



Exporting America's Gas to Asia Might Not Be a Done Deal—Here's Why

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The threats to U.S. LNG range from external shocks, Asian governments keeping their doors closed, and the need to finish domestic investment.

The following is the second piece of a multi-part series on the geopolitical implications of the U.S. Shale Revolution. You can read the first article [here](#).

North America's production of natural gas, increasingly derived from fracturing the continent's extensive shale deposits, has in just a few short years radically scrambled the global gas market. When viewed alongside rising U.S. onshore oil production (also derived from shale), national security analysts frequently speak about an impending "energy independence" for the U.S., i.e., a self-sufficient supply position satisfying domestic demand for oil and gas.

In recent weeks, Donald Trump has embellished this outlook further, declaring an era of American "Energy Dominance" is coming on the heels of the Shale Revolution. The United States seems again in control of its own energy destiny, and its hydrocarbons, enabling the projection of market influence across the globe.

Taking stock, and looking at relentless hydrocarbon demand from non-OECD Asia-Pacific countries, perhaps the U.S. really has regained a global energy-leverage it hasn't enjoyed since the early years of the last century—leverage applicable to both allies and enemies.

But isn't this claim a tad over-reaching? Can North American liquified natural gas (LNG) production, already a highly debt-fueled enterprise, become a durable export? Answering these questions requires renewed attention to impediments like the now-insistent infrastructure shortcomings and other problems afflicting physical delivery. The state of both domestic and foreign pipelines, and the continued viability of major offshore maritime delivery routes, can facilitate or frustrate U.S. gas production.

Other issues also complicate assumptions about American energy export trends. These include the pace of Mexican extraction policy decisions, which have hitherto shied away from politically sensitive joint ventures with foreign firms. Yet Mexican shale plays have enormous potential, not least in linking continental gas supplies to export terminals on the Mexican west coast.

This potential rests, in turn, on the overall continental investment climate—meaning any overspill from NAFTA tensions with Canada and Mexico will impede otherwise economically and technically feasible projects. Beyond that, U.S. producers must also contend with rival suppliers' marketing strategies, notably those being crafted by Australia and Qatar. And lastly, new LNG production in America needs financing and that may be dependent on whether it follows existing long-term models. This is importance because those models were developed by Northeast Asian consumers and Southeast Asian producers back in the 1970s and still dominate those markets.

In short, there's a long list of factors which will either favor or frustrate the full maturation of America as a primary energy supplier. So far, it does not appear that those supporting a mercantilist use of 'American resources in America' (the view of some chemical companies) will prevail, but that doesn't mean the successful export of U.S. LNG to Asia is automatic nor risk-free.

Here's why.

A Recent Phenomenon

It's worth remembering that the arrival of U.S. supply in world LNG markets results primarily from re-engineering of LNG import terminals which were planned in expectation of natural gas shortages anticipated as recently as the late 2000s.

The reversal of that expectation, largely supply-driven, has led to rapid resource-extraction and resource delivery investments inside the United States. This is so much so that it's now commonplace to rank America as an LNG supplier co-equal to Australia and Qatar, the two other major players.

For instance, American LNG exports have quadrupled since shipments began two years ago, rising from 0.5 billion cubic feet per day (Bcf/d) in 2016 to 1.94 Bcf/d at the end of 2017. (The Canadian west coast aims to add liquefaction capacity also.)

In an earlier article, we surveyed the factors pointing to the persistence of the Shale Revolution, which remain predominant. But nothing lasts forever.

Asia Reigns Supreme in Marketing Calculations

The market of primary focus for LNG remains in Asia. There could still be shifts in LNG demand in other markets, most notably Europe where importers seek to reduce dependence on Russian supply. However, Asia's policy and commercial procurement choices dramatically impact market forecasts because of its size. The Asia-Pacific accounts for three-quarters of the globe's 290 megatons (MT) of LNG trade with no signs of diminishing; demand from Asian importers rose overall by 6.2 percent year-on-year in 2017.

This hunger for natural gas finds reflection in the emerging LNG trade flows. Nearly half of America's LNG exports last year went to Asia (totaling 0.9 Bcf/d), with Korea (18 percent), China (15 percent) and Japan (7 percent) representing the region's top customers. Only Mexico, which accounted for 20 percent of total U.S. LNG sales in 2017, has been a more prominent buyer since 2016.

All gas markets remain highly politicized, yet China's government has sent natural gas procurement directives to local generating companies (gencos) ordering them to place cleaner burning gas over indigenous fuels. The tilt towards natural gas reflects the politically sensitive and deepening gravity of China's air pollution—a phenomenon happening also, albeit more slowly, in India.

Both countries have massive coal deposits, the burning of which generates electricity and helps uphold their political power structures, but that also makes national air quality hellish. A decision to move towards foreign-procured LNG opens up the question of which supplier, and for how long, the Asian importers will favor.

The source and commercial modality of Asia's natural gas procurement remain in flux. On the table are spot market deals, long-term supply arrangements, or both. With the appearance of a new, large U.S. capacity, the buyer's advantage becomes more pronounced.

For example, China figures so strikingly in calculations of buyer advantage that procurement decisions by Japan, South Korea, and other big importers tend to be taken for granted. But nothing in the LNG market is certain. Long-term LNG supply deals going back to the 1970s lay the market foundations for Japan, South Korea, and Taiwan to provide the commercial confidence needed for LNG imports to come from Brunei, Malaysia and Indonesia. This confidence is accomplished by a consortium of Japanese, South Korea, and Taiwanese banks offering the financing needed for extraction, liquefaction, and transport of gas in purpose-built LNG tankers from Brunei, Malaysia and Indonesia.

