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Working Paper

Allied Energy Security: The Role of U.S. Oil and LNG Exports in U.S. Relations with Japan and South Korea

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NOTE: The views in this essay are those of the authors.

EXECUTIVE SUMMARY

This paper provides an overview of Japan's and South Korea's energy vulnerabilities, assesses the role of U.S. oil and liquefied natural gas (LNG) exports in strengthening both countries' energy security, and offers proposals for a trilateral energy security partnership.

Main Argument

Japan and the Republic of Korea (ROK) are overwhelmingly dependent on imported oil (and to a lesser extent LNG) from the Middle East and have an equally high dependence on vulnerable sea lines of communication. U.S. oil and LNG exports have the potential to enhance Japan's and South Korea's energy security by increasing supply diversification and providing alternative and more secure supply routes. More importantly, U.S. LNG is free of destination restrictions and de-linked from oil-indexed pricing, making it indispensable to Japan's strategy to shift toward a more flexible LNG procurement model as well as establish an LNG trading hub in Asia. The proposed trilateral energy security partnership is not a zero-sum game and therefore would contribute to Asia's overall regional energy security and environmentally sustainable economic development, while also strengthening the U.S. security alliances with Japan and the ROK.

Policy Implications

- To mitigate Japan's and South Korea's exceptionally high energy security risks, the U.S., Japan, and South Korea should establish a trilateral energy security commission with a working group tasked with promoting the joint development and procurement of U.S. oil and LNG exports that will increase supply diversification while providing alternative and more secure supply routes.
- The proposed working group should engage with the private sector to identify and prioritize areas for trilateral cooperation that take advantage of the structural evolution occurring in global oil and LNG markets, particularly the shift toward a more liquid and flexible LNG market in Asia with an eye toward supporting Japan's efforts to establish a regional LNG trading hub and benchmark.
- The working group should also closely cooperate with the private sector to finance and develop high-quality natural gas infrastructure and gas-fired power generation in developing Asia and beyond in order to alleviate energy poverty and mitigate dependence on coal.

Energy Risk Is an Alliance Risk

Since the oil supply shocks of the 1970s, the United States' two most important treaty allies in Asia—Japan and the Republic of Korea (ROK)—have faced an enduring set of formidable energy security challenges.[2] Both countries' economic security, and hence national survival, is vulnerable to a near total dependence on imported oil and liquefied natural gas (LNG), which is heavily concentrated in terms of both source of supply and supply routes. This exceptionally high level of import dependence and exposure to supply disruption is not only a national vulnerability; it is an alliance risk.

Trilateral energy security cooperation should therefore be elevated on the alliance agenda. Specifically, the parties should establish a trilateral energy security commission, to be co-chaired at the ministerial level. Recognizing that the only environmentally sustainable path to energy security is the shift toward a low-carbon economy in the longer term, Japan and South Korea face "inconvenient choices" in the quest for energy security.[3] With this in mind, leaders from all three countries should give immediate priority to standing up an oil and natural gas working group to address the near- to medium-term energy security risks through supply diversification, while working to reduce overall import dependence on fossil fuels by increased energy efficiency and

[2] For a recent discussion of Japan's energy security challenges, see Phyllis Genther Yoshida, "Japan's Energy Conundrum," Sasakawa Peace Foundation USA, February 21, 2017, https://spfusa.org/research/japans-energy-conundrum. For a discussion of South Korea's energy security situation, see Se Hyun Ahn, "Republic of Korea's Energy Security Conundrum: The Problems of Energy Mix and Energy Diplomacy Deadlock," *Journal of International and Area Studies* 22, no. 2 (2015): 67–87, https://www.jstor.org/stable/43748525?seq=1#page_scan_tab_contents.

