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THE TRANS-PACIFIC PARTNERSHIP AS A PATHWAY FOR U.S. ENERGY EXPORTS TO JAPAN

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Two of the most important developments affecting world energy markets in recent years—the Fukushima nuclear accident in March 2011 and the shale gas boom that has made the United States the world's largest producer of oil and gas—have put a spotlight on future trends in U.S.-Japan energy trade. These developments have led to considerable speculation about the opportunities and obstacles for increased energy trade between the United States and Japan, and what role the Trans-Pacific Partnership (TPP) might have in expanding their energy relationship.

For Japan, the decision to shut down its nuclear plants after Fukushima and forgo nuclear power resulted in record levels of coal and liquefied natural gas (LNG) imports. Meanwhile, the United States has suddenly pivoted from being a major net energy importer to an emerging exporter of oil and gas as well as coal. This has led to an intense policy debate in the United States over energy exports and an even more heated debate in Japan over the future role of nuclear power.

The premise of this essay is that Japan's import dependence and the prospect for growing U.S. energy exports have the potential to take the U.S.-Japan trade relationship in energy to a new level. This essay provides an overview of Japan's energy scenario as well as examines the current status and future prospects for increased U.S.-Japan trade in coal, oil, and LNG. It concludes with an assessment of the potential impact of a TPP agreement on increased energy trade between Japan and the United States.

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The Changing Calculus of Japan's Energy Security

Japan is the world's fourth-largest energy-consuming nation. Its energy mix in 2012 was dominated by oil (47%), followed by gas (24%), coal (23%), renewables (5%), and nuclear (1%, down from 8% in 2011 and 13% in 2010). Even though Japan's energy demand will likely decline in the long run, the nation faces daunting energy security challenges because of a dependence on imports for over 90% of overall energy requirements. As such, Japan is the world's largest LNG importer, second-largest coal importer, and third-largest net oil importer.[1]

The Fukushima accident and subsequent nuclear shutdown sparked an immense shift in Japan's energy mix, particularly in terms of the country's sources of power generation. Before Fukushima, Japan had ranked as the third-largest generator of nuclear power in the world and the nation had a balanced portfolio for power generation. Nuclear power provided 26% of the country's electricity generation, while LNG and coal accounted for shares of about 27% each, followed by oil (9%), hydro (8%), and renewables (3%). After Fukushima, nuclear generation plummeted, and the gap in lost capacity was filled primarily by natural gas, which leaped to a 48% share, and oil, which jumped to 16%. This resulted in a soaring bill for fuel imports. According to the U.S. Energy Information Administration (EIA), fuel imports totaled $250 billion in 2012, a third of the country's total imports.[2] Regardless of whether some or all of Japan's nuclear reactors are restarted, the calculus of Japanese energy security has changed, with the United States playing an expanded role as a new energy supplier.[3]

1 For more on Japan's energy mix, see U.S. Energy Information Administration (EIA), "Japan Country Analysis: Overview," July 31, 2014, http://www.eia.gov/countries/analysisbriefs/Japan/japan.pdf.

2 EIA, "Japan Country Analysis," 1.

3 For an excellent update on Japan's nuclear outlook, see Jane Nakano, "Japan Nears Nuclear Restarts: But How Much and How Fast?" Center for Strategic and International Studies, December 4, 2014, http://csis.org/publication/japan-nears-nuclear-restarts-how-much-and-how-fast. For two thoughtful analyses of Japan's energy security shift, see Tsutomo Toichi, "Japan's Response to Its New Energy Security Challenges," National Bureau of Asian Research (NBR), NBR Special Report, no. 46, September 2014; and Mikkal E. Herberg, "Forging a New Strategy for U.S., Japanese, and Asian Energy Security," NBR, NBR Special Report, no. 46, September 2014.

The Outlook for U.S.-Japan Trade in Coal, Oil, and Natural Gas

Coal

Japan is 100% dependent on foreign coal to meet its needs. Even though several coal-fired power plants were damaged by the same Tohoku earthquake that triggered the Fukushima tsunami, from 2011 to 2012 Japan's imports of steam coal spiked by 10 million tons (mt) to 132 mt, as coal-fired plants elsewhere in the country ramped up their output to offset the drop in nuclear generation. The International Energy Agency (IEA) expects total coal imports in 2014 to reach 186 mt, including just over 50 mt in metallurgical coal. Although Japan's demand for coal is expected to grow even further, its trade in coal with the United States is still relatively modest. Japan relies on Australia for almost two-thirds of its coal imports, while the U.S. share is only 3%.[4] However, there is an opportunity for the U.S. share to grow given the abundance of coal that exists in the United States.[5]

