and balance Russia's powerful role as an energy exporter and also set an important leadership precedent on global energy governance and on the establishment of liberal market norms and standards to foster resilient, competitive, and open energy systems.

Policy Recommendations

1. Present a clear framework for the role the United States will play in promoting and protecting energy global market flows and efficient trading. Affirm that this is a paramount national security matter.

The U.S. Secretaries of State, Energy and Defense should publicly outline a framework or doctrine for how the country will promote energy security at home and abroad in the years to come. They should situate this matter as one of national security as well as of commercial interests, and the emphasis for this framework should be on prioritizing shared energy interests with international counterparts, particularly for the purpose of creating positive levers to influence key strategic relationships, trade opportunities, and the achievement of greater security and political stability. U.S. policy leaders should affirm the role that energy assets may continue to play in the execution of coercive economic policy, including sanctions, but they must also make clear the conditions for such policy options and the broader intent to act multilaterally with partners to protect international norms and a rules-based international market and political system. Therefore, the focus on energy diplomacy and statecraft should emphasize a shared global priority on market stability and the positive economic role the United States can play for energy security at home and abroad.

This message should be presented in public remarks or an official written statement that signals international counterparts, private investors, and officials throughout the U.S. governmental bureaucracy. It should specifically acknowledge the United States' market role as a powerful energy producer of conventional and unconventional hydrocarbons, as well as renewable energy, and a leader in the energy-efficiency technology sphere. It should furthermore emphasize the economic and strategic significance of the United States' role as a new LNG and crude exporter.

Beyond acknowledging the powerful role of the United States in energy markets, leaders should use this message as a platform to set out priorities for the United States as a leader on new global energy governance challenges, and as a steward and promoter of energy security. U.S. officials should lay out an agenda for international energy trade promotion and provision of maritime security related to global energy flows.

U.S. officials have offered remarks on a number of these topics in the past. However, it will be particularly important for the next U.S. president, and the

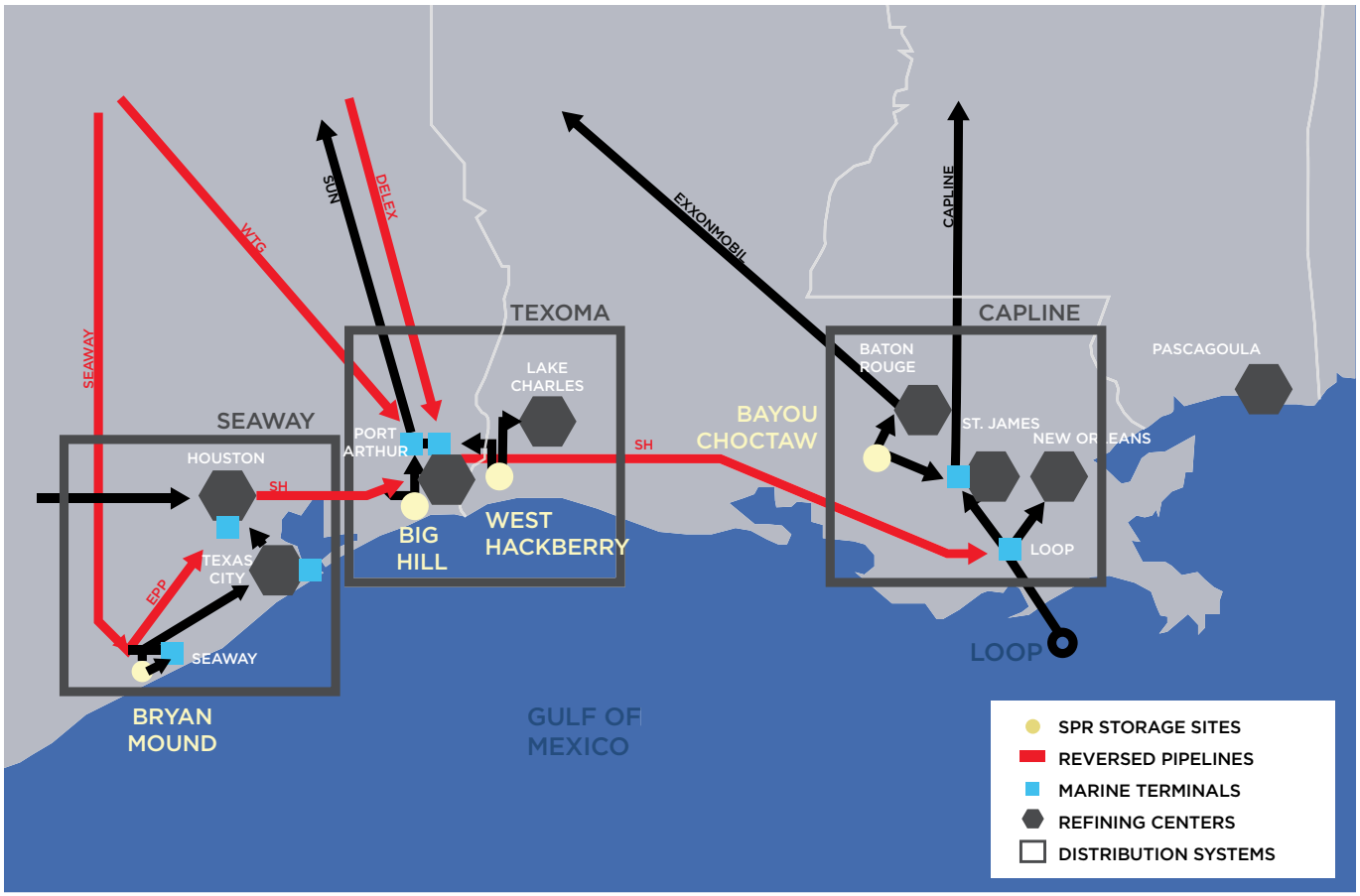
appropriate members of his or her cabinet, to do so in a cogent, comprehensive, and high-level public manner. Additionally, these officials should specifically discuss shared energy interests with China and articulate the view that elevating these interests can help to promote cooperation and mitigate potential competition in the Asia-Pacific region between the two powers.