[3] Mark C. Thurber, "Coal, Gas, or Nuclear: Asia's Inconvenient Energy Choice," National Bureau of Asian Research, http://www.nbr.org/downloads/pdfs/eta/PES_2016_WORKING_PAPER_THURBER.PDF

use of renewable energy. One of the most promising and immediate areas for trilateral energy cooperation is the joint development and procurement of U.S. oil and natural gas. Indeed, U.S. oil and LNG exports have the potential to enhance the energy security of Japan and South Korea by increasing supply diversification and providing alternative supply routes. U.S. LNG exports offer a flexible source of supply that is both free of destination restrictions and de-linked from oil-indexed pricing. They are thus indispensable to Japan's new LNG market development strategy to shift toward a more flexible procurement model as well as establish an LNG trading hub in Asia.[4] In addition, trilateral energy cooperation at the government and industry levels will further consolidate trilateral economic ties, improve overall trilateral diplomatic relations, and strengthen the U.S. security alliances with Japan and the ROK.

This paper provides an overview of the energy vulnerabilities of Japan and the ROK, assesses the role of U.S. oil and LNG exports in strengthening Japan's and South Korea's energy security, and offers proposals for a trilateral energy security partnership. The authors argue that trilateral cooperation, if exercised with strategic foresight, will not only strengthen Japan's and South Korea's energy security but significantly contribute to Asia's overall energy security by accelerating the shift toward a more liquid and flexible regional LNG market. In its fullest expression, trilateral energy cooperation can also contribute to environmentally sustainable development in Asia and beyond by promoting the financing and development of high-quality natural gas infrastructure and gas-fired power generation to alleviate energy poverty and mitigate

[4] Ministry of Economy, Trade and Industry (METI), "Strategy for LNG Market Development: Challenges and Countermeasures toward the Creation of Flexible LNG Market and LNG Trading Hub in Japan," May, 2, 2016, http://www.meti.go.jp/english/press/2016/pdf/0502_01a.pdf.

reliance on coal.

Solving the Energy Security Puzzle

As a result of geology and geography, Japan and South Korea are virtually deplete of oil and natural gas resources and also lack access to international pipelines. As a result, both U.S. treaty allies are overwhelmingly dependent on imported oil, and to a lesser extent imported LNG, from the Middle East—a region prone to geopolitical and security risks. This entails a corollary risk—an equally high level of dependence on sea lines of communication (SLOC) that transit the most contested open seas (Persian Gulf, East China Sea, and South China Sea) and vulnerable chokepoints (Strait of Hormuz and Strait of Malacca) in the Indo-Pacific maritime domain.

Despite decades of diversification efforts, Japan and South Korea have not significantly reduced their import dependence on Middle East oil (although Japan has successfully reduced its overall volume of oil imports). In 2016, Japan imported 3.31 million barrels per day (bd), of which 86.6% was sourced from the Middle East.[5] In 2015, South Korea imported 2.8 million bd, with 82.4% of its oil imports coming from the Middle East. This percentage increased to 86.2% in the first eleven months of 2016 as imports from Iran jumped 144% to 296,182 bd.[6] In both cases, Saudi Arabia is the main supplier.

[5] For data on Japan, see U.S. Energy Information Agency (EIA), "Country Analysis Brief: Japan," February 2, 2017, https://www.eia.gov/beta/international/analysis.cfm?iso=JPN. For data on South Korea, see EIA, "Country Analysis Brief: South Korea," January 19, 2017, https://www.eia.gov/beta/international/analysis.cfm?iso=KOR.

[6] Charles Lee, "South Korean Reliance on Mideast Crude Set to Grow Further in 2017," Platts, December 29, 2016, http://www.platts.com/latest-news/oil/seoul/analysis-south-korean-reliance-on-mideast-crude-27739996.

