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NBR SPECIAL REPORT #51 | APRIL 2015

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in a New Energy Era

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EXECUTIVE SUMMARY

This report analyzes major strategic and energy market developments that are reshaping the Asia-Pacific's energy security environment and offers recommendations for how the region can forge a new, more robust energy security architecture.

MAIN ARGUMENT

The boom in U.S. and Canadian production of shale gas and tight oil has led to a steady decline in U.S. dependence on imported Middle East oil and a new era of relative energy abundance for North America. Meanwhile, China and the rest of developing Asia have joined Japan and South Korea as major importers of oil and natural gas from the Persian Gulf. When coupled with growing disillusionment in the U.S. over the costs of its commitments in the Middle East, this suggests that the existing "Pax Americana" energy security architecture may no longer fit. As a result, countries across the Asia-Pacific need to adjust their approaches to energy security to reflect new realities. The region needs to forge a new energy security architecture that is less dependent on the U.S. and more based on regional collaboration and shared efforts. This will require much greater strategic collaboration, improved energy cooperation institutions, and more adaptable and robust energy markets. Ultimately, ensuring reliable and affordable oil and LNG supplies remains a shared challenge across the Asia-Pacific.

POLICY IMPLICATIONS

- The U.S. and Japan, working alongside China and the rest of Asia, should lead in developing this new energy security architecture.
- Washington, Beijing, Tokyo, and other stakeholders need to find ways to collaborate on promoting stability in the Middle East and on ensuring the security of energy sea lanes from the Persian Gulf to Asia. An approach modeled on the Shangri-La Dialogue could help build confidence and advance this dialogue.
- The Asia-Pacific must build regional energy security institutions that are capable of addressing potential oil and LNG supply disruptions from the Middle East. The 2006 Five-Country Energy Ministers Meeting would provide a good template for developing such institutions.
- The Asia-Pacific needs to build more flexible energy markets, reduce state intervention, and accelerate domestic reforms to make its economies more adaptable to energy shocks and price changes. In particular, LNG markets and contracts need to be much more flexible and affordable.

World energy markets have undergone seismic shifts in the past decade, driven by the twin forces of rising Asian energy demand and the unexpected boom in North American production of shale gas, tight oil, and oil sands. China is at the center of Asia's demand surge and recently surpassed the United States as the world's largest oil importer. Japan's long-standing historical dependence on oil and gas imports, mainly from the Middle East, has also grown sharply in the aftermath of the Fukushima disaster. Ensuring reliable, affordable access to oil and gas supplies is thus a growing priority for Japan, which has shown a heightened interest in strengthening markets and forging new energy partnerships across the Asia-Pacific and globally. Meanwhile, rapidly rising oil production in the United States means that direct U.S. requirements for imported oil generally and Persian Gulf oil specifically are declining sharply. In their place, Asia—and in particular China—has become the largest direct importer of Persian Gulf oil. As a result, the region is now the key beneficiary of ongoing costly U.S. commitments to the security and stability of the Middle East and Persian Gulf.

These changes suggest that the existing "Pax Americana" energy security architecture that has helped sustain both U.S. and Asian energy security and prosperity over the past four decades may no longer fit these new global and regional energy realities. It would be prudent for the United States, Japan, China, and the rest of Asia to consider major adjustments in energy security policy to adapt to these new realities. The reliable flow of Persian Gulf oil exports to world markets remains vital to the health of the global economy, and will continue to be so even if the United States approaches self-sufficiency in oil or Japan decreases its dependence on the Middle East. Nevertheless, both energy changes in the United States and a deep desire domestically to reduce future entanglements in the Middle East and Persian Gulf in the wake of the Afghanistan and Iraq wars suggest that Washington will be willing to accept more volatility in the region. At the same time, the United States will likely look for a stronger partnership with Asian countries in order to find ways to support greater stability in the Middle East and ensure reliable energy flows. Furthermore, regional energy cooperation has lagged far behind Asia's rising energy security exposure. Finally, Asian energy markets need to become more flexible and resilient, particularly through advancing domestic reforms and strengthening markets for liquefied natural gas (LNG).

With these questions in mind, over the past two years the National Bureau of Asian Research (NBR) has led the project "Adapting to a New Energy Era" to assess how the United States, Japan, China, and the rest of Asia can adapt to this increasingly complex energy security environment. Drawing on the generous support of the Sasakawa Peace Foundation, NBR conducted field research and seminars in cities across the Asia-Pacific, in addition to convening three day-long workshops in Washington, Tokyo, and Beijing. These discussions brought together several hundred energy scholars, policymakers, and industry analysts from across the globe to explore the changing energy security environment and the potential for regional collaboration to address emerging challenges. In addition to these activities, NBR commissioned research papers and policy briefs to examine key aspects of the shifting energy and strategic environment and to offer recommendations for industry and government.

This special report provides an overall assessment of the major changes driving the Asia-Pacific's new energy security environment and recommends a series of potential options for how regional states can begin working together to forge a more collaborative and robust energy security strategy. Section one offers a brief overview of Asia-Pacific energy security in a global context. This discussion builds on earlier research conducted for this initiative while updating findings

based on trends that have emerged in late 2014 and early 2015 (such as the dramatic decline in global oil prices). Section two considers key implications of the existing state of Asia-Pacific energy affairs for particular actors in the region. The third section then suggests core concepts for how to forge new institutional, market, and security arrangements to promote energy security in the Asia-Pacific and highlights recommendations from program discussions. This report concludes by identifying next steps and potentially unresolved questions for the United States, Japan, and other nations in the region.

Asia-Pacific Energy Security in a Global Context: A Brief History[1]

Since the oil price shocks of the 1970s, a central pillar of U.S. energy security strategy has been the strategic commitment to ensuring stability in the Middle East and the uninterrupted flow of oil to world markets. Increasing oil demand in the United States, Europe, and Japan during the economic boom years of the 1960s led to sharply rising imports of oil from the Persian Gulf region, which became the linchpin of global oil supplies to the Western industrial economy. In the United States, declining oil production and rising domestic oil demand increased dependence on imports to 50% of total oil consumption by the early 1970s. Imports from the Persian Gulf have made up a significant 15%–30% share of U.S. oil imports over most of the past 40 years. European countries also became more dependent on Persian Gulf oil, and Japan and South Korea, which are 100% reliant on imported oil and natural gas supplies, have traditionally depended on the Persian Gulf for 75%–90% of their total oil needs.

Political events and supply disruptions in the Persian Gulf and Middle East led to severe oil price shocks in the 1970s that wreaked economic havoc on the Western industrial countries and contributed to severe global and U.S. economic recessions in 1973–74 and 1980–82. In the United States, the new energy security narrative became one of scarcity and economic vulnerability. Lacking domestic oil reserves, Japan took an active interest in diversifying imports to include producers beyond the Middle East, while also placing a premium on increasing energy efficiency and the share of nuclear energy and LNG in its national energy mix. Nevertheless, U.S., Japanese and Western dependence on Persian Gulf oil continued to rise throughout the 1970s and 1980s.