The United States has the richest coal reserves in the world, equivalent to over two hundred years of domestic demand and over 25% of the global supply base. It recently became the world's third-largest coal exporter, due in part to cheaper shale gas displacing coal in U.S. power-generation markets. This coal was then shipped to Europe, where it replaced more expensive natural gas. As a result, coal exports more than doubled between 2009 and 2012 to a record 126 mt. Looking ahead, the EIA projects that U.S. coal exports will increase to 161 mt by 2040, with new exports mostly coming from the West Coast.[6]

4 Based on data provided by the IEA Secretariat to the author on July 18, 2014. Also see EIA, "Japan Country Analysis."

5 Shoichi Itoh, "A New Era of Coal: The 'Black Diamond' Revisited" (working paper presented at the Pacific Energy Forum, Seattle, April 23–24, 2014).

6 For more information on increases in U.S. coal exports, see EIA, *Annual Energy Outlook 2014* (Washington, D.C., May 7, 2014), table A-15, http://www.eia.gov/forecasts/aeo/er/pdf/tbla15.pdf; and EIA, *International Energy Outlook 2013* (Washington, D.C., 2013), 21.

The Powder River Basin (PRB) in Wyoming and Montana is likely the primary source of these potential new coal exports to Japan, as it contains the world's largest deposits of low-sulfur, sub-bituminous coal. The fifteen or so mines operating there produce 40% of U.S. steam coal output, and there is potential for expansion. Because of its large size and low production costs, PRB coal has been referred to by the IEA as a "game changer in global coal markets." An IEA analysis concluded that if 150 million tons per annum (mtpa) of export capacity came online in the Pacific Northwest, it would have the short-term effect of decreasing international coal prices by up to $15 per ton.[7] The IEA's assessment is that PRB coal can be competitive under the right set of market conditions as and when export rail and port links are built, "as long as coal does not carry a substantial cost burden as a result of policy intervention, e.g. for environmental purposes."[8]

Due to the limited capacity on the West Coast to export coal, there has been a surge in investment proposals for expanded port, rail, and mining infrastructure. The EIA estimates that plans to construct new ports in Oregon and Washington will add approximately 50 mt of annual export capacity and that another 100 mt of capacity could be constructed.[9] Thus, if the necessary railroad lines and port facilities are built, the United States could become a significant swing supplier of coal to Japan as PRB's low production costs and low-sulfur content offset higher transportation costs in comparison with other suppliers in Asia.

However, the outlook for increased coal exports out of the Pacific Northwest is clouded by environmental concerns and resistance by local stakeholders and "not in my backyard" (NIMBY) forces opposed to the new infrastructure.[10] In fact, the IEA concluded in its 2013 *Medium-Term Coal Market Report* that "while the Powder River basin is cost-competitive in Asian markets, we do not project significant exports, mainly because of infrastructure challenges."[11] Only time will tell which side will prevail in the debate over increased coal exports through the Pacific Northwest, but there are clearly significant energy security benefits if such trade comes about. In the meantime, expansion of the Panama Canal will reduce shipping costs and make coal exports from ports along the Gulf of Mexico and East Coast more price competitive.

Oil

Japan consumes about 4.7 million barrels per day (mmbd) of oil, almost all of which is imported, and is dependent on the Middle East for approximately 80% of its oil supplies.[12] The United States, on the other hand, is only a small supplier of crude and product to Japan. Although crude oil exports were banned in 1975, President Bill Clinton made a "national interest determination" in 1996 that authorized exports of Alaskan North Slope crude, resulting in about 25 million barrels being shipped to Japan between 1996 and 2000. Although there have been no shipments since then, a recent shipment to South Korea and changing commercial circumstances indicate that Alaskan crude exports to Japan might resume.

In 2011 the United States became a net exporter of refined products for the first time since 1949, and currently exports a net balance of about 1.5 mmbd. Of this amount, Japan accounts for about 135,000 barrels per day on average, making it the seventh-largest destination for U.S. petroleum product exports.[13] Further increases in oil exports are expected due to a new interpretation by

7 IEA, *Medium-Term Coal Market Report 2013: Market Trends and Projections to 2018* (Paris: OECD/IEA, 2013), 119, http://www.iea.org/publications/freepublications/publication/MTcoalMR2013_free.pdf.