The LNG landscape is somewhat more balanced. As the world's largest LNG importer, Japan's imports peaked at 88.51 million tonnes (mt) in 2014 in the wake of the 2011 Fukushima Daiichi nuclear disaster that led to a full, and then a partial, shutdown of nuclear power generation. Yet Japan's LNG portfolio is well diversified and sourced closer to home, with 63% coming from Australia and Southeast Asia. While Qatar is Japan's second-largest supplier (15%), only about 24% of Japan's LNG is from the Middle East. South Korea, the world's second-largest LNG importer, imports 33–34 mt per annum (mtpa), primarily from Qatar (37%). Yet South Korea has a higher level of import dependence on the Middle East (51%) and therefore greater risk exposure to supply disruptions along its SLOCs to the Persian Gulf.[7]

Such highly concentrated import dependence creates vulnerabilities and risks for the U.S. security alliance system in Asia. While increased U.S. oil and LNG exports have the potential to mitigate these risks, Japan and South Korea will likely remain dependent on Middle East supplies, particularly for oil imports. Therefore, political stability in the Middle East and the security of vulnerable SLOCs will continue to be vital to Japan's and South Korea's energy security for the foreseeable future. These risks and vulnerabilities have strategic implications for policymakers and alliance handlers on both sides of the Pacific; yet they also present opportunities to deepen trilateral energy cooperation.

The upside potential for the joint production of U.S oil and LNG for offtake by Japan and South Korea is significant. U.S. crude oil production is expected to add 330,000 bd to reach 9.2 million bd in 2017 before rising to 9.7 million bd in 2018, making the U.S. a top-three oil producer

[7] See EIA, "Country Analysis Brief: Japan"; and EIA, "Country Analysis Brief: South Korea."

along with Saudi Arabia and Russia. The outlook for U.S. natural gas is similarly robust. Production of dry gas is expected to increase by 0.8 billion cubic feet per day (bcfd) to 73.1 bcfd in 2017, followed by a 4.0 bcfd increase in 2018.[8] Together, this makes the United States the world's largest producer of petroleum and natural gas. On the back of this supply growth, the United States has the potential to become an important energy exporter in the future.

To be sure, Japan and South Korea are looking to potentially increase imports of U.S. oil and LNG to enhance energy security, as well as to align their energy strategies with President Donald Trump's trade agenda. The proposed border adjustment tax, which would levy a 20% tax on imports but none on exports, would incentivize U.S. oil and LNG exports. Yet a multitude of risks and uncertainties exist in the oil and LNG markets, including the potential negative implications of the Trump administration's economic nationalism. Despite opportunities for trilateral cooperation, these uncertainties are a cause of concern for energy companies as well as technocrats in Tokyo and Seoul.

Mixed Outlook for U.S. Oil Exports

For Japan and South Korea to reduce their dependence on Middle East oil from approximately 86% to 50% (an arbitrary threshold for demonstrative purposes) would require the replacement of approximately 1.2 million bd and 1.0 million bd, respectively. How much U.S. oil will eventually be sold to Asia on a long-term basis will depend primarily on numerous commercial variables, including oil prices, tanker rates, refining economics, and arbitrage opportunities, rather

[8] EIA, "Short-Term Energy Outlook," March 7, 2017, https://www.eia.gov/outlooks/steo/archives/Mar17.pdf.

than on government policies. After Washington lifted the 40-year-old ban, U.S oil exports to Asia increased from 4,000 bd in 2015 to 54,000 bd in 2016. Nearly half of these cargoes were shipped to China, with smaller volumes sold to Japan, South Korea, Singapore, and Thailand.[9] In 2016, Asia received only 10% of U.S. oil exports, or 521,000 bd. The majority of oil exports still go to Canada (58%) with other cargoes sold to Europe and Latin America.[10]

However, exports from the U.S. Gulf Coast to East Asia have experienced a recent boom as a result of the price differential between Mars crude oil (a conventional crude produced in the U.S. Gulf of Mexico) and Dubai/Oman crude oils (a Middle East benchmark).[11] This spread can be partially attributed to the OPEC/non-OPEC supply cut agreement in December 2016 that reduced the availability of medium-sour crudes. Indeed, U.S. exports include not just light tight oil (LTO) produced from shale plays but also heavier crude, such as oil from the Gulf of Mexico. China's state-owned refiners, as well as independent "teapot" refiners, are emerging as leading Asian buyers of U.S. crude exports—loading 2.6 million barrels of heavier crude so far this year.[12]