In the wake of two oil shocks, the United States began a long buildup in its strategic presence and alliances in the Persian Gulf to seek greater stability in oil flows.[2] Internationally, the United States led the creation of the International Energy Agency (IEA), which brought together the major Western industrial oil importers to establish strategic stocks for collective use in the case of future supply disruptions. The IEA remains to this day the key global energy governance institution, despite the profound changes that have shifted global energy flows onto a Middle East to Asia fulcrum over the past two decades. In its decades-long effort to bolster political stability in the Middle East and Persian Gulf, the United States has balanced major regional alliances largely focused on the Arab side of the Gulf, particularly the strategic alliance with Saudi Arabia.[3]

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[1] This section draws heavily on an earlier background study for the project and has been updated to reflect emerging trends over the course of the last year.

[2] For a more thorough description of these changes, see Mikkal E. Herberg, "Forging a New Strategy for U.S., Japanese, and Asian Energy Security," in "Adapting to a New Energy Era: Maximizing Potential Benefits for the Asia-Pacific," National Bureau of Asian Research (NBR), NBR Special Report, no. 46, September 2014.

[3] For an excellent discussion of this period, see Anthony H. Cordesman, *The Gulf and the West: Strategic Relations and Military Realities* (Boulder: Westview Press, 1988). On the early U.S.-Saudi relationship, see Nadav Safran, *Saudi Arabia: The Ceaseless Quest for Security* (Cambridge: Harvard University Press, 1985), 295–308.

From the early 1980s, the United States increasingly deployed military power to the region, driven by a series of wars and threats to oil supplies. Today the United States still maintains a strong presence through military installations in Qatar, Bahrain, and Kuwait. In the face of the recently emerging threats from the Islamic State of Iraq and Syria (ISIS), Washington has reintroduced troops to try to shore up the Iraqi army and forged a coalition of states to carry out airstrikes to stop the advance of ISIS forces in the region.

The United States has been and remains the only country with the strategic power to maintain order in the Persian Gulf and guarantee oil flows. Japan cultivated opportunities to develop a robust energy security strategy in the region by strengthening its economic relations through investments in upstream LNG projects and (with lesser success) in upstream oil development. However, its lack of strategic power-projection capabilities naturally requires Japan to rely on commercial ties and energy technology for influence. In a similar fashion, China, South Korea, and India have played a role in broadening access to Middle East supplies; yet these countries have not shown a willingness or the ability to take on a larger strategic role in the region.

Although policymakers' perceptions of energy scarcity and vulnerability have only just begun to adjust to these shifting conditions, the realities of the oil market have changed dramatically over the past decade. North American dependence on the Middle East for oil is now declining rapidly, while Asian dependence is mushrooming.

The impact of these new realities has been most dramatic in North America, particularly in the United States. Since 2006, new hydraulic fracturing technology has sharply reversed the long structural decline in U.S. oil production. At the same time, U.S. oil demand has declined since its peak in 2005 and is likely to grow very slowly, if at all, in the future. As a result, U.S. oil-import dependence is ebbing rapidly and appears likely to decline further over the next decade, with oil imports from the Middle East and Persian Gulf region becoming negligible.[4] Even Saudi oil exports to the United States are beginning to come under pressure.[5] Although the recent sharp decline in oil prices is likely to slow the growth of North American oil supply, production growth is expected to continue even at lower prices.[6] Adding to the perception that future U.S. and Canadian energy supplies will be ample is the rise in shale natural gas production, which over the next decade will very likely transform both the United States and Canada into LNG exporters to Asia.[7]

At the same time that North America is becoming more self-sufficient, rising oil demand in developing Asia, and particularly China, has made Asia the predominant buyer and direct beneficiary of Persian Gulf oil. Global oil flows, as a result, are shifting decisively onto a Middle East–Asia axis. Japan and South Korea have long been heavily dependent on the Persian Gulf, despite decades of efforts by both countries to diversify their sources for oil imports. Developing Asia's imports of Persian Gulf oil, however, have accelerated with rising oil demand. China's oil demand, for example, has roughly doubled in each of the past two decades. Nearly 60%

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[4] U.S. Energy Information Administration, "Annual Energy Outlook 2014," May 2014. For the 2015 import share, see "U.S. Boosts 2015 Oil Forecast as Shale Powers Push to 10 mln bpd," Reuters, September 9, 2014.

[5] George Libby, "U.S. Shale Squeezing Out Saudi Oil Imports, Boosting Gasoline Exports—IEA," Reuters, September 11, 2014.

[6] The International Energy Agency (IEA) forecasts continued but slower North American oil production growth than in previous reports. See IEA, *Medium-Term Oil Market Report 2015* (Paris: OECD/IEA, 2015).

[7] For an excellent assessment of this outlook, see Charles Ebinger, Kevin Massy, and Govinda Avasarala, "Liquid Markets: Assessing the Case for U.S. Exports of Liquefied Natural Gas," Brookings Institution, Policy Brief, May 2012.

of its oil is now imported, and one-half of those oil imports come from the Middle East.[8] Saudi Arabia now often exports more oil to China on a monthly basis than to the United States. India is 75% oil-import dependent, with roughly 80% of those imports coming from the Persian Gulf.[9] Overall, 80% of Persian Gulf oil exports now go to Asia, which relies on the Middle East for satisfying over 50% of its total oil needs, and this dependence will increase dramatically in the next decade and beyond.[10]

As a result, while the stability and security of Persian Gulf oil flows have been vital for Asia since the 1970s, the rise of oil-import dependence in China, India, and Southeast Asia has made this issue a more critical and direct concern for the region.[11] Ironically, although the recent plunge in oil prices is largely beneficial to Asia by lowering the cost of imports, over the longer run lower prices are likely to aggravate its dependence on low-cost Persian Gulf oil supplies as higher-cost supplies elsewhere grow at a slower pace. Hence, Asia's role as the largest direct beneficiary of U.S. efforts to secure Persian Gulf supplies will likely only increase.

Revisiting the Asia-Pacific's Energy Security Strategies

A key result of these combined strategic and energy trends is that countries across the Asia-Pacific need to revisit their approaches to energy security in terms of their national, regional, and international efforts. For the United States, this new energy era requires Washington to fundamentally rethink its existing energy, strategic, and economic policies. With U.S. reliance on crude oil from the Middle East rapidly evaporating, and the United States at the same time continuing on a trajectory to become an LNG exporter, policies built around the concept of energy scarcity and import dependence are increasingly inappropriate. As of the writing of this report, there is even discussion in the United States of ending the 40-year ban on crude oil exports imposed during the oil crises of the 1970s.[12]

Beyond considerations of energy security, there are other important strategic and domestic political pressures at work that are likely to reinforce Washington's inclination to recalibrate its global energy diplomacy, particularly with specific regard to the United States' geopolitical footprint in the Middle East. The Obama administration has been explicit about its desire to reduce commitments to the region after over a decade of war, and as Roy Kamphausen and others have noted, such sentiments have been echoed by both the American public and U.S. industry.[13] Even in the face of recent hostile advances by ISIS that threaten to undermine a decade of U.S. efforts to stabilize Iraq, the domestic debate has strongly pivoted around the lack of grassroots support for putting "boots on the ground." Looking ahead, severe defense budget cuts required in the Budget Control Act of 2011 will likely take effect over the next decade and will force difficult decisions about maintaining a large military footprint in the Middle East and Persian Gulf. Although it

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[8] BP plc, "BP Statistical Review of World Energy 2014," June 2014, http://www.bp.com/en/global/corporate/about-bp/energy-economics/statistical-review-of-world-energy.html.