8 IEA, *World Energy Outlook 2013* (Paris: International Energy Agency, 2013), 160.

9 EIA, *International Energy Outlook 2013*, 20–21.

10 For an insightful analysis, see Mark Thurber, "Exporting Coal from the U.S. Pacific Northwest: Potential Impacts of Removing an Energy Transportation Constraint" (working paper presented at the Pacific Energy Forum, Seattle, April 23–24, 2014).

11 IEA, *Medium-Term Market Report 2013*, 12, 99, 118; and IEA, *World Energy Outlook 2013*, 162–63.

12 EIA, "*Japan Country Analysis: Overview*," 3, 7.

13 For references on U.S. petroleum product trade, see EIA, "U.S. Petroleum Exports Increase in 2013," April 22, 2014, http://www.eia.gov/todayinenergy/detail.cfm?id=15951; EIA, "Petroleum & Other Liquids," sections on "Exports by Destination," "U.S. Exports of Finished Products," and "U.S. Exports to Japan of Crude Oil and Petroleum Products," http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTTEXJA1&f=A; and Christian Berthelsen and Lynn Cook, "U.S. Oil Exports Ready to Sail," *Wall Street Journal*, July 30, 2014.

the U.S. Commerce Department's Bureau of Industry and Security (BIS) of an obscure loophole in U.S. law that permits the export of petroleum condensate, which is being produced in growing amounts in association with the rise in the United States' unconventional oil output.[14] Moreover, BIS also approves crude oil export licenses, which is where the real issue lies: the growing prospect of the United States becoming a significant exporter of crude oil from the lower 48 states to Japan.

The shale gas revolution has prompted a historic boom in U.S. oil production, notably tight oil, reaching the highest levels since the early 1970s.[15] The EIA reports that oil production—which was 5 mmbd in 2008, 7.4 mmbd in 2013, and approximately 8.5 mmbd in 2014—will rise to 9.3 mmbd in 2015.[16] The dramatic jump in U.S. oil production has raised the issue of repealing the ban on crude oil exports, which was legislated in 1975 by the Energy Policy and Conservation Act (EPCA) when price controls were in place. Although an exception was made for exports to Canada, the rationale for the ban was that prices in the United States might be less than those in foreign markets due to price controls and ultimately cause U.S. oil to flow out of the United States in search of a higher return.

President Ronald Reagan ended price controls on oil in 1981, but the ongoing ban on crude oil exports had no real impact on the market until recently because there was insufficient crude production to allow for exports to occur on an economic basis. However, when the recent boom in horizontal drilling and hydraulic fracturing sparked a jump in U.S. tight oil production, distortions appeared in U.S. markets because the tight oil being produced is of a light grade and much of the domestic refinery capacity is geared for heavy grades of crude. These U.S. refineries, mostly along the Gulf Coast, cannot efficiently process large volumes of light oil. As a result, economics favor exporting the light oil.

These developments have led to an effort to lift the ban on crude oil exports. Though mainly rooted in the EPCA, the ban is also subject to the Mineral Leasing Act of 1920, the Outer Continental Shelf Lands Act, the Naval Petroleum Reserves Production Act, and the International Emergency Economic Powers Act of 1977. Various studies point to the benefits of allowing crude oil exports, including the creation of a million new jobs, lower gasoline prices, increased investment, and higher levels of U.S. oil production.[17] Proponents are urging Congress to act in 2015 to lift the ban, which could cause gross crude exports to exceed 2 mmbd within a year and climb to almost 4 mmbd by 2020, according to a NERA Economic Consulting study commissioned by the Brookings Institution.[18] If this occurs, Japan would directly benefit through better access to U.S. crude oil and increased energy security.

Indeed, the United States' emergence as a meaningful exporter of crude oil for the first time in generations would have an enormous psychological impact geopolitically and on world markets. Yet at present the reality is that BIS issues export licenses on a cargo-by-cargo basis through a process that does not allow for public input. This means that new laws and policies will need to be implemented and new infrastructure constructed if the United States is to reach its full potential as an oil producer and exporter, as well as

14 For background on petroleum condensates, see IHS, "U.S. Crude Oil Export Decision: Assessing the Impact of the Export Ban and Free Trade on the U.S. Economy," 2014, sec. I, 7, sec. III, 19–23; and Charles Ebinger and Heather Greenley, "Changing Markets: Economic Opportunities from Lifting the U.S. Ban on Crude Oil Exports," Brookings Institution, Policy Brief, no. 14-02, September 2014, 17–18.