2. Adapt U.S. domestic energy policy for resilience and maximization of strategic interests.

To promote resilience of the U.S. economy, policy leaders in the White House, the Departments of Energy and the Treasury, and the Environmental Protection Agency should redouble their efforts to enhance efficiency, promote alternative energy sources, and deepen natural resource stewardship. Such efforts can help to limit use of finite oil and gas energy resources, limit the stress on U.S. energy infrastructure, and limit economic vulnerability, which will better position the United States to tap the energy sector as a source of economic strength and growth. Furthermore, they will enhance the stature of the United States on the global stage as an economic leader and pace-setter on energy, a highly strategic global commodity. Such leadership will resonate in the Northern Pacific, where South Korea, Japan, and China are extremely focused on similar energy initiatives for their own economic resilience, as well as in Europe, where leaders are concerned with advancing their supply security and diversity through minimizing reliance on Russian gas. Additionally, this leadership will expand U.S. credibility and influence, particularly with China, which seeks to dramatically expand its work in efficiency and alternative energy, and which has demonstrated an interest in partnering with the United States on measures to manage energy demand and emissions. Specific policy recommendations follow.

Continue critical energy demand management efforts. The work of the current and past administration to toughen vehicle fuel economy standards and other key demand management measures for transportation fuels in particular should be sustained and strengthened with future regulation by the National Highway Traffic Safety Administration and the Environmental Protection Agency.

U.S. Strategic Petroleum Reserve Infrastructure[195]



Sustain the size of the Strategic Petroleum Reserve, modernize it, and study options for diversifying locations and changing authorities. Administration policy leaders should do everything possible to sustain the size of the SPR. While its current 694 million barrel size far exceeds IEA requirements for 90 days of import cover, it is the large size of this reserve, and the potential for the United States to release that into the global oil market, that is a powerful check on market supply or price shocks. Given the congressional commitments to sell approximately 25 percent of this stockpile to satisfy various budget requirements, the administration, led by the National Security Council in consultation with the Energy Department, should immediately advance a rationale for the need for maintenance of a large stockpile and the limits or parameters they will uphold for selling off this asset to either maintain the stockpile or to support unrelated budgetary needs.

Additionally, the Department of Energy should examine whether it may be sensible to hold stockpiles of crude or refined product in various additional strategic locations around the United States or abroad. Beyond this, the White House, with Energy Department counterparts, should expand SPR release authorities to encompass the ability to release crude in anticipation of a price increase.

Finally, Congress should fund efforts to manage degrading SPR structures and distribution capacity. As Energy Secretary Ernest Moniz pointed out, the SPR is in need of maintenance and a life extension program.[191] Moreover, changes in the location and volumes of domestic oil production have altered the flow of oil and oil products in the United States, resulting in pipeline reversals and increased commercial use of marine terminals.[192] Dedicated marine terminals would help ensure that the SPR is able to deliver incremental barrels of oil to the market in the event of a supply disruption without simply backing out domestic production.[193] The Department of Energy anticipates that adding dedicated marine loading dock capacity in the Gulf Coast and undertaking a life extension program would cost $1.5–2 billion.[194] Congress should allocate funding to these needed investments and ensure that a portion of the revenue from any SPR sale should fund maintenance and modernization efforts.