[9] Ibid.

[10] IEA, *World Energy Outlook 2013* (Paris: OECD/IEA, 2013), 561–64.

[11] For more on this rise of Asian dependence on oil imports, see John Mitchell, *More for Asia: Rebalancing World Oil and Gas* (London: Chatham House, 2010).

[12] Tim Boersma and Charles Ebinger, "Lift the Ban on U.S. Oil Exports," Brookings Institution, January 23, 2014; and Blake Clayton, "The Case for Allowing U.S. Crude Oil Exports," Council on Foreign Relations, Policy Innovation Memorandum, no. 34, July 2013.

[13] For a more detailed and nuanced discussion of the outlook for strategic commitments to the Persian Gulf, see Roy Kamphausen, "The United States' Military Posture toward the Middle East: Potential Drivers of Change," in "Adapting to a New Energy Era."

is clear that the United States will not and should not pull back entirely from the region, there is a strong sense of "hegemony fatigue" among the American people and in Washington that is affecting the willingness of the United States to sustain its primacy in global affairs.[14] Moreover, political dysfunction and gridlock in Washington, along with growing congressional meddling into critical foreign policy decisions, have severely constrained the United States' ability to manage growing instability in the Middle East.

Alternatively, recent events seem likely to accentuate Asia's dependence on Middle East energy supplies. The recent crash in oil prices from over $100 to around $50 a barrel is likely to weaken the expected growth of oil supplies from outside the Organization of the Petroleum Exporting Countries (OPEC), thereby heightening the need for low-cost oil supplies coming from the Persian Gulf. In addition, new geopolitical tensions between the West and Russia and sanctions imposed on Russia's oil and gas industry are likely to undermine the future growth of Russian oil production.[15] This also will reduce the potential for developing alternative supplies globally that could lessen dependence on the Middle East.

Hence, the United States faces a dilemma: its own need for Persian Gulf oil is declining, but at the same time Asia's needs are rising. The United States continues to have a vital global interest in sustaining the reliable flow of that oil to Asian and global markets. Taken together, these suggest the need for a fundamentally new energy security architecture for the United States, Japan, and the Asia-Pacific. As I noted in an earlier essay for this project, this dilemma gives rise to the following questions:

> [Our new energy era] raises a number of thorny and vexing questions. What should a revised energy security architecture in the Asia-Pacific look like, and how could it be achieved? Given Japan's robust trade and investment relationships in the Gulf and the strength of the U.S.-Japan alliance, Japan is a natural potential partner in U.S. efforts aiming to promote the reliable flow of Gulf energy supplies to world markets. Yet Japan's significant limitations on its strategic capabilities will continued to shape how the country can respond to major developments. What role might Japan play in providing for greater leadership? Additionally, what role would Australia, South Korea, and other Asia-Pacific allies play in a new architecture? What role would or could China play as not only the largest beneficiary of stable and affordable oil flows from the Persian Gulf but also the chief strategic rival to the United States and Japan? How would Asia overcome an already zero-sum atmosphere of suspicion and rivalry over control of energy supplies and transit routes among the region's importers?[16]

The next section attempts to tackle these questions and in doing so suggest how the United States and Japan might lead in the development of a new strategy for promoting regional energy security.

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[14] For a thoughtful discussion of U.S. choices between worldwide hegemony and narrow isolationism, see Patrick Porter, *Sharing Power? Prospects for a U.S. Concert-Balance Strategy* (Carlisle: Strategic Studies Institute and U.S. Army War College Press, 2013).

[15] For more on this topic, see Amy Myers Jaffe, Kenneth B. Medlock III, and Meghan L. O'Sullivan, "China's Energy Hedging Strategy: Less Than Meets the Eye for Russian Gas Pipelines," NBR, February 9, 2015; and Morena Skalamera, "Putin's Asia Strategy for 2015," NBR, December 16, 2014.

[16] Herberg, "Forging a New Strategy," 9.

Forging a More Robust Energy Security Strategy for a New Era

As noted in the introduction, through a series of regional workshops, seminars, and research papers, this project has focused on developing the foundations for a new energy security architecture in Asia that reflects these profound changes in the energy security environment. Workshop discussions and research papers first explored the particular challenge of building new modes of energy security cooperation amid an increasingly contentious regional security landscape. Second, they addressed the challenges of developing more effective regional institutions and more flexible and robust markets to respond to emerging and future energy security needs. Together, these two arenas of analysis produced a range of key findings for understanding how stakeholders should approach energy security questions.

From a security perspective, discussions began with how the United States, Japan, China, and other Asian stakeholders can craft a new strategic and diplomatic approach for energy security, with particular reference to maintaining the stability of the Persian Gulf and securing the energy sea lanes to Asia. This inevitably will require a greater level of security collaboration among the Asian powers and will be doubly challenging in a region that instead seems to be drifting toward much more intense strategic rivalries. There is already a view in Washington that Asia needs to carry a larger share of the responsibility for securing the flow of oil and LNG from the Middle East. Jon Alterman succinctly summarizes this perspective:

> The United States will need to find some solution to what is currently a "free rider" problem in Middle Eastern security. That is to say, the United States spends billions of dollars annually to preserve the security of the Gulf, while contributions from energy-consuming nations are sparse.... Seen from Washington, some of the parties that benefit most from the security the United States helps provide both fail to contribute and simultaneously take actions that undermine it. That cannot go on indefinitely.[17]

To this end, a recent study on strengthening U.S. energy security calls for Washington to work more closely with China to take on a more prominent role in stabilizing the Middle East and protecting Persian Gulf oil supplies and sea lanes.[18] Beijing itself is touting a new concept of the "maritime Silk Road" that would help knit together trade and investment along the maritime routes from Asia to the Middle East and beyond.[19] Meanwhile, if a future supply disruption does occur, there will almost certainly be calls from Congress and elsewhere in Washington for Asia to play a stronger role than in the past. This presents very significant challenges for a region that is already struggling to adapt to the economic and strategic rise of China and the associated deepening rivalries and tensions.

Second, workshop discussions explored the idea that the prospects for growing instability in the Middle East, combined with rising Asian dependence on Middle East oil and LNG, suggest that the Asia-Pacific must strive to create its own more resilient and robust energy institutions and markets to minimize exposure to supply-disruption risks. How can countries work to craft more collaborative regional institutions and more flexible oil and LNG markets to strengthen the

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[17] Jon Alterman, interview, *Fareed Zakaria GPS*, CNN, January 14, 2013.

[18] Commission on Energy and Geopolitics, *Securing America's Future Energy, Oil Security 2025: U.S. National Security Policy in an Era of Domestic Oil Abundance* (Washington, D.C., January 2014). In perhaps a precursor of this possibility, see William Wan, "U.S. Urges China to Help with Islamic State in Iraq," *Washington Post*, September 9, 2014.