15 "Tight oil" is a light crude oil found in petroleum-bearing formations of low permeability, usually shale or tight sandstone, and is difficult to extract economically in large volumes using conventional production methods. However, the introduction of hydraulic fracturing and horizontal drilling techniques has unleashed a boom in production from tight oil formations. Aside from where it is deposited in tight geological structures and how it is produced, tight oil is not that different from ordinary light oil produced conventionally. Thus, tight oil should not be confused with oil shale, which is shale containing kerogen, or shale oil, which is extracted from shales.

16 See EIA, "Petroleum & Other Liquids," section on historical U.S. crude oil production; EIA, "Short-Term Energy Outlook," December 2014; and Wendy Koch, "Petroleum Exports Lower U.S. Trade Deficit," *USA Today*, July 21, 2014.

17 For more on lifting the crude oil export ban, see Robert Baron et al., "Economic Benefits of Lifting the Crude Oil Export Ban," NERA Economic Consulting, September 9, 2014; IHS, "U.S. Crude Oil Export Decision"; and Ebinger and Greenley, "Changing Markets."

18 Various scenarios have been developed estimating the possible level of U.S. crude oil exports if the ban is lifted. These numbers are at the high end and come from the "high oil and gas resource" case in Ebinger and Greenley, "Changing Markets," 47.

a new oil supplier to Japan. In the meantime, the increase in U.S. unconventional oil production in the past few years has caused U.S. oil imports to drop by approximately half and undoubtedly contributed to the recent fall in world oil prices.

Natural Gas

The trade ramifications of increased U.S. oil production also apply to natural gas. As the world's largest importer of LNG, Japan accounted for 37% of world trade in LNG in 2012, with no single source accounting for more than a 20% share of imports.[19] Traditionally, the power sector has accounted for just over half of Japanese demand for natural gas. After the Fukushima accident forced the shutdown of Japan's nuclear power plants, LNG consumption by electric utilities grew by roughly 33% from 2 trillion cubic feet (tcf) in 2010 to 2.7 tcf in 2012.[20] This translated into a 24% jump in LNG imports from 3.5 tcf per year in 2010 to 4.3 tcf per year in 2012. The abrupt increase in demand led to significant increases in LNG import prices, which the EIA calculates rose from $9 per million British thermal unit (mmbtu) before the crisis to $16 mmbtu in 2012, an increase of 78%.[21]

The rise in the cost of LNG imports prompted keen interest in Japan to secure supplies from the United States, where domestic prices in 2013 were as low as one-fifth of those in Japan. A study by the Institute for Energy Economics, Japan, estimated that by importing less expensive LNG from the United States, Japan could save $8 billion per year, in addition to leveraging more favorable price terms from other suppliers.[22] Although the EIA reports that Japan's LNG imports are expected to be flat from 2012 to 2015,[23] the issue of access to U.S. LNG has become a priority and is predicated on the fact that the United States is already an established supplier, having exported over 1,300 cargoes of LNG to Japan from Cook Inlet in Alaska since 1969, including about 9.3 billion cubic feet (bcf) in 2012.[24]

Due to the shale gas revolution, the outlook for U.S. gas production has changed dramatically and resulted in a paradigm shift for LNG imports and exports. Whereas in 2008 shale gas production was 5 bcf per day, production soared to 32 bcf per day in 2014, an increase of over 600%. Shale gas now accounts for approximately 40% of U.S. gas production, and this rapid rate of growth is expected to continue. The EIA projects that shale gas output could exceed 50 bcf per day by 2035–40.[25]

This jump in U.S. gas production has caused a major shift in predictions for U.S. gas trade. The EIA forecasts that the United States will become a net exporter of gas by 2018 and that LNG exports will reach 3.5 tcf per year by 2029. Most of this increase will come from the lower 48 states. It should be noted that the EIA's forecast assumes that the U.S government will grant the necessary approvals for LNG exports pursuant to the Natural Gas Act of 1978, which was passed when natural gas reserves were thought to be in decline and domestic supplies scarce.

Under the Natural Gas Policy Act, the Department of Energy (DOE) holds the authority to regulate natural gas exports and must automatically approve applications to countries with which the United States has free trade agreements (FTA). For countries with which the United States does not have FTAs, the DOE must issue export permits unless such exports are determined through a public process to be inconsistent with the public interest. Under a new set of procedures

19 EIA, "Japan Country Analysis," 9–12.

20 EIA, "Japan Country Analysis," 9. For more background, see Tomoko Hosoe, "Asia's Post-Fukushima Market for Liquefied Natural Gas: A Special Focus on Japan," NBR, NBR Special Report, no. 41, September 2012, http://www.nbr.org/publications/element.aspx?id=630.