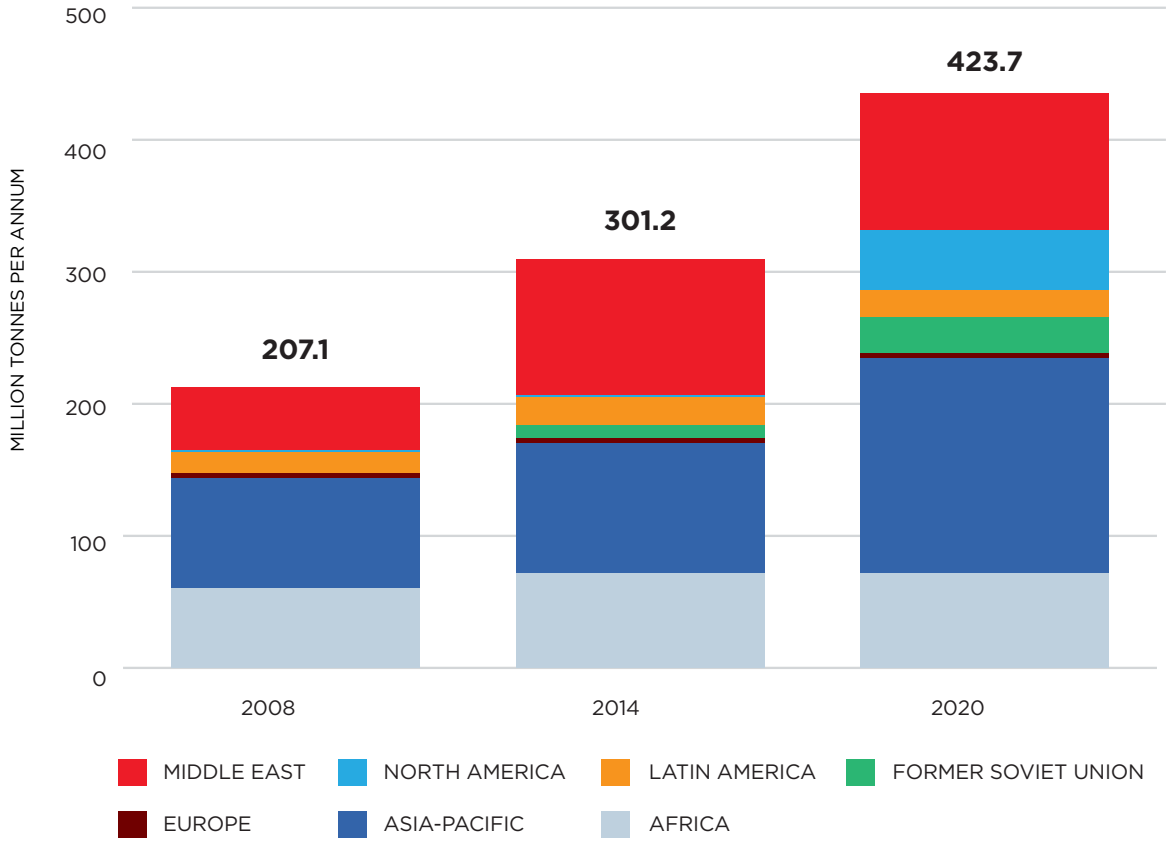
3. Establish a new Pacific Energy Forum.

To reinforce U.S. leadership in maritime geopolitics of the Northern Pacific, a critical sphere of influence for U.S. security forces now and in the decades ahead, and to expand common interests and commercial ties in the highly strategic energy market among U.S. partners and allies in the region, the United States should establish a new Pacific Energy Forum (PEF). This forum should be convened at the vice presidential level or foreign counterpart equivalent to mobilize policy focus and commitment within the forum, and include China, Japan, South Korea, and the United States. It must focus on building energy ties as a deterrent to conflict and as a source for mutual economic and strategic advancement for the partners. The forum should also invite Russia and Australia, the two other most important Pacific security and energy players in the U.S. view, to join some meetings of the PEF as ancillary members.

The geographically contained framework for this forum considers geopolitical interests as the key selection principle for membership, and a deep shared interest in energy trade as the substantive focus of forum discourse and activities. It would link mature states, representing the world's top economies and great military powers as participants, and would facilitate a major step forward for the United States and other members as a forum to advance strategic interests and a meaningful framework for constructive multilateral engagement.[196] An entire Asia-Pacific-wide multilateral framework linking energy security, technology innovation, and cooperation and crisis management would be laudable, but it is not achievable. The huge number of national players, the challenge of sovereignty issues as China seeks to create "facts on the ground" in the South China Sea to solidify its sovereign claims, and the inevitable tension between an "Asian" approach versus a trans-Pacific approach make this an aspiration too far.

As both a major energy producer and consumer, the United States is well placed to advance shared energy interests through a high-level Northern Pacific multilateral framework on energy. Leading such an effort would serve as a useful confidence-building arrangement for both U.S. allies and for China in the region. It would also leverage investment terms and commitments among members, complementing the TPP trade and investment agreement – or offer an alternative, if more limited, multilateral framework if TPP is not ultimately achieved. For China, it will signal that the United States does not seek to exclude China from key regional fora, and that the United States sees broad-based energy security cooperation and not just climate change as areas for mutually beneficial collaboration. By the same turn, the United States should frame the PEF as complementary to China's AIIB and One Belt, One Road projects, rather than posing China's development initiatives as inherently

Countries on Both Sides of the Pacific Will Lead Natural Gas Liquefaction Capacity Growth in the Future[197]



**Note: 2020 capacity figure is anticipated.*

threatening. Cooperative engagement will help the United States understand the commercial, political, and other goals and impacts of these institutions, and will enable the United States and its partners a voice in shaping their energy agenda and the foreign policy influence the energy agenda may confer.

Such a forum can also help to promote commercial cooperation among members through the articulation of basic principles and energy market goals, and a focus on greater energy data generation and public disclosure. For China, Japan, and South Korea, which are engaged in tense security competition, affirming and finding strategies to advance shared energy interests may be useful commercially and also offer a measure of de-escalation in an otherwise highly competitive set of relationships. Additionally, this forum will affirm and advance a technical framework for constructive engagement on commerce and trading in the Northern Pacific maritime region, balancing the heavy focus on security competition among key stakeholders.

To start, the forum should focus on gas security and efficient energy trading, which are issues of interest to member countries on which a PEF could play a role not currently addressed by other forums.