[19] For more on this topic, see Nadège Rolland, "China's New Silk Road," NBR, February 12, 2015.

region's energy security? To that end, it should be noted that a recent report from Chatham House points to a number of ways that Asian countries could work together to respond more effectively to a future disruption in oil supply emanating from the Middle East.[20] Yet workshop discussions noted that as the region's reliance on LNG rises dramatically, Asia increasingly needs to create new arrangements. These must include arrangements that can mesh with existing institutions like the IEA, the Group of Twenty (G-20), or the BRICS grouping (Brazil, Russia, India, China, and South Africa) as well as those that can reshape existing institutions to incorporate participation from and leadership by Asia's major producers and consumers. Adding a further wrinkle to these issues, program participants noted the growing importance of the fact that the Association of Southeast Asian Nations (ASEAN) lacks necessary strategic oil stocks to manage the risk of its rising dependence on oil from the Persian Gulf. This will have an impact on regional abilities to mitigate supply and price shocks and must be addressed by any new arrangements.

Fundamentals for a New Energy Security Strategy

Project participants focused on several steps that the United States, Japan, and Asia should consider in order to develop an energy security architecture that reflects these new realities. The following discussion provides an overview of some of these conclusions and recommendations.

First and foremost, the United States and Japan should seek to secure a broader regional consensus on several key points. This consensus should consider that the Asian and U.S. energy security environments have changed fundamentally, that the previous strategy will no longer suffice to address the emerging energy security challenges facing the region, and that therefore new strategic, institutional, and energy market arrangements are needed to respond effectively to this new environment. Hence, the United States and Japan, working alongside China and the rest of Asia, must seriously consider ways of shaping a new energy security architecture organized along three critical dimensions: geopolitical strategy, institutions and governance, and energy markets. This broad recommendation on partnerships ultimately shapes how we should think about subsequent recommendations for more specific tools and strategies.

Shaping a New Strategic and Diplomatic Approach to Indo-Pacific Energy Security

As Asia's dependence on Middle East energy supplies continues to grow, the challenges to ensuring the reliable flow of oil and LNG to Asia also seem likely to grow in view of the deepening instability in the Middle East. On this issue, there was little disagreement across the project discussions. New strategic constraints on the U.S. deployment in the Middle East in the aftermath of the wars in Afghanistan and Iraq suggest that more robust Asian strategic collaboration and cooperation will be required to ensure stable energy flows. Regional collaboration should rest on the foundation of common energy security interests. There are two dimensions to this strategic energy challenge. The first is the effort to strengthen political stability on the ground in the region; the second is protecting sea lanes to Asia.

Strengthening political stability. Regarding the first challenge, it is clear that the United States will remain the key outside strategic power on the ground in the Middle East. However, recent difficulties in Iraq, Egypt, Syria, Libya, and Yemen and strong resistance from the American public

[20] John Mitchell, "Asia's Oil Supply: Risks and Pragmatic Remedies," Chatham House, Research Paper, May 2014.

to committing troops to the region suggest that the United States and Asia will need to depend more heavily on diplomacy and coordination with other partners that have mutual interests in the Middle East.

This raises a number of vexing challenges for the United States, Japan, China, and the rest of Asia that could suggest wildly different recommendations. On the one hand, given the historical baggage the United States carries from four decades of deep strategic involvement, Japan, China, and even South Korea and Australia potentially could be more effective as regional diplomatic interlocutors. However, Asia's strategic capacity in the Middle East is minimal. With the United States' declining willingness to engage militarily, Asia must rely on diplomacy, investment, economic assistance, and other means to try to support stability in the region. Japan and China are in the strongest positions diplomatically but remain modest players.

Further, although Washington, Beijing, Tokyo, and other stakeholders agree that stability on the ground in the Middle East is in everyone's vital interest, these states disagree on significant and fundamental points about how to achieve this outcome. China, for example, has differed strongly with the U.S. strategy on Iraq, Libya, and Syria and has generally resisted tightening UN sanctions on Iran as counterproductive. Moreover, Beijing is wary of being drawn too deeply into the Middle East vortex of violence and instability.

As noted in the Beijing workshop discussions and in a paper presented by Zhao Hongtu, two opposing views have found traction in China. Some officials believe that cooperating with the United States in the Middle East could be in China's interest, whereas others believe that U.S. policies are fundamentally destabilizing and at odds with Chinese objectives. This latter view was cast quite sharply by one Chinese workshop participant's reaction to the suggestion that China is freeriding on U.S. efforts to stabilize the region and secure sea lanes. He suggested that rather than freeriding in the Middle East, China is being "taken for a ride by a crazy driver" whose actions continually destabilize a region vital to China's energy security. In Washington, there is a similar difference of views about whether it is in the United States' interest to draw China into a stronger role in the region. Japan and Australia, on the other hand, have been partners on most U.S. Middle East initiatives, with Japan playing a very modest security role, while Australia has been a stalwart partner in both Iraq and Afghanistan. While the Abe government is trying to strengthen Japan's international military posture, and there is increasing momentum behind these efforts, it remains unclear how and to what extent Japan might assume a stronger global role in the long run.

Thus, given this potential for divergent assessments, a more collaborative approach to U.S., Japanese, Chinese, and Asian diplomacy and strategic policy toward the Middle East will require finding areas of agreement that focus on energy security and stability. This approach will not be easy in view of the overlay of strategic competition across the region and particularly considering U.S.-China relations and Japan-China relations. Fundamentally, the United States and Japan may need to take greater account of China's views on regional diplomacy. Beijing will inevitably be drawn into a more prominent role in the Middle East by virtue of its rapidly growing energy investments, large energy supply contracts, the number of Chinese nationals on the ground, and broader trade interests. So the question will be to what extent the United States, Japan, and other stakeholders can try to shape China's role as supportive of regional stability while also accepting that China's collaboration is central to greater diplomatic effectiveness in the Middle East. Some initial areas where these states could find common approaches are collaborative projects on regional economic assistance, human resource development, and energy investment.

Protecting sea lanes. A second dimension of the new energy security challenge is ensuring reliable energy flows, particularly through securing the energy sea lanes from the Middle East to Asia. Here there may be better prospects for cooperation.

Asia's common interest in secure sea lanes is more straightforward than agreeing on strategies toward geopolitics. Japan has significant naval capacity in this arena, and China is developing a long-term blue water naval capacity that is beginning to reach across the Indian Ocean toward the Middle East. Additionally, a potential template already exists for naval collaboration in the region from antipiracy cooperation in the Gulf of Aden, where all the key players are involved. Meanwhile, China's proposal for a maritime Silk Road could dovetail with efforts to shape a more organized and combined set of agreements on how to respond to emergency maritime contingencies of potential oil supply disruptions in the Strait of Hormuz, Arabian Sea, or Bab al-Mandab.

With these prospects in mind, U.S. experts, including retired admirals Michael McDevitt and Dennis Blair, have advocated efforts to seek greater Chinese cooperation and partnership in securing the sea lanes around the Persian Gulf.[21] One could imagine creating a "coalition of the willing" to develop contingency plans for maritime oil supply disruptions. Of course, this idea too has some important wrinkles. India would need to be an important partner in such an effort, and the Indian security establishment would certainly be ambivalent about any measure that draws China into a greater role in the Indian Ocean. Moreover, serious existing tensions in the South and East China Seas between China, the United States, Japan, and other regional actors would need to be compartmentalized in some way to prevent their spilling over and affecting naval and sea-lane collaboration in the western Indian Ocean.