21 EIA, "Japan Country Analysis," 10.

22 Yanagisawa Akira, "The Burden Reduction Effects of Importing U.S. LNG for Japan," Institute for Energy Economics, Japan (IEEJ), January 2013.

23 EIA, "Japan Country Analysis," 10.

24 For more on LNG exports to Japan from Alaska, see "Kenai LNG Exports," ConocoPhillips Alaska, http://alaska.conocophillips.com/what-we-do/natural-gas/lng/Pages/kenai-lng-exports.aspx; and "U.S. Natural Gas Exports and Re-Exports by Point of Exit: Kenai, AK," EIA, http://www.eia.gov/dnav/ng/ng_move_poe2_dcu_YENA-NJA_a.htm.

25 For more on the growth of shale gas production, see EIA, "Shale Gas Provides Largest Share of U.S. Natural Gas Production in 2013," Today in Energy, November 25, 2014, http://www.eia.gov/todayinenergy/detail.cfm?id=18951; EIA, "*AEO2012* Early Release Overview," January 2012, http://www.eia.gov/forecasts/aeo/er/pdf/0383er%282012%29.pdf; and updates in EIA, *Annual Energy Outlook, 2014.*

finalized in August 2014, this review occurs after either the Federal Energy Regulatory Commission (FERC) or the Maritime Administration (MARAD)—in the case of offshore facilities—has approved the siting of the proposed project's LNG export terminal. Obtaining facility approval from either agency is a lengthy and expensive proposition, which means that the DOE now only reviews projects that are otherwise ready to proceed on the basis of their commercial merits.

Although the DOE has approved 42 applications for LNG exports totaling 41.9 bcf per day to FTA countries, not all of these projects will be built due to their high upfront capital costs and competition among a limited number of viable gas suppliers and buyers.[26] Many of these same proposed projects have also filed for non-FTA approval. The DOE has approved 9 LNG projects to non-FTA countries, with another 28 awaiting approval. If built to capacity, these approved projects would export 10.6 bcf per day. FERC authorization has been issued for 4 of the 9 DOE-approved LNG projects, including projects that have earmarked supplies for Japan.

Japan has done well in gaining access to supplies from new LNG export projects, including supplies from 3 of the first 4 projects approved by the DOE and FERC: the Cameron project, in which Mitsubishi and Mitsui hold a 33% equity share; the Cove Point project; and the Freeport project. If all goes as planned, these shipments could reach 594 bcf per year, as shown in **Table 1**, and account for 14% of Japan's total LNG import needs if they remain at a constant 4.3 tcf per year. This would

26 "Long Term Applications Received by DOE/FE to Export," U.S. Department of Energy, Office of Fossil Energy, http://energy.gov/sites/prod/files/2014/12/f19/Summary%20of%20LNG%20Export%20Applications_1.pdf.

Table 1 *Recent U.S. LNG export sales contracts to Japanese companies (lower 48 states)*

LNG project	Japanese companies	Estimated volume (bcf/year)	DOE/FERC approval	Starting delivery date
Cameron (LA)	Mitsubishi and Mitsui	384	Yes	2018/2019
Cove Point (MD)	Sumitomo, Tokyo Gas, and Kansai Electric Power	110	Yes	2017/2018
Freeport (TX)	Osaka Gas and Chubu Electric Power	100	Yes	2018/2019

SOURCE: EIA; LNG project websites; and Jason Bordoff and Trevor Houser, "American Gas to the Rescue," Columbia Center on Global Energy Policy, September 2014.

make the United States Japan's fourth-largest supplier of LNG. Internal Japanese government estimates reportedly project the U.S. share to grow to 20%,[27] which could make the United States the largest supplier of LNG to Japan. Thus, the trend in U.S.-Japan trade in LNG—even without the benefit of an FTA—is already on a robust, upward trajectory, notwithstanding current U.S. legal and regulatory procedures.

The Impact of a TPP Agreement on U.S.-Japan Energy Trade

The TPP is an ambitious FTA designed to serve as a "platform for Asia-Pacific regional trade integration" that is being developed by several members of the Asia-Pacific Economic Cooperation (APEC) grouping.[28] The TPP negotiations initially included four countries with which the United States already has bilateral FTAs (Chile, Peru, Singapore, and Australia, which is also Japan's largest supplier of coal and LNG), two oil and gas exporters (Brunei and Malaysia), and New Zealand and Vietnam. Canada and Mexico, neighboring U.S. energy trading partners and members of the North American Free Agreement (NAFTA), joined negotiations in October 2012, and Japan joined in July 2013. Prior to that, however, the leaders of the then nine TPP countries on November 12, 2011, announced that they had achieved agreement on numerous issues and released a detailed outline of the TPP framework, which never once mentioned the word "energy."[29]