Even if U.S. crude exports to Japan and South Korea achieve sufficient volume and regularity to reduce the two U.S. allies' dependence on the Middle East, this would only partially mitigate their reliance on vulnerable shipping routes and maritime chokepoints. This is because

[9] Takeo Kumagai et al., "Asia Seen Spoilt for Choice as More U.S. Light Oil Becomes Available," Platts, March 2, 2017, http://www.platts.com/latest-news/oil/tokyo/analysis-asia-seen-spoilt-for-choice-as-more-27781634.

[10] Mason Hamilton, "U.S. Crude Oil Exports Went to More Destinations in 2016," EIA, March 28, 2017, https://www.eia.gov/todayinenergy/detail.php?id=30532.

[11] EIA, "Short-Term Energy Outlook."

[12] Florence Tan and Liz Hampton, "After OPEC Cuts Heavy Oil, China Teapot Refiners Pull U.S. Supply to Asia," Reuters, February 21, 2017, http://www.reuters.com/article/us-china-oil-usa-idUSKBN15Z0RS.

cargoes loaded onto very large crude carriers (VLCC) that hold 1.9–2.2 million barrels of crude oil cannot utilize the Panama Canal. While Long Range 2, Aframax, or partially loaded Suezmax tankers are now able to transit the Panama Canal, these smaller cargoes are not as economically competitive as VLCCs.[13] Instead, VLCCs departing the U.S. Gulf Coast must sail around Africa's Cape of Good Hope and across the Indian Ocean through the Strait of Malacca and the South China Sea. Therefore, U.S. oil exports may reduce Japan's and South Korea's exposure to supply disruptions in the Persian Gulf and Strait of Hormuz but not in the Strait of Malacca, South China Sea, or East China Sea.

U.S. LNG as a Potential Game Changer

U.S. LNG exports are likely to have a much greater direct impact than oil exports on Japan's and South Korea's diversification of supply sources and routes. The United States is positioned to become the third-largest LNG exporter in the world behind Australia and Qatar by 2021, with five planned LNG export facilities with 9.2 bcfd capacity (69 mtpa) in operation or under construction.[14] Over 4.0 bcfd is under long-term supply contracts to Asia—mostly to Japan and South Korea. Importantly for Asian buyers, the contractual terms include tolling agreements, have no destination clauses, and are indexed to Henry Hub spot prices.[15]

[13] Mason Hamilton, "Panama Canal Expansion Unlikely to Significantly Change Crude Oil, Petroleum Product Flows," EIA, June 23, 2016, https://www.eia.gov/todayinenergy/detail.php?id=26792.

[14] Victoria Zaretskaya, "Expanded Panama Canal Reduces Travel Time for Shipments of U.S. LNG to Asian Markets," EIA, June 30, 2016, https://www.eia.gov/todayinenergy/detail.php?id=26892.

[15] Hiroshi Hashimoto, "A New Phase of the Global LNG Market Development—Rapid Expansion of Production Capacity and Uncertain Demand Prospects," Institute of Energy Economics, Japan (IEEJ), January 2017,

As a point of distinction, U.S. LNG exports to East Asia are shipped via the Panama Canal, which now will accommodate 90% of the global LNG tankers with carrying capacity up to 3.9 bcf rather than only 6%, as was previously the case.[16] This route makes long-haul LNG trade between the U.S. Gulf Coast and East Asia more competitive, cutting transit times (and therefore costs) to Japan to 20 days from 31 days (through the Suez Canal) or 34 days (around the southern tip of Africa). More importantly, this opens up a new LNG supply route that reduces Japan's and South Korea's reliance on the vulnerable SLOCs that transit the Persian Gulf to East Asia.