One model for beginning regional confidence building on energy sea-lane cooperation could be the existing Shangri-La Dialogue organized by the International Institute for Strategic Studies. The summit is a response to the need for the defense ministers of Asia-Pacific countries to engage in dialogue and confidence building and develop practical security cooperation. An energy Shangri-La Dialogue could be an excellent first step toward building practical cooperation. The United States and China already accept the importance of such kinds of dialogue. Since 2013, the semiannual U.S.-China Strategic and Economic Dialogue has included the U.S.-China Middle East Dialogue, which provides a forum for discussion on potentially shared strategic approaches to key Middle East challenges, including energy security. This initiative could be broadened to include other regional powers.

Overall, the United States and Japan need to work with China and other stakeholders to begin a dialogue over the value of coordinating strategic initiatives and diplomacy toward the Middle East and energy sea lanes that recognizes the importance of regional stability for the interests of all the major powers. Although this path will not be easy, upgrading the energy security architecture in the Middle East is vital for the Asia-Pacific to face the increasing concerns about supply security and oil price shocks.

[21] For further discussion of this point, please see Andy Ngyuen and Clara Gillispie, "What Role Will China Play in a New Energy Era? Key Questions for the United States, Japan, and Global Markets," NBR, Workshop Report, April 2015; and Clara Gillispie, "Engaging the Opportunity of a New Energy Era: Outlooks for Asia-Pacific Cooperation," NBR, Workshop Report, April 2015.

Upgrading Asia-Pacific Energy Governance and Institutions

Building on the strategic themes discussed above, another core set of recommendations is focused on Asia's growing exposure to potential energy supply disruptions emanating from the Middle East and elsewhere. To address this challenge, the regional states urgently need to strengthen energy security cooperation and governance. Yet rather than cooperation among Asian states rising over the past two decades, the energy security environment has degenerated toward an increasingly zero-sum atmosphere of national competition to control overseas oil supplies and regional energy transportation routes. High oil prices and tight global supplies, especially since 2000, have severely aggravated strategic concerns about potentially unreliable supplies and severe price impacts on economic growth.

To date, governments across Asia are supporting and encouraging their national oil companies (NOC) to acquire control over oil and gas production around the world in the hope that this will provide more secure supplies for the future. China has by far been the largest proponent of this approach, but Japan, South Korea, and India have pursued similarly state-sponsored competitive responses. Indonesia, Malaysia, and Thailand are also beginning to adopt competitive NOC strategies. In effect, both control over energy resources abroad and control over transit routes have become elements of national strategic and security competition. Not surprisingly, this trend is reinforcing the very deep and increasingly intense political rivalries in East Asia.

The challenge of ensuring reliable oil and LNG supplies is a shared problem across the region. Safeguarding energy supplies should thus be a powerful incentive to promote greater collaboration and improved energy governance institutions rather than competition. Still, as Tom Cutler's paper for this project demonstrates, collaboration on common energy security interests has so far been modest and largely ineffective.[22] Although regional institutions such as the Asia-Pacific Economic Cooperation (APEC) and the East Asia Summit all have energy security initiatives on their long-term agendas, none of these initiatives has been consistently pursued and none has strengthened regional energy cooperation on common challenges.

Elements of regional energy security cooperation exist, but they are fragmented and largely unconnected. Japan and South Korea are members of the IEA, which was established in the 1970s to provide a cooperative global system of emergency oil stocks to be used collectively in the case of serious supply disruptions. Both nations hold substantial emergency oil stocks that are available for release if the IEA collectively determines that such a remedy is needed. However, the fastest-growing oil importers in the region, most importantly China and India, are not members of the IEA. Instead, China is building its own strategic reserve stocks to use in a crisis. India is likewise working to build its national stocks, though its reserves currently are very modest. ASEAN has professed a goal of developing regional oil stocks and a modest program for oil-sharing during a potential supply disruption, but this initiative has generated little collective response. In the absence of collective stocks, Asia has essentially been freeriding on the willingness of IEA members to provide emergency oil supplies during several disruptions over the past two decades.

Updating the existing governance structure. In recent years, the IEA has reached out to China and India to seek ways to involve them in IEA activities as nonmember states. China has participated in a variety of meetings to benefit from the IEA's experience in managing emergency oil stocks. There were rumored to be plans during 2012–13 for China and India, along with several other key

[22] Tom Cutler, "The Architecture of Asian Energy Security," in "Adapting to a New Energy Era."

countries such as Mexico and Russia, to become "associate" members of the IEA, but these efforts have not panned out. It now appears that China and India have little interest in joining the IEA under such circumstances and harbor some distrust that the IEA as an institution reflects the interests of the United States and Europe. Conversely, many smaller members have resisted giving up voting power, which would be necessary to include large importers like China and India in the group's membership.

Meanwhile, China's preferred approach to regional and global energy security cooperation remains unclear. Beijing seems to be gravitating toward an alternative approach to the IEA, possibly relying on institutions such as the G-20 that are less dominated by the major industrial countries. But whether this method would be practical is very uncertain. China has not embraced Russia's suggestion on using the Shanghai Cooperation Organisation to promote regional energy collaboration. Instead, China continues to advance a national strategy of supporting the expansion of its NOCs, building its strategic reserves for its own use, and forging new overland pipeline routes from Central Asia, Myanmar, and Russia, for both oil and natural gas, that help diversify supply risks.

Developing new forums. As can be gleaned from the above analysis, despite prospects for governance reform, the world's largest and fastest-growing region in terms of oil consumption and imports remains largely outside the existing global energy governance system. In the event of a supply disruption, Asia is largely unprepared for sharing supplies and reducing the impact on the region's economy. This is true for both crude oil and oil products markets. Such a disruption would cause a national scramble for supplies that would likely inflame rivalries and tensions and aggravate upward pressures on global oil prices. Any disruption of energy flows from the Persian Gulf would also have a substantial impact on Asian LNG markets and prices. LNG markets are currently much less flexible than oil markets, and acquiring emergency supplies in a crisis would be deeply problematic.

Asia thus urgently needs to forge regional institutional arrangements to manage these growing supply risks and strengthen common approaches to infrastructure and energy policy across the region. To address this issue, stakeholders should follow the template established in December 2006 by the Five-Country Energy Ministers Meeting, which included the United States, China, Japan, South Korea, and India. A joint statement from the meeting responded to a range of regional energy security challenges, including cooperation on building strategic petroleum reserves, greater transparency of energy data, the protection of key sea lanes for energy transport, diversification of energy supplies, and the maintenance of stable international oil markets. Unfortunately, this effort gradually atrophied due to a lack of long-term commitment.

Such a new regional energy forum or club would be a valuable tool in beginning to strengthen Asia's energy security architecture. In particular, it could be critical for establishing joint strategic oil stocks. ASEAN states, as noted above, lack reserves, and a regional approach would be by far the most efficient way to build those stocks. For example, although Indonesia has announced plans to build a strategic oil stockpile, it makes poor economic sense for each Southeast Asian importer, including Thailand, the Philippines, and Malaysia, to begin building its own independent reserves.[23] It makes much more sense for Southeast Asia to develop a regional stockpile as well as plans for stock releases during supply emergencies.