Develop and articulate strategies to enhance natural gas security. All of the countries of the Northern Pacific see an important, and often growing, role for natural gas in their economic inputs or revenue generation. Additionally, gas trade in this region is expected to expand significantly in the years ahead, which will have an effect on pricing mechanisms, infrastructure, and trade terms in the region. Internationally available data and analysis of gas markets and supply disruptions and response are much less robust than for oil and must be strengthened, particularly in this region, to expand market insight and security for all stakeholders. Leaders from the PEF should do the following:

- The administrator of the U.S. Energy Information Administration should publish more regular data and analytical reports on international gas markets,

particularly on expanding trade in the Asia-Pacific. To the extent possible, counterpart energy ministry officials in other countries of the region should also prepare and publish similar data. This will help to advance the conversation on global gas markets and strengthen the foundation on which policymakers and commercial investors base their assumptions and objectives.

- Energy Ministers from the PEF should meet periodically to discuss gas security and shocks, including the way that supply disruptions may manifest in their countries, lessons learned, and transferable lessons to expand resilience. This will promote better planning for consumers and suppliers alike, and may help mobilize policy support for private sector initiatives to ameliorate gas shocks.

  For instance, the ministers could explore how to create an emergency waiver to lift LNG supply contracts restrictions on onward sales in a market shock scenario. Additionally, they could consider public strategies to mobilize public and private capital in a market shock scenario to help mitigate shock conditions, whether through emergency support for critical infrastructure or to better link emergency response to longer-term planning in energy supply and generation infrastructure. Finally, Energy Ministers can contemplate how public initiatives can accelerate the gradual private sector–led process of de-linking gas contracts from an oil price peg, and shifting to shorter-term contract lengths. Supporting these trends will help markets react more quickly and efficiently in a shock scenario.

- Experts from Pacific Energy Forum countries should meet annually to establish and share selected contingency plans for a gas market shock scenario, and develop protocols for real-time communication mechanisms to implement during a shock. They can plan limited joint exercises that simulate a gas shock scenario, to institutionalize some emergency response protocols similar to those relatively well-planned protocols for oil shock scenarios.

Explore a combined strategic reserves agreement to coordinate the release of emergency oil stocks in a supply crisis. Given the size of the strategic stocks held in PEF countries, energy leaders should create a framework and push for an eventual agreement on release of strategic stocks. Such a framework may best be grounded in a market-based approach whereby these countries commit a specified amount of their oil stocks to the framework and they, or others in the region, can buy options for accessing the pool at market prices in case of supply shortages. PEF countries could explore options to make oil available at below-market value in an instance of mutually agreed emergency, with trigger points to limit the use of such mechanisms.

Promote transparent energy trading in the region. The ministers and technical experts of PEF countries should promote transparent, efficient energy trading in the region, specifically for natural gas. In addition to trading volume and liquidity, as well as the port, storage, and interconnection infrastructure to move energy in the region, a true energy trading hub requires market transparency and reliability, rule of law, and an active financial center. To support transparent, efficient trading in the Northern Pacific, particularly in China, commercial and public-sector decision makers may require technical assistance from more established markets overseers. The U.S. Department of Energy, the Commodities Future Trading Commission, and the Federal Energy Regulatory Commission should establish a unique technical assistance initiative to share information on facilitating and overseeing more transparent trading activity with regulatory counterparts in the Forum, particularly in China, as well as with counterparts in Singapore that may also be positioned to develop a more robust gas trading hub in the Asia-Pacific.

Expand energy technology and efficiency exchanges in the region. Experts of the Northern PEF countries should also build on existing technology cooperation in various forums and expand professional exchange on unconventional hydrocarbon development, renewable energy and efficiency, and climate change mitigation and adaptation efforts through new expert working groups that can bring together public and private-sector representatives. Nations of this region lead globally on energy efficiency and low-carbon energy development, and have some of the largest amounts of public and private capital to deploy on such efforts. Collaboration in this domain tied to the U.N. climate negotiations and agreement of 2015 are a good precedent for innovative collaboration in this area and may serve as a model for further coordination. While intellectual property theft and Russian sanctions have served as an impediment to technical information sharing in the past, the strategic and economic value of establishing greater information flow between these countries demands creative solutions to manage at least the intellectual property concerns.

4. Expand bilateral energy cooperation between the United States and China.

As the United States and China recognized at the 2015 bilateral Strategic and Economic Dialogue, "as the world's largest producers and consumers of energy, [we share] common interests and responsibilities to ensure energy security and face common challenges."[198] Building on limited existing bilateral collaboration on energy that currently occurs, and a major success in uniting the two economies on climate change mitigation commitments as leaders of the Conference of the Parties to the U.N. Framework Convention on Climate Change meetings, U.S. policymakers should promote expanded energy trade with China; deepen exchanges of data and expertise on energy issues, including assisting China in playing a greater role as a price-maker in regional energy markets; and strengthen coordination on market stability mechanisms, especially strategic petroleum reserves. Many of these issues are discussed above in the context of recommending the establishment of a PEF, but given the deep confluence of shared energy and climate interests in the U.S.-China relationship, and the unique value that cultivating such interests may have on balancing other forms of competition between the two powers, we recommend a uniquely elevated focus on energy in the bilateral relationship. Additionally, expanded potential for bilateral investment will affirm for China the attractiveness of closer energy ties with the United States over Russia, a strategy that will clip Russia's investment options and positively influence Washington's strategic interests vis-a-vis Moscow. These various energy issues have, of course, been the subject of discussions between energy and economic officials from the U.S. and Chinese governments, including at the energy and finance ministerial level, as well as between energy diplomacy leaders, but this must be a greater priority at a higher level for foreign policy and security officials in the two governments as well. Specific recommendations include the following.