However, U.S. LNG exports must compete with a surge in Australian LNG capacity coming online from four megaprojects that will add nearly 36.5 mtpa during the same time frame.[17] Not only is Australian LNG closer in proximity, but Japanese and South Korean companies also are equity partners in several of these projects.

While it has been widely assumed that most U.S. LNG exports would be sold to Asian markets, initial cargoes from the Sabine Pass LNG facility were shipped to Mexico and other Latin American buyers. Deliveries to East Asia picked up more recently, with eleven cargoes shipped between November and January.[18] Likewise, not all U.S. LNG cargoes procured by Japan and South Korea will be consumed domestically; instead, many cargoes may be resold because there

https://eneken.ieej.or.jp/data/7154.pdf.

[16] Zaretskaya, "Expanded Panama Canal Reduces Travel Time."

[17] Henning Gloystein, "Australia's Gas Projects Face Major Delays, Benefiting the U.S.," January 27, 2017, *Sydney Morning Herald*, http://www.smh.com.au/business/australias-gas-projects-face-major-delays-benefiting-the-us-20170126-gtzody.html.

[18] Luke Stobbart, "U.S.' Sabine Pass LNG Exports Hit Record High in January," Platts, February 10, 2017, http://www.platts.com/latest-news/natural-gas/london/us-sabine-pass-lng-exports-hit-record-high-in-21865599.

are no destination restrictions. Japan, in particular, is looking to resell U.S. LNG in an effort to establish a regional trading hub and new benchmark price.[19] Another driver in the push to resell contracted LNG is that Japan is set to be significantly oversupplied from 2017 to 2021, as domestic demand is expected to decline.[20] By some estimates, Japanese buyers will be left with a surplus of 12.2 billion cubic meters (bcm) in 2017 and 8.6 bcm in 2019.[21]

In response, JERA, a joint venture between Tokyo Electric Power Company and the Chubu Electric Power Company formed in 2015 that has replaced the Korea Gas Corporation (KOGAS) as the world's single-largest LNG buyer (40 mtpa), plans to market LNG globally.[22] Specifically, the joint venture is looking to resell part of its 2.2 mtpa of contracted Freeport LNG to Europe once the project becomes operational in 2018, and it recently signed an agreement to market Toshiba's 2.2 mtpa share as well.[23] In further alignment with Japan's new national LNG strategy, JERA plans to reduce the volume of LNG that it holds under long-term contracts from 35 mtpa to 15 mtpa by 2030 as it shifts to a more flexible procurement portfolio consisting primarily of short-

[19] METI, "Strategy for LNG Market Development."

[20] Credit Suisse, "LNG Contracts in Japan," July 21, 2016, https://doc.research-and-analytics.csfb.com/docView?language=ENG&format=PDF&document_id=807253520&source_id=emcms&serialid=p82u1mMFpge%2BCnV5NxveJgbCumQOLoDfuAm88bFcrOs%3D.

[21] Stephen Stapczynski and Emi Urabe, "Japan to Seek LNG Contract Details Amid Resale Probe," Bloomberg, November 16, 2016, https://www.bloomberg.com/news/articles/2016-11-16/japan-said-to-seek-lng-contract-details-in-resale-clause-probe.

[22] Eriko Amaha, "Interview: Jera Eyes Selling U.S. Freeport LNG Volume to Europe as Alternative to Japan," Platts, May 28, 2015, http://www.platts.com/latest-news/natural-gas/tokyo/interview-jera-eyes-selling-us-freeport-lng-volume-26103915.