Because negotiations are conducted behind closed doors, this apparent omission has led to speculation and uncertainty about how energy is covered by the TPP,[30] especially when comparisons are made with NAFTA, which has a separate chapter dedicated solely to "energy and basic petrochemicals."[31] The interpretation provided by the Office of the U.S. Trade Representative (USTR) is that unless "energy" is specifically cited as being excluded, it is presumed to be included in the blanket language used in the TPP as a covered good and service, particularly in sections addressing market access and tariffs.[32] Fossil fuels clearly fall under trade, investment, and related provisions, but the TPP also has the potential to affect energy trade indirectly. This includes the TPP's treatment of nontariff trade barriers, intellectual property, and the environment.[33] Also relevant are the agreement's nondiscrimination clauses to ensure that companies can compete on a level playing field, as well as additional provisions covering small and medium-sized enterprises and state-owned enterprises. In addition, language on transparency, anticorruption, dispute resolution, enforcement procedures, and consistency in regulatory frameworks could have implications for energy markets, trade, and investment. Thus, the conclusion of a TPP agreement will inevitably have some impact on commerce in energy equipment, services, technologies, and investment, as well as trade in fossil fuels. How significant these impacts will be, however, remains to be seen.

27 Robert Manning, "The Shale Revolution and the New Geopolitics of Energy," Atlantic Council, November 2014, 8–9, http://www.atlanticcouncil.org/publications/reports/the-shale-revolution-and-the-new-geopolitics-of-energy.

28 For an overview of the TPP, see "Overview of the Trans-Pacific Partnership," Office of the U.S. Trade Representative (USTR), http://www.ustr.gov/tpp/overview-of-the-TPP.

29 See "Enhancing Trade and Investment, Supporting Jobs, Economic Growth and Development: Outlines of the Trans-Pacific Partnership Agreement," USTR, http://www.ustr.gov/tpp/outlines-of-TPP.

30 Ibid.

31 See chapter six of NAFTA, available at http://www.sice.oas.org/trade/nafta/chap-06.asp.

32 The USTR website states that the TPP would include "comprehensive market access to eliminate tariffs and other barriers to goods and services trade and investment." See "Enhancing Trade and Investment, Supporting Jobs, Economic Growth and Development."

33 For an interesting analysis of the TPP's environmental implications that concludes that the agreement "is currently the best opportunity to address current environmental challenges," see Joshua Meltzer, "The TPP, the Environment and Climate Change," in *Trade Liberalisation and International Cooperation: A Legal Analysis of the TPP,* ed. Tania Voon (Cheltenham: Edward Elgar Press, 2014), 31, http://www.brookings.edu/~/media/research/files/papers/2013/09/trans%20pacific%20partnership%20meltzer/meltzer%20tpp%20environment%20chapter_version%202.pdf.

For example, the potential for the TPP to expedite U.S. exports of LNG is the issue that has drawn the most controversy and roiled environmental groups opposed to fracking.[34] In a letter addressed to then USTR Ron Kirk on April 17, 2012, the Sierra Club urged Kirk to "ensure that the TPP does not allow for export of substantially increased quantities of domestic liquefied natural gas" and requested "more information as to how LNG exports are currently proposed to be treated under the TPP.… (and) whether the TPP, as proposed, contemplates national treatment for trade in natural gas to any or all of the TPP nations."[35] Sensitivities were subsequently heightened when Japan announced that it intended to join the TPP amid speculation that this decision was motivated primarily by the prospect of acquiring U.S. LNG at attractive prices.[36] After all, Japan, like several other countries such as India, had been lobbying the U.S. government for preferred access to LNG at the same time the DOE was in the midst of its legally mandated review process to approve LNG export applications involving non-FTA countries.[37] Some observers have opined that the United States gave up "potential leverage" in the TPP negotiations when the DOE issued the non-FTA approval in May 2013 for the Freeport LNG project, with which Japan had a pending supply contract.[38] This author's view, however, is that this demonstrates the integrity of the U.S. regulatory process, which does not specify country destinations when approving LNG export projects.

Natural gas does not need to be specifically mentioned in order for the TPP to satisfy the requirements of the Natural Gas Act, but there must be "national treatment," which does not exclude natural gas. Of the nineteen bilateral FTAs the United States currently has in place, seventeen provide for free trade in natural gas in accordance with the Natural Gas Act. The two FTAs that do not have language that qualifies for FTA waivers under the act are with Israel and Costa Rica.