Despite the lack of cooperation and limited commercial energy links between the United States and China, the two countries have recently set a precedent for bilateral cooperation on the issue of climate change. Here, U.S. Secretary of State John Kerry shakes hands with Chinese Special Envoy for Climate Change Xie Zhenhua before their bilateral meeting on the margins of the U.N. climate change summit in Paris on December 8, 2015. (U.S. State Department/Flickr)

Elevate discussion of conventional oil and gas trade and shared interests on energy markets in high-level U.S.-China engagements. This administration and the next should more strongly signal to Xi Jinping and the rest of China's leadership the value and priority that the United States places on facilitating expanded energy trade between the two countries and on ensuring a secure energy commodity market for the United States and China, as well as other partners abroad. U.S. officials should elevate this key issue of discussion in the annual Strategic and Economic Dialogue as well as in State visits, and increase exchanges on the matter between the countries' top diplomats and top energy ministry officials. For the U.S. policy establishment, delivering on this recommendation requires a broader belief in, and articulation of, the value of expanded bilateral trade in the first instance. This is an effort that is particularly challenging given the cooling tenor toward foreign trade in the U.S. domestic political arena as well as the deep U.S. security resistance toward engaging China on any strategic issue, including energy, given concerns about the threat China may pose to U.S. interests.

U.S. and Chinese energy and financial regulatory counterparts must also begin a dialogue on energy trading activity globally and the need to apply basic regulations to growing Chinese trade in energy. Open interest in energy commodity trading on largely unregulated Chinese commodity exchanges is growing significantly, and several of the largest commodity contracts in the world are traded on Chinese exchanges. Given that interest in commodity trading in China will grow, and with it Chinese influence in energy commodity pricing, the U.S. policy leaders at the Commodity Futures Trading Commission and the Federal Trade Commission should engage counterparts in China in a technical dialogue about managing speculative and manipulative market activity.

Support U.S.-China trade and investment. In addition to abetting China's move away from coal, expanded U.S.-China trade in oil and gas, as well as energy efficiency technologies, would generate economic benefits for

both sides, provide ballast in an increasingly competitive bilateral relationship, and may lessen some of the logic for China-Russia energy trade. The latter is of particular importance for the strong signal it will send globally about the value of transparent, market-related deals with U.S. entities rather than non-transparent deals with Russian counterparts that lack a commercial basis.

The U.S. Trade Representative and the Treasury and State departments should move ahead with efforts to advance a U.S.-China Bilateral Investment Treaty that includes a framework for U.S. companies to make energy investments in China. Concluding this effort could catalyze greater energy commerce between the two countries by lending useful legal and policy parameters to this arena. Additionally, the dedicated bilateral negotiation necessary to finalize the treaty would, in practice, become a very useful forum for leaders from the two countries to affirm their positive orientation toward greater energy investment and their policy intent to enable greater activity in this area.

At the ministerial level, the United States should continue to welcome Chinese investment in the U.S. energy sector and clearly communicate the process for approval of U.S. energy export projects, emphasizing the lack of political impediments to U.S.-China trade. U.S. energy resources are free to flow to China, pending Department of Energy findings that individual LNG export projects are in the public interest. However, many in China – even in NOCs and elite policy circles – labor under the misperception that China is, officially or secretly, banned from importing U.S. energy and will be among the first to be cut off from U.S. energy in a supply crisis. The United States should use existing U.S.-China high-level dialogues to persist in their efforts to correct this error. In such settings, U.S. officials can explain the export license application process in detail, including the delays to which non–free trade agreement countries are subject, and the criteria for a public interest finding.

Additionally, U.S. officials should more strongly encourage the Chinese government to urge its own NOCs to bid for commercial projects in the United States beyond some of the minority shares and non-operator ventures in which Chinese companies are currently engaged. To give greater credibility to this encouragement, and feasibility that such investment could work, the U.S. Treasury Department could lead an effort to design and implement a legal regime modeled on the Defense Department's Foreign Ownership, Control, or Influence regime to work with companies with foreign ownership or controlling interests operating in the United States. This regime would project a more constructive disposition toward Chinese investment efforts in the United States, with a focus on managing U.S. national security concerns related to sensitive technologies, and move away from the assumption that such security concerns are merely used as a barrier to prevent Chinese investments.

Beyond in-country bilateral investment, U.S. officials could encourage bilateral energy cooperation in third countries through a forum to bring together commercial delegations active and interested in future investment abroad. U.S.-China joint energy ventures already exist in the Middle East and Southeast Asia, for example. Beyond this, and looking forward to a rebound in energy prices and investment activity, U.S. policymakers could promote greater bilateral commercial engagement related to emerging opportunities from the Middle East to the Asia-Pacific, two of the areas for future growth in upstream production as well as in downstream petrochemical and processing activities, that may be especially interesting to U.S. and Chinese investors over the coming years.