[23] "Toshiba Stuck with Billions in Unsold Gas on Top of Nuclear Troubles," *Japan Times*, January 21, 2017, http://www.japantimes.co.jp/news/2017/01/21/business/corporate-business/toshiba-stuck-billions-unsold-gas-top-nuclear-troubles/#.WRBs5Ny1t2E.

term contracts and spot-market purchases, preferably without destination restrictions.[24]

The ongoing implementation of plans to fully deregulate Japan's electricity and city gas markets adds greater demand uncertainty and underscores the importance of a flexible procurement strategy in which U.S. LNG will play an indispensable role. Another major driver is the pending outcome of an investigation by the Japan Fair Trade Commission into whether destination clauses in long-term LNG sale and purchase agreements involving Japanese buyers violate Japanese competition laws. An affirmative determination could lead to the renegotiation of Japan's existing agreements (80% of which are long-term contracts) with major suppliers. This would be a significant step in revolutionizing the LNG market in Asia and would also set a precedent for other regional players, such as South Korea, China, Taiwan, and India.

Toward this end, JERA is pursuing joint procurement agreements with other major importers to increase its bargaining power relative to major exporters such as Australia, Malaysia, and Qatar. The Japanese venture recently signed a memorandum of understanding with KOGAS and China National Offshore Oil Corporation (CNOOC)—which together account for one-third of global LNG purchases—to discuss cooperation on joint procurement of LNG, joint participation in upstream projects, and cooperation on LNG shipping and storage.[25]

Further supporting the need for the proposed trilateral energy security partnership is the conundrum Japan faces in replacing a substantial loss of nuclear power generation. The

[24] JERA, "JERA Business Plan," February 10, 2016, https://www.jera.co.jp/english/information/pdf/20160210_01.pdf.

[25] JERA, "Conclusion of Tripartite MOU between JERA, KOGAS and CNOOC Concerning Cooperation in LNG Business," March 23, 2017, http://www.jera.co.jp/english/information/20170323_87.html.

government's "Long-term Energy Supply Demand Outlook" from July 2015 advocates that nuclear power constitute 20%–22% of the energy mix for power generation in 2030, while 27% would come from LNG, 26% from coal, and 20%–24% from renewables.[26] However, as of the time of writing, only 3 nuclear reactors are operating out of 44 operable reactors, contributing more or less 1% to the energy mix. Nearly half the Japanese population is still opposed to restarting nuclear reactors, according to a NHK survey released on January 11, 2017. Complicating this issue further, 27 reactors will exceed 40 years by 2030, and extending the operating life of such a large number of reactors will face obvious hurdles.

At this stage, therefore, Japan's reliance on other energy sources for power generation is expected to rise. Renewable energy—the optimal choice for environmental reasons—faces the downside of intermittency and high cost, which in Japan is two or three times the global average.[27] Coal is still the most polluting energy source, despite Japan being the world leader in advanced and highly efficient so-called clean coal technologies. Although Japan plans to build 45 new coal-fired power plants over the next decade, coal's share in the energy mix is targeted to decline from its 2015 peak of 31%.[28] Thus, considering the uncertainties and constraints facing nuclear, renewables, and coal, LNG will be among the most favored choices to fill the gap resulting from the substantial loss of nuclear power—particularly if Japan is to meet its 21st Conference of the

[26] METI, "Long-Term Energy Supply and Demand Outlook," July 16, 2015, http://www.meti.go.jp/english/press/2015/0716_01.html.

[27] Ken Koyama, "2017 Energy Outlook for Japan and the World," IEEJ, January 5, 2017, https://eneken.ieej.or.jp/data/7130.pdf.

[28] Nathan Richardson, "Japan Plans to Build 45 New Coal Power Plants in Next Decade: EIA," Platts, February 3, 2017, http://www.platts.com/latest-news/coal/sydney/japan-plans-to-build-45-new-coal-power-plants-27762428.

Parties goal of reducing 2013 greenhouse gas emissions by 26% before 2030.

An Indispensable U.S Role

U.S oil and LNG exports have the potential to serve as a strategic hedge against Japan's and South Korea's import dependence on Middle East supplies and exposure to supply disruption along vulnerable SLOCs. Equally, if not more importantly, U.S. LNG exports offer to play an indispensable role in Japan's strategy to shift toward a more flexible model for LNG procurement as well as to establish an LNG trading hub in Asia.