Based on what can be inferred about TPP negotiations, unless there is an unlikely exception to national treatment on gas, Japan would be considered as an FTA country under the Natural Gas Act. Therefore, any applications to export LNG to Japan would be presumed to be in the public interest and approved without delay. Although this would streamline the DOE export review process, either FERC or MARAD would still be required to approve facilities. Thus, the fundamental commercial circumstances driving future LNG trade deals with Japan would not be diminished as determining factors. Japan already has three major LNG supply contracts in place with U.S. suppliers in the lower 48 states. More deals are likely whether there is a ratified TPP or not, depending on trends in Japanese gas demand and supply competition from other LNG-exporting nations.

Because the EPCA ban on crude oil exports does not include language that exempts FTA countries, a TPP agreement would not have any significant effect on the ban, so long as no discriminatory actions are taken. Furthermore, coal exports are not specifically subject

34 For example, the Sierra Club also released a fact sheet expressing concern that "the TPP is being negotiated in near complete secrecy…and that one of the dirtiest secrets of the TPP is its potential to pave the way for dramatically increased fracking across the United States…and the environmental impacts associated with the building of the natural gas export terminals." See "An Explosion of Fracking? One of the Dirtiest Secrets of the Trans-Pacific Partnership Free Trade Agreement," Sierra Club, http://action.sierraclub.org/site/DocServer/TPP-LNG_Factsheet_Updated.pdf?docID=15841.

35 "Letter to the Honorable Ron Kirk, U.S. Trade Representative, signed by Margrete Strand Ranges, Deborah Nardone, and Craig Segall," April 17, 2012, https://docs.google.com/file/d/0B9cifXoTJHcRMGJTVHB0bDN2WnM/edit?pli=1.

36 On June 7, 2013, the Sierra Club formally filed comments with the USTR stating that that it was "deeply concerned that Japan's participation in the TPP would lead to an expansion of LNG exports without any review" and that "excluding national treatment for trade in natural gas" should be "among the prerequisites of Japan's entry into the TPP." It also asked that "Congress, the DOE, and the USTR work together to review and resolve this policy question in a way that retains the ability of the DOE to review exports of LNG to free trade agreement countries before Japan is allowed to enter the TPP talks." To access the full text, see "Comments Concerning the Participation of Japan in the Trans-Pacific Partnership Trade Negotiations; Federal Register Docket USTR-2013-0022," Sierra Club, June 7, 2013, http://action.sierraclub.org/site/DocServer/Japan_TPP_Federal_Register_USTR-2013-0022.pdf?docID=13341.

37 Indeed, Japan's diplomatic press to secure U.S. LNG was not unique. For background on India's efforts to secure U.S. LNG, see Raymond E. Vickery Jr., *India Energy: The Struggle for Power* (Washington, D.C.: Woodrow Wilson International Center for Scholars, 2014); and Tom Cutler, "The Changing Calculus of Indian Energy Security," Strategic Studies Institute, 2014, http://www.globalsecurity.org/military/library/report/2014/ssi_deni.htm.

38 For more on these U.S.-Japan negotiations, see Robert A. Rogowsky and Gary Harlich, "TPP and the Political Economy of U.S.-Japan Trade Negotiations," Woodrow Wilson International Center for Scholars, 2014, 12, http://www.wilsoncenter.org/publication/tpp-and-the-political-economy-us-japan-trade-negotiations.

to any particular federal statute or regulatory trade review process. As a result, the TPP would have no meaningful impact there either, keeping in mind that the Environmental Protection Agency and various states enforce environmental laws and regulations that can be interpreted to apply to exports, especially the National Environmental Policy Act.[39] Trade in other energy goods and services—including nuclear, renewables, and energy efficiency equipment and technologies—would be subject to a variety of TPP provisions, including reduced duties for green technologies, and rules covering the environment and investment. However, a detailed assessment of these issues is beyond the scope of this analysis.

Conclusion

The twin forces of the Fukushima accident and the shale gas boom have brought about fundamental changes in the energy outlook for both Japan and the United States. These changes have occurred quickly, and U.S. energy export policies, laws, and regulations are still in the process of catching up to the unforeseen circumstance of economically competitive energy surpluses suited for export. Key obstacles to increased U.S. coal exports involve infrastructure constraints, environmental opposition in the Pacific Northwest, and softness in global coal markets. Lifting the ban on U.S. crude oil exports will hinge on action by Congress and the president and would allow export levels to be set by market conditions. Regulatory approval for U.S. LNG export projects is proceeding, and Japan currently seems well supplied. Therefore, the ratification of a TPP deal that includes energy would have relatively little incremental impact on the United States' energy trade with Japan, which is largely determined by other factors.