The Treasury Department, in consultation with White House policy staff, should offer strategic guidance to the Export-Import Bank of the United States to consider and prioritize projects, particularly in the natural gas or LNG arena, that can support Chinese gas procurement and use. Specifically, this would focus on overseas LNG liquefaction projects, rather than receiving terminals in China, for which the Chinese do not require financing help. The Ex-Im Bank has historically been very active in LNG projects due to the involvement of U.S. companies as producers, builders, or equipment suppliers to LNG projects, and is in the position to unlock one of the United States' greatest assets – finance – to contribute to energy security and U.S. strategic goals. China's economy, industrial base, pollution profile, and perhaps retail energy market could benefit from such U.S. support, which would also build bilateral commercial and strategic ties in the energy domain.

The State Department, USAID, Department of Commerce, and other agencies should pursue opportunities to work cooperatively with China on the One Belt, One Road initiative, as well as with the countries along the OBOR routes, on financial, commercial, and security matters. This effort should include information sharing between the United States and China related to Islamic extremism in Central Asia and other countries along the routes, to support China in acting if necessary. This can advance U.S. leverage in the region and help U.S. security planners to better understand dynamic changes occurring there.

Deepen exchanges of data, research and development, and expertise. The United States should seek to deepen official data-sharing and technical exchange on energy market development beyond existing lines of effort to foster greater understanding of each other's energy usage and demand and supply trajectories. The United States maintains an exchange program through which the Energy Information Administration (EIA) trains Chinese energy officials – 100 in 2015 – on data gathering and management. The EIA should expand this program in-step with its greater focus on international energy data and analysis, and EIA and DOE officials should urge China to share the fruits of its improved data capacity through public disclosure and in the bilateral relationship. More reliable and comprehensive data, particularly on demand for current fuels and demand growth projections, will better help China plan for and meet its climate goals. In combination with more robust dialogue on energy security, it will also help both sides foster greater understanding and limited coordination on shared energy market and supply interest.

The United States should also expand its Clean Energy Research Center with China to cover natural gas research. This may involve an expansion of the mandate of this Center to focus on natural gas as a bridge fuel to a lower-carbon economy. It would also help to align the research effort of this center with existing U.S.-China coordination on shale gas, enabling a greater focus on this energy area and the potential to take on larger collaborative initiatives by merging work from these two cooperative efforts.

Strengthen coordination on oil market stability mechanisms. The United States should expand its existing limited cooperation with China on strategic petroleum reserves in an effort to establish shared principles for managing a supply disruption scenario. Particularly since global spare oil productive capacity is waning with lack of OPEC investment, and inventories and strategic reserves will be an increasingly important relief valve in a more volatile market and in any supply disruption scenario, it is more important than ever to bring the two largest oil consumers onto the same page on strategic reserves. China, as an associate member of the IEA, is not compelled by import coverage or supply coordination requirements as are full IEA members. Should it undertake hoarding behavior in a supply crisis, this would present a challenge to other consumer nations and the world economy. Particularly because efforts through the IEA on China's strategic reserve have offered little practical progress, the United States should work directly with Beijing on this topic.

5. Address Russian coercive energy market activities abroad by expanding cooperation with European and other partners to bolster European energy resilience.

U.S. energy diplomacy toward Europe, particularly over the last decade, has been heavily focused on constraining Russia's commercial expansion into the European consumer market, rather than on prioritizing European energy resilience as the best means to counteract manipulative pricing arrangements. The latter would be a more pragmatic, less politicized, and more achievable goal and would effectively limit Russia's freedom of action to dominate Eastern European energy pricing and economic conditions. A robust, well-resourced U.S. energy diplomacy strategy prioritizing European market resilience demands a greater focus on bolstering intra-European, national-level energy market reforms to expand competition, remove restrictions on pipeline interconnectors between European states, and promote commercially viable storage and transit investment, rather than focusing so exclusively on merely checking Gazprom's pipeline expansion plans into Europe. Framing U.S. energy diplomacy in Europe as a strategy to constrain Gazprom's pipeline investments has caused strife with European allies who see commercial benefit to the Nord Stream II project, for example, and it may allow European counterparts to demand concessions from the United States in exchange for opposing aspirational pipelines into Europe that Gazprom is unlikely to build in any case. Furthermore, an unyielding opposition to Gazprom may be more ideological than practical, distracting from market-based strategies that have proven effective at forcing Gazprom to decrease its prices – and manipulative leverage – in Eastern Europe.

Some innovative leaders in the U.S. government have rightly adopted a technical focus on intra-European energy trading efficiency, and accessibility and diversity of supply, as the most effective way to build resiliency to Gazprom's pricing threats or supply cutoffs, or indeed to any other energy market shock. However, this policy framework is not widely understood in the U.S. policy-making community, and is overshadowed by a focus on the tough security posture designed to counter Russian aggression in Europe with sanctions and a strengthened NATO. A focus on European energy market resiliency is not inconsistent with an aggressive security policy toward Russia, however, and these two frameworks should be leading facets of the contemporary U.S. approach to Russia. Specific recommendations follow.