[23] Fergus Jensen and Wilda Asmarini, "Indonesia to Boost Oil Reserves, Refineries in Bid to Tackle Graft," Reuters, December 2, 2014, http://www.reuters.com/article/2014/12/02/indonesia-energy-idUSL3N0TL2U820141202.

To this end, Japan, South Korea, China, and the United States, which already have major stockpiles, could work with the ASEAN states to craft arrangements for a collaborative regional release of oil during a supply disruption. As a result of its rapidly declining oil import needs, the United States now holds far in excess of what is necessary to meet its IEA commitments to hold 90 days of oil imports. These excess reserves could be an important tool to draw Asia more closely together in collaboration on emergency stocks. For China, considering sharing the country's growing strategic petroleum reserve stocks with its neighbors during a disruption would be an enormous opportunity to build regional goodwill and soft power, which Beijing professes to be seeking.

A further goal of any new or strengthened forum should be to develop regional arrangements for sharing LNG supplies during a disruption. The Persian Gulf is a key LNG supplier to Asia, and any disruptions would be much harder to manage given the more rigid market for LNG supplies. This is an area where Japan could exert strong leadership. In addition, as the United States becomes a major LNG exporter to Asia, it too will have a strong position from which to help improve the emergency management system. A regional forum would also be valuable to coordinate the development of regional energy infrastructure. This includes initiatives such as regional natural gas pipeline grids and cross-border electrical grid connections. As an added benefit of these and other efforts targeting regional integration, a regional grouping could also be a strong advocate for Asia over time with OPEC and the key Persian Gulf producers through the International Energy Forum.

Taken as a whole, these findings suggest that the major shifts occurring in global energy flows and production require the Asia-Pacific to forge new institutions to respond to emerging energy security challenges. Viable mechanisms for creating such institutions already exist, however, if stakeholders across the region commit to working more closely together. A present trajectory of national energy competition and petro-nationalism is failing to materially strengthen the region's energy security. Energy security is fundamentally attainable only through cooperation, given that energy markets are increasingly global, integrated, and dynamic. Addressing this challenge is also vital for global oil and LNG markets because an Asian national scramble for oil or LNG supplies in an emergency would lead to much higher prices and damage the global economy.

Strengthening Energy Markets in the Asia-Pacific

Finally, beyond strategic and institutional efforts, a new energy security architecture for the Asia-Pacific also requires moves to improve the flexibility and resilience of regional oil, natural gas, and LNG markets, along with efforts to boost investment in new supplies. Leadership from the United States, Japan, and China is important to move forward on many of these issues. The development of a new institutional framework for regional energy cooperation, such as the regional energy forum suggested above, would also provide a valuable platform to encourage greater market and investment reforms.

Strengthening Asia's gas market. Asia's gas market is one of the key regional energy markets that would benefit from greater flexibility and marketization. Natural gas is still relatively underutilized in Asia compared with other regions of the world. However, demand for cleaner natural gas is growing rapidly to diversify the region's energy mix and reduce carbon emissions and air pollution. While China's air pollution problems are enormous and widely noted, virtually every major city in Asia suffers from serious to severe air pollution that mainly results from

transportation vehicle exhaust and heavy dependence on coal. Natural gas is far cleaner burning than coal and emits on average one-half the carbon per unit of energy. Gas is also expanding as a transportation fuel as governments from India to China use policy to encourage the development of natural gas vehicles.

Accelerating domestic energy market reform. Expanding LNG supplies and developing a more flexible LNG market can play a key role in this transition toward a cleaner and more reliable fuel mix. Given the long maritime distances across Asia, LNG will be important for spreading the use of natural gas throughout the region. But very high prices for Asia's LNG and prevailing contract systems that sharply reduce flexibility in the market destinations have slowed the growth in LNG use.

Japan has been a leader in working to establish a more affordable, reliable, and flexible LNG market. High costs and inflexibility have long been a concern for Japan, which has consistently criticized what it sees as a structurally higher price for LNG in Asia compared with elsewhere—that is, the "Asian LNG premium." In the aftermath of the Fukushima Daiichi disaster, LNG supplies and costs have taken on much greater urgency. Japan's efforts since 2011 have contributed to developing a more flexible LNG market and more responsive contracts, and these efforts need to be continued and expanded by the rest of the region. For example, Tokyo has initiated a new LNG producer-consumer dialogue that provides an annual forum for finding common ground between producers and consumers on expanding the LNG market along with market changes and reforms. Japanese utilities TEPCO (Tokyo Electric Power Company) and Chubu are combining their LNG purchasing to exercise greater influence over prices and contract arrangements. This partnership will make the companies the largest single buyer of LNG in the world. Also, for the first time, Japanese and South Korean LNG buyers have established joint-purchasing arrangements to increase their ability to negotiate better prices and more flexible terms from LNG suppliers.

These and other measures need to be pursued across the region to strengthen LNG markets through making prices more affordable. In particular, stakeholders need to work to speed the development of LNG spot markets and possible trading hubs. Singapore is trying to build a major new LNG trading hub that would cast the country in a role comparable to the one it currently plays as a trading hub for oil product, and Japan is developing its own LNG trading hub. This could significantly increase the efficiency and geographic flexibility of the market and lead to gas-on-gas competition that could make LNG more affordable in Asia.

Additionally, greater progress needs to be made on introducing more flexible pricing and destination requirements in LNG contracts that have been dominated by oil-linked pricing. An important dimension of this initiative is the introduction of U.S. Henry Hub–based pricing into Asian LNG supplies and new contracts. New LNG supplies from the United States arriving over the next five to ten years should influence contract prices for other supplies. Henry Hub pricing elements are already being included in some contracts through new long-term pricing formulas. Furthermore, destination clauses that restrict the ability to redirect contracted supplies to other markets need to be loosened to create a more liquid and flexible market. U.S. LNG supply contracts do not contain these destination restrictions and could help accelerate these changes in order to make pricing more transparent and less rigid.

Reducing market barriers. Efforts by governments and key market players are needed to reduce barriers to exporting new LNG supplies for Asia. The United States is particularly important here. The approval process for permitting U.S. LNG exports to countries that do not have free trade agreements with the United States is far too cumbersome and slow. Although a number of projects

have now been approved after years of effort, many more projects still await approval. The process should be simplified and sped up.

Moreover, the United States needs to consider ending its 40-year ban on exports of crude oil. This policy no longer makes sense in an era of rising U.S. oil production and declining dependence on oil imports. U.S. light, tight oil, which increasingly has no room in the U.S. heavy oil–dominated refining system, would be highly valued in the Asian refining market. And Asia strongly needs to diversify its crude oil imports away from the Middle East as much as possible.