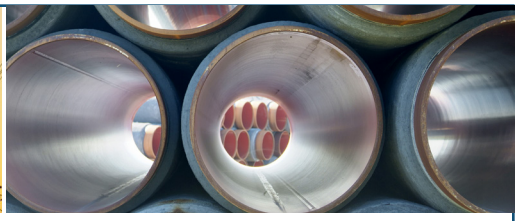
If South Korea joined the TPP negotiations, there would be few ripples across the Asia-Pacific energy markets because it is already an FTA partner with the United States. The impacts would be far greater, however, if China were to join a ratified TPP. Meanwhile, Eurasian and Atlantic Basin energy market players await the outcome of U.S. negotiations on the proposed Transatlantic Trade and Investment Partnership with the member countries of the European Union. The latter are pushing for the inclusion of an "energy chapter" to promote open, competitive, and transparent international energy markets and to enhance their access to U.S. LNG.

Despite progress toward an agreed-upon text, the finish line is uncertain for the TPP negotiations. The Obama administration is making a big push to finalize the agreement in 2015, but there are doubts that it will be successful, as "the TPP talks have become bogged down in bilateral U.S.-Japan negotiations over a few farm goods."[40] Elections in 2016 are looming, and without the benefit of trade promotion authority, domestic politics will make it increasingly difficult to ratify whatever is negotiated internationally. Thus, at this juncture, it is hard to envision a realistic scenario where the TPP will become a game-changing pathway for U.S. energy exports to Japan, given the bright spots in energy trade that already exist and the potential for even stronger commercial ties based on the dynamics of market forces.

[39] For more on the National Environmental Policy Act, see Elizabeth Sheargold and Smita Walavalkar, "NEPA and Downstream Greenhouse Gas Emissions of U.S. Coal Exports," Columbia Law School Center for Climate Change Law, August 2013, 8–9, https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/Fellows/NEPA%20and%20Review%20of%20Coal%20Exports.pdf.

[40] See Richard Katz, "The Trans-Pacific Partnership: Lessons from Negotiations," NBR, NBR Analysis Brief, September 4, 2014; and David Nakamura, "Obama to Seek GOP's Help," *Washington Post*, December 27, 2014.





BACKGROUND ON NBR'S ENERGY SECURITY PROGRAM

Now in its eleventh year, NBR's Energy Security Program convenes top energy and geopolitical experts from industry, research, and policy for an assessment of the developments taking place in Asian energy markets and their implications for geopolitics. To inform and strengthen the public policy dialogue, experts share insights and recommendations through a number of channels, including an invitation-only spring workshop, NBR's annual Energy Security Report, and a public fall launch event.

PROGRAM THEMES

- **"China's Energy Crossroads"** (2014) detailed major shifts underway in Beijing's energy security strategies, and how the country will impact market, geopolitical, and environmental outlooks for the Asia-Pacific more broadly.
- **"Asia's Uncertain LNG Future"** (2013) explored how and to what extent countries in the Asia-Pacific are integrating liquefied natural gas into their energy security strategies and the key geopolitical and market implications for both the United States and Asia.
- **"Oil and Gas for Asia: Geopolitical Implications of Asia's Rising Demand"** (2012) explored how Asia's rising energy demand, coupled with angst over prices and the reliability of future oil and LNG supplies, is shaping the strategic and economic agendas of Asia's major powers.
- **"Asia's Rising Energy and Resource Nationalism"** (2011) examined if there is a connection between energy insecurity and state efforts to control major sea lanes, the impact of Asia's national oil companies on the global industry, and the emergence of rare earth elements as an arena for national competition.
- **"Pipeline Politics in Asia: The Intersection of Demand, Energy Markets, and Supply Routes"** (2010) analyzed the growth in overland pipelines in industrializing Asia and the resulting implications for Asian regional politics and energy security geopolitics.
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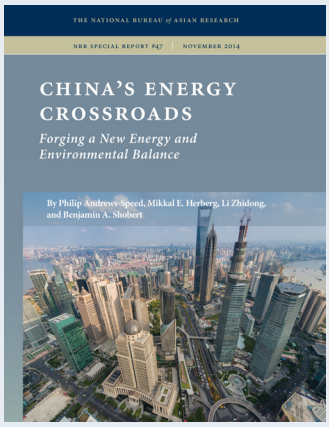

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