To begin with, U.S. oil exports are likely to make an important contribution to the diversification of supply sources as well as supply routes for Japan and South Korea. While U.S. oil exports must still make the long haul around the southern tip of Africa during normal market conditions, this route avoids the Persian Gulf and the Strait of Hormuz. During exigent circumstances—such as a blockade of the Strait of Malacca or a military conflict in the South China Sea—U.S. oil could be shipped via the Panama Canal, albeit at a premium.

Second, by increasing global supply, putting downward pressure on oil prices, and increasing market competition, U.S. oil exports also indirectly contribute to Japan's and South Korea's energy security. Indeed, as a result of the global oil supply overhang, major Middle East suppliers (Saudi Arabia, Iran, and Iraq), as well as Russia, are vigorously competing for Asian market share—the main driver of incremental growth in demand.

Third, the ability of U.S. LNG tankers to transit the expanded Panama Canal opens up a new supply route for Japan and South Korea that avoids chokepoints such as the Strait of Hormuz and

the Strait of Malacca as well as the contested South China Sea. This has important strategic implications, particularly for South Korea, considering the country's high dependence on LNG imports from the Middle East.

Overall, the combined effects of U.S. oil and LNG exports on the Asian LNG market may be significant. By pushing down oil prices, U.S. oil exports are indirectly lowering the prices that Japan and South Korea pay for LNG, since the majority of their long-term supply contracts are currently still indexed to oil prices. The contractual terms for U.S. LNG exports—which are revolutionary—are empowering Japan and South Korea to challenge long-standing contractual models and pricing formulas. As a result, U.S. LNG exports promise to play an instrumental role in Japan's strategic ambitions to establish a regional LNG hub and shift toward a flexible procurement model. In this respect, the potential indirect benefits of U.S. oil and LNG exports to Japan and South Korea may be even more consequential than the direct contributions to the diversification of supply sources and supply routes.

Toward a Transformational Energy Partnership

In light of the above risks and opportunities, the United States, along with its allies Japan and South Korea, should establish a Trilateral Energy Security Commission co-chaired at the ministerial level. Immediate priority should be given to standing up an oil and natural gas working group, with the near-term objective of leveraging the joint development and procurement of U.S. oil and LNG. Additional working groups should be tasked with promoting nuclear energy, renewable energy, and energy efficiency, with the long-term objective of achieving an

environmentally sustainable, low-carbon economy. Other working groups should address the protection of critical energy infrastructure (including that related to maritime security and cybersecurity) and coordinated emergency responses. The ongoing, and likely persistent, conundrum of nuclear power in Japan adds particular importance and urgency to this proposal.

This proposal builds on several current and recent bilateral mechanisms, such as the Japan-U.S. Energy Strategic Dialogue, U.S.-Japan Bilateral Commission on Civil Nuclear Cooperation, and U.S.-Japan Clean Energy Policy Dialogue, but with the important distinction of consolidating all aspects of energy security into one forum by including South Korea within a trilateral arrangement. Indeed, the sixth round of trilateral vice foreign ministerial consultations were held in Washington, D.C., in January and included energy security on the agenda. However, within this broader framework, the topic of energy security is easily overshadowed by more pressing geopolitical and security issues—such as North Korea. A second shortcoming is that any comprehensive discussion of energy security needs to include not just the respective vice foreign ministers but the vice ministers of energy and other relevant ministries and agencies.

The proposed commission should engage with the private sector to identify and prioritize areas for trilateral cooperation that take advantage of the structural evolution of global oil and LNG markets, particularly the shift toward a more liquid and flexible LNG market in Asia with an eye toward supporting Japan's strategy to establish a regional LNG trading hub and regional benchmark. By bringing to the market a reliable and secure supply of U.S. oil and LNG, as well as nudging the market toward a more flexible LNG procurement model, the proposed trilateral energy partnership would benefit all of Asia's energy consumers and contribute to overall Asian energy security.