Accelerating domestic energy market reform. Asian states need to accelerate domestic energy market reform. Across the region, markets tend to be dominated by a single state company monopoly and state-controlled pricing. This breeds uncompetitive companies, rigid energy systems, and severe price distortions. In the event of major price changes or supply disruptions, domestic energy markets are unable to adapt quickly to rebalance supply and demand. Further, the region is riddled with enormous energy subsidies. Such artificially low energy prices encourage more rapid demand growth while at the same time discouraging new investment in energy supplies. The results are chronic energy shortages and huge drains on government budgets needed for more important social and infrastructure investment.

Domestic energy markets across the region need to be pushed toward more competitive arrangements, reduced energy monopolies, and lower subsidies in order to make energy markets more adaptable to changing conditions. This effort has been ongoing in many countries but needs to be accelerated. On the positive side, both the Narendra Modi government in India and the Joko Widodo government in Indonesia have used the window of opportunity provided by very low oil prices to begin removing and lowering damaging oil subsidies. Tokyo is forging ahead with unbundling its regional utility markets to create more competitive power and natural gas markets. Beijing has been gradually freeing up energy pricing to moderate energy demand growth and encourage investment in new supplies. But uncompetitive national monopolies still dominate the landscape in the region and subsidies remain widespread. More flexible and competitive energy markets are vital to strengthening the region's energy security and adaptability.

Sustaining the role for Asian investment. Asian governments need to move much more decisively on encouraging new investment in both oil and natural gas exploration and development. Although Asia has more limited geological prospects than other regions, there exist major resource opportunities that are limited by tight control over foreign and private investment in oil and gas exploration and development. China, India, and Indonesia are just three examples of countries where more flexible approaches to incoming investment could lead to significant new oil and gas supplies over the longer term. China could also benefit from attracting more investment to its enormous shale gas resources.

Addressing the promise and the uncertainty of Russia-Asia energy ties. Russia presents a special case: the market opportunity to increase and diversify supplies of oil and gas to Asia is enormous, but major new strategic tensions and constraints stand in the way of allowing markets to direct the supplies from where they are located to where they are needed. On the one hand, Russia is already a significant supplier to Asia through both its Eastern Siberia–Pacific Ocean (ESPO) oil pipeline and LNG and oil supplies from the two Sakhalin Island projects. Russia has further pivoted to Asia in energy terms with its large new natural gas pipeline deal with China. However, Japan and South Korea have aligned with the West on sanctions on Russia for its policies in Ukraine, which limits their ability to work with Moscow on new pipeline and LNG projects. Two possible LNG

projects in the Russian Far East already appear to be likely casualties of these sanctions. Russia's new gas export plans now seem to be concentrated on pipeline gas to China, from which Japan and South Korea could only benefit through possible pipeline connections from China. Hence, Asia as a whole would benefit greatly in energy terms if a resolution between the West and Russia on Ukraine led to a removal of existing sanctions.

Continuing broader efforts to strengthen regional ties. There are other areas where government action could improve energy market integration, flexibility, and supply security. In Southeast Asia, opportunities exist to create a more integrated natural gas grid by speeding the development of the Asian gas grid concept. Both Northeast and Southeast Asia also present great potential for more integrated, cross-border power grids. These systems, however, need stronger collaboration among regional governments.

In sum, enormous opportunities exist in Asia to increase the flexibility and adaptability of regional oil and gas markets. Such efforts would enhance the region's energy security in a new era of growing dependence on an increasingly unstable Middle East. As the preceding discussion shows, strong markets and rising investment are key elements of this new energy security architecture.

Conclusion

NBR's initiative "Adapting to a New Energy Era" has worked to develop an approach to shaping a new energy security architecture for the Asia-Pacific. The project is a response to the profound changes in U.S. oil and gas production, major shifts in global energy demand and flows toward Asia from the Middle East, changing conditions on the ground in the Middle East, and rapidly evolving Asian energy market dynamics. The old post-1973 Pax Americana energy order that depended largely on U.S. power to secure energy flows from the Middle East, traditional global cooperative institutions like the IEA, and rigid markets in Asia for LNG, along with uncompetitive domestic energy markets and expensive subsidies, no longer suffices to meet the future energy security interests of the Asia-Pacific region.

Because of their strong traditional partnership, common view of the changing energy market situation, and commitment to regional cooperation as the most effective approach to the region's key economic and strategic challenges, the United States and Japan must lead efforts to shift to a new energy security paradigm in the Asia-Pacific. It is also important that, if possible, China should become a strong partner in this effort as well. Workshops in Washington, Tokyo, and Beijing indicated that there are grounds for the three countries to forge a common view of these new energy security challenges. But discussions also showed that substantial differences remain over strategic goals in the Middle East and Asia, the shape of Asia's future energy cooperation and governance, and the pace of reform of the region's energy markets.

Efforts in the three areas outlined in this report will be critical for future progress. First, in the security and strategic realm, the United States, Japan, China, and other Asian powers need to work to find a more collaborative approach to addressing growing instability in the Middle East and potential threats to the maritime transportation of Persian Gulf energy supplies to Asia. These states share a fundamental interest in the stability of the Middle East and Persian Gulf. If the United States, Japan, China, and other powers cannot always work via close, overt cooperation, parallel efforts and loose coordination may suffice to strengthen the security of energy production and flows in the region. As an example, in antipiracy efforts in the Gulf of Aden, China operates

independently of the main coalition of countries but also cooperates broadly in pursuing the same mission. Better collaboration could be kick-started with a Shangri-La Dialogue approach that helps build confidence on the key powers' energy intentions, provides a basis for encouraging practical cooperation, and helps prevent energy distrust from becoming a more toxic element in regional strategic competition.

Second, in the realm of energy institutions and governance, the expanding threats to the reliability of energy flows from the Middle East make it vital for the Asia-Pacific to build stronger institutions for regional energy cooperation that make energy markets more resilient to severe price volatility and potential supply shocks. Collaboration on building and sharing strategic oil stockpiles and potentially sharing LNG supplies in a crisis needs to be pursued. ASEAN in particular is deeply vulnerable to physical supply shocks due to the lack of strategic stockpiles. The United States and Northeast Asia have or are building large strategic stocks that could be organized to be shared more effectively with increasingly import-dependent Southeast Asia. The creation of an annual regional energy forum or dialogue is extremely important to advance this process. The 2006 Five-Country Energy Ministers Meeting provides a useful template for moving this initiative forward.

Finally, and looking beyond issues of near-term significance, in order to strengthen their energy security, countries in the Asia-Pacific should on their own, as well as collectively, take major steps to create more flexible, adaptable, affordable, and transparent energy markets in the region. LNG markets, for example, are ripe for major contract and pricing reforms that will strengthen energy security and improve environmental outcomes. The United States in particular needs to move forward more quickly on permitting new LNG supplies for Asia and on ending its ban on crude oil exports. At the same time, Asia needs to reform its LNG market to create regional trading hubs, LNG price competition, and more flexible contracts. The region also desperately needs to accelerate domestic reform and reduce damaging energy subsidies in order to create energy markets that can better adjust to inevitably volatile conditions and the unavoidable potential for severe supply disruptions.

The United States, Japan, China, and the entire Asia-Pacific region face a fundamentally changed set of global and regional energy security challenges. Addressing these issues will require much greater collaboration that recognizes that energy security is not a zero-sum game of national competition and advantage. It is, in reality, a positive-sum game when approached as a set of common and mutual issues. The region needs to rise to the challenge.