Elevate a focus on European energy resiliency in U.S. strategy toward Russia and transatlantic support to security allies. U.S. foreign policy, as well as energy diplomacy leaders, should elevate a focus on European energy resiliency as a pillar of U.S. strategic posture toward Russia. Primarily, this involves making the case, and exerting influence through diplomatic messaging, technical assistance, and development aid, to engage European political and regulatory officials in national capitals to advocate for opening markets to greater competition and freer flow of intra-European energy, particularly natural gas and electric power. Additionally, U.S. foreign policy and diplomatic leaders must leverage their expertise and assistance as security and economic partners to encourage investment in European pipeline spurs, storage facilities, and reverse-flow capacity to be able to move energy in more open energy market conditions. While special interests and incumbent business and political leaders, particularly in Eastern Europe, resist greater market competition for the loss of local influence it may confer, it is precisely this competition that will forcefully undermine Russian influence projection in the region. As an added benefit, a technical focus on European energy market resiliency as a powerful counter to monopolistic and manipulative pricing influence will send an important signal to China and others internationally about the value placed on liberal market norms by the United States and Europe.

Exchange information with Saudi Arabia on its strategy to displace Russia's energy supply share in Europe. U.S. leaders from the Energy Information Administration and the Department of State should engage Saudi Arabian oil ministry and state energy company Aramco leaders regarding their new push to expand oil delivery into the European market, focusing specifically on the competition this new Gulf oil supply presents to Russian oil delivery into Europe. Gathering information about the Saudi strategy to claim more of the European market, and the way in which Aramco contract pricing may force Russian suppliers to discount prices for their crude will give U.S. policymakers a more comprehensive understanding of Russia's economic leverage in its key export market. In turn, this will better inform U.S. policy toward Russia, including the maintenance of sanctions and particular initiatives to liberalize European energy markets. Furthermore, it may give greater scope to U.S.-Saudi Arabia strategic cooperation if officials from both countries can incorporate both security considerations and commercial opportunities and challenges into their discourse.

6. Maintain security commitments in the Asia-Pacific to protect energy market stability.

The world energy map and the players shaping it are in flux, but maintaining stability in global markets is as important as ever. The United States should continue its historic role as the physical guarantor of global energy trade while adjusting to new realities. Broadly speaking, this means maintaining military superiority and forward presence necessary to ensure the free flow of energy through the strategic sea lanes of the Indian and Pacific oceans. The allocation of forces between the two regions will depend on many factors, of which SLOCs are only one. In particular, Washington should prepare to continue rebalancing its forces to the Western Pacific in response to heightened security competition there even though it means assuming somewhat more risk in the western sectors of the SLOCs.

Meanwhile, both energy and geopolitical trends point to the inevitable growth in Chinese economic and security involvement outside of the Western Pacific. This greater scope of U.S.-China interactions presents new horizons for both cooperation and competition, and the United States should seek the former while also preparing for the latter. Through innovative security cooperation and low-cost presence enhancements, Washington should build multilateral, rules-based efforts to address nontraditional threats against Indian Ocean energy trade. It should acknowledge China's legitimate interest in energy security and invite Beijing to join these initiatives. However, these arrangements will also enable flexibility in U.S. policy should China's push beyond the Western Pacific generate security tensions.

On the Russia front, energy trends identified in this report will have different implications for which Washington will have to prepare. In the short term, modest China-Russia security cooperation will complicate U.S. defense planning for Asia-Pacific contingencies. In the long term, should Russia's energy trade – and therefore its economic lifeblood – decline, Russia may either become more cooperative internationally or engage in diversionary aggression. In order to understand dynamic changes, U.S. civilian and military leaders should engage in the following strategy, security cooperation, and force posture activities.

Comprehensively integrate economic energy analysis into the defense planning scenarios and other Defense Department planning processes. U.S. military planning cannot ignore economic and especially energy concerns. The government should provide appropriate resources for developing the requisite human capital and

assimilating energy and economic analysis into defense scenario planning. This will help officials anticipate the full range of implications of military contingencies and U.S. responses to them. Planners should pay special attention to the potential consequences of disruptions to both seaborne and land-based energy trade, including those initiated by the United States itself. Installing these processes and capabilities in the Office of the Secretary of Defense is of highest priority, but it should also be put in place at the Joint Staff and considered in the composition of future administrations' National Security Council staffs.

Retain U.S. and allied military superiority in the Western Pacific. China's growing dependence on seaborne fossil fuels will tempt some to pursue defense strategies that cede the first island chain and instead rely on a distant blockade of Chinese shipping in the event of conflict. Doing so would not only do great damage to U.S. global prestige as a protector of markets, but also invites salami-slicing tactics that could raise the propensity for serious conflict further down the line. Instead, the United States should take the necessary steps to assure access to the first island chain and maximize freedom of action in the maritime, air, cyber/electromagnetic, and space domains. Washington should also weigh the benefits of building Asian partners' independent capacity to deter Chinese coercion so as to reduce the likelihood of involvement in low-level crises.