Furthermore, as demonstrated by the cooperation agreement among JERA, KOGAS, and CNOOC, Asian energy security is not a zero-sum game. The proposed trilateral energy security partnership should serve as the foundation for broader energy security initiatives that include, but are not limited to, cooperation with other major consumers, such as India and China, as well as with other major producers, such as Australia and Indonesia.

Beyond promoting Japanese and South Korean investment in U.S. upstream oil and natural gas projects and LNG export facilities, the proposed commission should facilitate public-private partnerships to finance and develop LNG import, storage, and distribution infrastructure, along with gas-fired power plants, in developing countries, particularly India, Indonesia, Myanmar, the Philippines, and Thailand. This would achieve several key objectives, including increasing demand for U.S. LNG exports, deepening the Asia-Pacific LNG market, and expanding the flexible LNG procurement model. Importantly, this proposal would also help developing Asian countries meet environmentally sustainable economic development needs and alleviate energy poverty.[29]

Such an approach would be closely aligned with two of Japan's strategic initiatives: the Enevolution Initiative and the Partnership for Quality Infrastructure.[30] Launched separately in 2015, these two initiatives reflect an ambitious trade policy and economic security strategy centered on exporting high-quality infrastructure packages in areas where Japan has a competitive

[29] Lauren C. Culver, "Framework for Understanding the Role for Natural Gas in Reducing Energy Poverty," Stanford Natural Gas Initiative, March 2017, https://ngi.stanford.edu/sites/default/files/Framework_Gas_Energy_Poverty.pdf.

[30] METI, "'Enevolution Initiative for Driving Overseas Expansion of Energy Industry through Export of Infrastructure Was Launched," May 25, 2015, http://www.meti.go.jp/english/press/2015/0525_03.html.

advantage, such as energy, telecommunications, transportation, and water supply/sanitation.[31]

Last, the proposed trilateral energy security partnership will further consolidate economic ties and improve overall diplomatic relations as well as strengthen the U.S.-Japan-ROK security alliance. The importance of this contribution cannot be overstated given the uncertainties overshadowing Northeast Asia.

[31] Hidetaka Yoshimatsu, "Developmentalism and Economic Security in Japan's Export of Infrastructure System," Ritsumeikan Center for Asia Pacific Studies, Working Paper, April 19, 2017, http://en.apu.ac.jp/rcaps/uploads/fckeditor/publications/workingPapers/RWP_17001.pdf.

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The Asia-Pacific has reached a unique moment in its energy security outlook. As a result of the commercial viability of new supplies, the region's changing energy demand, and breakthroughs in technology, conversations are no longer dominated by concerns over tight markets and high prices,. Within this context, strengthening transregional energy cooperation could contribute to bolstering regional trade, geopolitical alliances, and the development of clean energy. However, stakeholders have disagreed on the specific tactics, policies, and tools that will help nations meet their energy and environmental security goals. Maximizing the benefits of this era of economic growth and energy abundance will require dedicated leadership and innovative policies.

A Collaboration between the National Bureau of Asian Research (NBR) and the Center for Energy Governance and Security (EGS) of Hanyang University

To explore these issues, NBR and EGS have partnered to examine options for policymakers to increase transregional cooperation and achieve energy security goals. Activities include working papers and policy briefs, roundtables and workshops, and private briefings. The partnership between NBR and EGS aims to enhance conversation around the shared interests of energy security in the Asia-Pacific and better incorporate specific considerations for the United States, South Korea, and other countries into ongoing dialogues.

About the Center for Energy Governance and Security of Hanyang University

EGS conducts dynamic research on today's global energy issues while bringing together groups of energy experts from the United States and major countries in the Asia-Pacific (South Korea, China, Japan, Singapore, and Australia). Furthermore, building upon a comprehensive network base from all three sectors (government, business, and academia), global energy governance, energy security, and region-specific issues of significance to the region will be actively explored and discussed.

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