ADAPTING TO A NEW ENERGY ERA

A New Strategy for U.S., Japanese, and Asian Energy Security

About the Project

World energy markets have undergone a seismic shift in the past ten years, driven by the unexpected boom in U.S. and Canadian production of shale gas, tight oil, and heavy oil. These changes have accelerated an already steady decline in U.S. imports of Middle East oil and gas, while China, Japan, and the rest of Asia have emerged as major importers of oil and natural gas from the Persian Gulf. As the United States continues its rebalancing to Asia, broad changes in both energy markets and global strategic priorities suggest that there is an urgent need for the United States and Asia to revamp their energy-security strategies and approaches to stabilizing the Gulf.

Project Activities

Through a range of activities—including field research, commissioned papers, workshops, and dialogues with key stakeholders—"Adapting to a New Energy Era" aims to provide in-depth and academically rigorous research into how the United States, Japan, South Korea, China, and others can craft stronger diplomatic, strategic, and economic tools to support common energy security interests. Year two of this initiative (2014–15) will feature activities in Washington, D.C., Japan, and China.

Japanese Research Fellows

Energy security is an emerging yet rapidly evolving field, with significant, long-term implications for the geopolitical, economic, and environmental health for the Asia-Pacific. With this in mind, this initiative includes an explicit effort to engage young Japanese researchers whose research will play a vital role in informing and shaping a new generation of energy policy research in the region.

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As economies in the Asia-Pacific region continue to grow at astonishing rates, the Pacific Energy Summit aims to foster economic and energy security in the Asia-Pacific by developing practical solutions to the dual challenges of rising energy demand and global climate change. The annual, invitation-only Summit convenes 200 global leaders to articulate practical and tenable policy solutions to energy and environmental challenges.

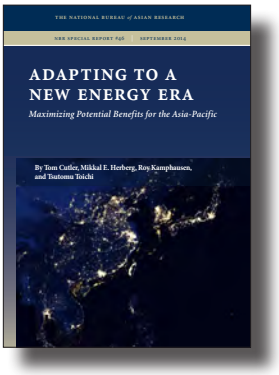
PACIFIC
ENERGY SUMMIT

Energy Security Program

Dramatic developments are taking place in Asian energy markets, and these changes will affect the geopolitical situation in the Asia-Pacific region. Rising demand has led to increasing dependence on energy imports and a growing sense of energy insecurity among the major Asian powers. To address these issues, this initiative convenes senior policy and industry leaders and Asia energy specialists from across the region for high-level discussions on Asia's energy policies and their geopolitical implications. Experts share insights and recommendations through an invitation-only spring workshop; NBR's annual Energy Security Report, which compiles expert essays on each year's specific topic; and a public fall launch event.

Adapting to a New Energy Era

An unexpected boom in U.S. and Canadian production of shale gas and tight oil has accelerated an already steady decline in U.S. imports of Middle East oil and gas. At the same time, China, Japan, and the rest of Asia have emerged as major importers of oil and natural gas from the Persian Gulf. This initiative aims to provide in-depth and academically rigorous research into how the United States, Japan, and other countries can craft stronger diplomatic, strategic, and economic tools to support common energy security interests.



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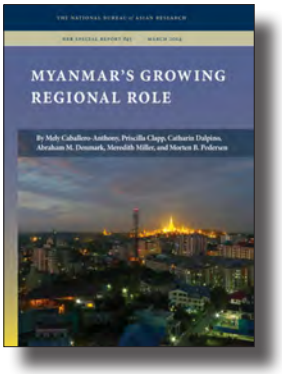

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Economies in the Asia-Pacific have shown unprecedented growth rates in recent years, and the United States aims to engage with the many burgeoning economies in the region. As India, China, and others work to further develop their economies, intellectual property and innovation policies have increasingly appeared in national and international discussions. To assess these key issues, NBR has developed projects looking at intellectual property protection and innovation policy development in the Asia-Pacific and how emerging players in the region continue to shape global discourse on the future of these policies.

Pacific Energy Forum

Broad and fundamental global energy shifts, along with rapidly evolving technologies and capabilities, suggest that Asia and North America need to fundamentally reconsider their current energy relationship. The Pacific Energy Forum gathers experts and leaders from Asia, the United States, and Canada to assess the key policy questions that will shape the future trans-Pacific energy relationship and enhance energy and environmental cooperation among key actors in the region.

PACIFIC ENERGY FORUM

For more information on these programs, please contact the Trade, Economic, and Energy Affairs group at eta@nbr.org.

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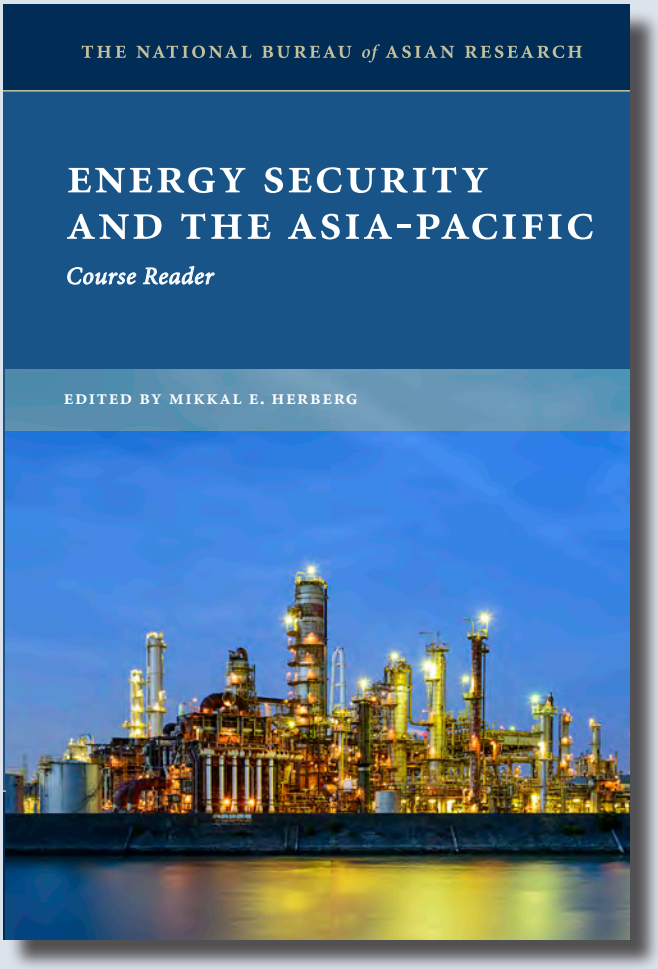
ENERGY SECURITY AND THE ASIA-PACIFIC

Course Reader



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The Asia-Pacific is now the center of growth in global energy and commodity demand. Driven by rapid and sustained economic development across the region, this shift has triggered important changes in global energy flows. It has also posed major new energy security challenges for Asian governments and fundamentally altered the geopolitics of global energy. This special collection of essays from leading experts in the field, selected from previous NBR publications, provides students with a strong foundation for understanding the trends and challenges shaping the energy security outlook for the Asia-Pacific and the world.

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