Expand partnerships to bolster a transparent, rules-based system along increasingly consequential – and congested – trade routes. Engaging with the actors most affected by changes in the energy system will both amplify the benefits of cooperation and help to limit the downside potential for destabilizing competition. The United States should pursue constructive engagement at the bilateral and multilateral levels, and should include both dialogue and practical elements. It should:

- Institute both energy- and China-related official dialogues with countries that lie along the Maritime Silk Road and Silk Road Economic Belt. These exchanges will help Washington understand and adapt to the security, as well as commercial, macroeconomic, and diplomatic developments associated with the implications of energy shifts, especially China's increasing activism beyond the Western Pacific. Such relationships will also give the United States a broader array of options to exert influence, where appropriate, to counter gestures by Russia to project its influence in Central Asia or in countries of the Middle East.
- Increase official engagement on energy and security issues with multilateral institutions along key energy trade routes. Following on its elevated relationship with ASEAN, Washington should seek expanded, if less comprehensive, engagement with the South Asian Association for Regional Cooperation, the Indian Ocean Rim Association, the East African Community, the Arctic Council, and others. Multilateralism demonstrates U.S. dedication to the region in question, signals commitment to a transparent, rules-based framework for regional governance, and helps shape the security agenda to elevate pressing issues.
- Join with allies and partners to leverage technology and build networked transparency in key regions. For countries to arrive at solutions to common problems, they must first be aware of what is happening in increasingly crowded seas. The United States should lead its partners in using new technology to create "common operational pictures:" information-sharing networks that can address shared challenges that imperil energy trade, from piracy to extreme weather.[199]

Seek opportunities for greater partnership with China on nontraditional security threats to sea lane security. Operating within the limits of U.S. law and with due attention to politically sensitive areas, U.S. defense leaders may be able to establish limited coordination with Chinese counterparts that can help to sustain communication and establish shared protocols on common threats. Due to tensions over China's ongoing campaign to redefine freedom of the seas in maritime Asia, cooperation will be significantly easier outside the Western Pacific. As a result, it should expand gradually westward from the Gulf of Aden, where China has made significant contributions to international anti-piracy efforts. In order to forestall fears of a condominium, U.S.-China cooperation in sea-lane defense should occur within multilateral frameworks modeled on successful interactions between PLA forces and the Combined Maritime Forces under the U.S. Navy's 5th Fleet. To ensure such exchanges are conducted in a safe and professional manner, both sides should ensure existing confidence-building and risk-reduction measures, such as the Code for Unplanned Encounters at Sea, are applied beyond the Western Pacific.

Involving China extensively in U.S. provision of maritime security, including for energy shipment, through the crowded shipping lanes of the Asia-Pacific

is infeasible and not attractive for the foreseeable future. The United States should plan to accept the greater share of responsibility and costs of providing this public good, reaping in return maritime influence and leadership, and the direct and indirect economic benefits of a secure flow of oil globally.

Expand access and rotational presence agreements for U.S. forces along strategic energy trade routes. Implementing all of the above recommendations and enhancing U.S. leverage requires expanded but sustainable presence. As China and other players assume a greater role in the new power politics, Washington needs to ensure it has the appropriate foundation from which to pursue either outcome. Therefore, building on achievements of recent years, the United States should focus on attaining or expanding access and presence on such nodes as Australia's Cocos Islands, India's Andaman and Nicobar Islands, Diego Garcia, the Maldives, Seychelles, and Comoros.[200]

The various policy recommendations outlined above can be of use implemented in whole or in part. They may support policy planning and execution at the executive and legislative level, and they may also be of use to the transition teams for the next U.S. president as they contemplate various policy choices on pressing energy and foreign policy issues linked particularly to Russia and China.

CONCLUSION

Recent energy market changes create new opportunities for the United States, both commercially and in the realm of foreign and strategic policy. The United States is more central to global energy geopolitics, as a bigger producer, the host to energy trading activities highly influential in energy pricing globally, and as a leader on global trade policy and norms. With the growth of economic activity and security competition in the Pacific, the new key geopolitical energy counterparts for the United States are China, first and foremost, as well as Russia. For its large role as an energy producer, Saudi Arabia cannot be discounted from the inner circle of global oil and economic giants, but its focus has also turned to the competition and opportunities in the Pacific, where the former three nations play a more influential role.

U.S. policymakers must update their energy and foreign policy frameworks in line with these new market circumstances, beginning with broad adoption of the notion that U.S. strategic interests are best supported by taking a more collaborative stance on energy trade with China. Moving away from the decades-old, protectionist myths that energy security can be achieved at home and that other major energy players can only be rivals to the United States, U.S. policymakers will be well served to embrace market-oriented cooperative initiatives with counterparts in the Pacific. This will expand U.S. influence as a pricing and producing power for oil and gas, offer a measure of reassurance and economic security to U.S. allies in Northeast Asia, will create valuable new common ground with China to balance an otherwise tense and competitive set of bilateral issues, and will check the expansion of Russia in commercial terms and, by extension, its capacity to engage in foreign adventurism.

In an election year as policy leaders and candidates have the opportunity to formulate new platforms and strategic objectives, the recommendations outlined in this report can serve as a basis for the next generation of energy and strategic engagements with China and Pacific partners. No longer can energy market activity in the Pacific be left primarily to the remit of economists and the private sector; the tremendous strategic significance of energy trade and investment among the great global powers demand highest-level political attention going forward. Our next President will be in the position to update U.S. security commitments in the Pacific, including in the maritime realm, and create a new framework to match such commitments to an updated version of the Carter Doctrine. Pairing energy security with U.S. force posture and security policy is as important now as it was decades ago. The incoming generation of U.S. political leaders must ensure that this pairing fits current market and military conditions, however, and that strategic policy of the future is crafted to support U.S. national interests – and reap the energy geopolitical advantages that the United States now enjoys.

Endnotes

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