Yet, many of these long-term arrangements may yield to a preference to play the market—i.e., a consequential response to the slow but gradually accelerating 'commodification' of LNG. This means LNG commerce can become more like the spot trading of oil, in which the traders buy and sell the tanker's cargo fifty times or more during the course of a single voyage.

Infrastructure

Infrastructural challenges alone should give one pause. For instance, physical delivery issues make natural gas transportation complex within the United States. This is because of congested pipelines, and a lack of materials and experienced workers are restricting shale's rapid growth. There are also external transit issues that include U.S. west coast export options, such as whether to join the existing west coast Canadian pipeline network. Moreover, there are also broad questions of sea-lane security and the adequacy of LNG receiving infrastructure in Asia. For example, recently media outlets that specialize in oil and gas have carried accounts of problems arranging passage through the Panama Canal.

However, a survey of publications that specialize in the LNG field also shows opinion tilting towards the likelihood of increased lending for projects to fix natural gas bottlenecks and improve delivery. These outlets argue this may especially be the case as the U.S. adds to its existing three LNG export terminals. Similarly, reduced federal individual and corporate tax rates should reinforce bullish sentiment for the exploration and production (E&P) technology investment in shale. For example, about a dozen pipelines adding to U.S. Gulf Coast supply are nearing completion. As more U.S. midstream and downstream infrastructure are developed, alleviating transit constraints, the domestic supply chain will grow more resilient to external market shocks.

Overall, the literature survey sees steady infrastructure investment until the end of 2019 to carry gas to various internal U.S. destinations, including to liquefaction plants for LNG export. Construction costs for these, for example in southern Maryland's Cove Point, also invariably remain within budget and therefore are promising.

Project Finance

The institutions providing financing for both LNG receiving and LNG export terminals understandably prefer long-term supply arrangements, a less attractive approach to one making maximum room for trading flexibility. The supply chain economics need constant revision, as technical and spot price data vary from week to week.

Characteristically these models and institutions are conservative and inclined to follow the 1970s Southeast Asian LNG development model that focuses on long-term supply. This is because the allure of cleaner, better burning natural gas remains at the core of private and public lending for capital expenditure in Asia for LNG.

Political Risk

China is the world's largest energy consumer, and its LNG import ranking comes close to displacing South Korea. But Chinese policy remains averse to import dependencies and still aims to maintain domestic capability—although the water demands of current fracking methods rules out a shift to China's northern areas shale deposits.

In fact, strongly mercantilist habits still hold sway in the Chinese policymaking establishment, and they well aware of the current U.S. administration's desire to use American LNG as a trade account equalizer. Therefore, Beijing will carefully watch any spread of import dependency among Australia, Qatar and the United States. This, in turn, points to an importer's preference to use the spot market as much as possible.

Given that U.S. LNG export expectations were raised, and then fanned, by a 2018 U.S. presidential visit to China, China will plan its market outreach in ways reflecting that visit. This, in turn, will influence China's LNG import options from other producers like Russia, the Persian Gulf, Australia and Southeast Asia.

As just one example of the political complexity, Saudi Arabia has been committed for over a decade to helping China maintain strategic oil reserves. However, Riyadh's venomous quarrel with the ruling family of Qatar makes the perception of 'excessive' Chinese commercial support for Doha problematic. Additionally, Australia has decided to push back on Chinese influence achieved mainly through Australian dependence on the Chinese market.

With China's consolidation of a grab-and-hold approach to Beijing's extensive territorial claims in the South China Sea, a sustained uptick in global gas prices will probably lead to a resumption of E&P activity in Chinese offshore claim areas.

Extensive domestic investment in U.S. natural gas production and export relies on the demand push from Asia. On one hand, geographically more proximate suppliers to East Asia, notably Australia, seem in a healthy reserves position as Australia's LNG export supply rose by 20 percent in 2017. On the other hand, reserves in Southeast Asia seem flat, without significant new investment inducements for foreign firms. Indonesian surveys are trending to ever more easterly locations in the archipelago, for example.

Regional politics ensnare much of what could become a re-energized offshore gas play in Southeast Asia. For example, sources describe understandings by Brunei and Malaysia which envisage some degree of Chinese oil multinationals' joint venture participation in their southern South China Sea locations, especially in maritime area where the Malaysian and Brunei EEZs meet, all of which fall, of course, within China's extensive (and by international law, illegal) territorial claim.

A political understanding is thus in place, should prices warrant a new, joint-development. The same 'understanding' applies to the Reed Bank concession area claimed by the Philippines but contested by China. Some natural gas 'joint development' there with Chinese firms, in E&P and in extraction and supply, now seems inevitable.

Conclusions

? Natural gas via the shale revolution has reinforced the long-term decline of coal as power-generating fuel. In the 1970s, Japan and South Korea faced lots of air pollution and so made a policy switch towards natural gas. This is because LNG is a cleaner and more efficient fuel. Now, this switch has occurred in China (and somewhat less emphatically when it comes to implementation) in India as well. The authoritarian leadership in Beijing doesn't want to repeat the urban smog alerts of recent years. From a local political perspective, hard decisions about canceling some of China's 1,000 coal plants, scheduled just a few years ago for construction in 2017-20, are continuing to be made. All this points to an interim scarcity of natural gas and a seller's opportunity.

? The rise of America's LNG supply has already reshaped the marketplace, expediting the shift away from coal. The most significant external infrastructure problem lies in uncertainty over the regular and reliable use by LNG tankers of the Panama Canal, where the volume of passage initially promised by the canal authority hasn't been achieved.

? Despite a trend towards spot market transactions, those providing the desired infrastructure, whether through public or private sources, prefer long-term LNG supply deals to mitigate risk.

? S&P Global Platts expects U.S. LNG export volumes to more than quadruple, from 14.4 MT in 2017 to 62 million MT in 2020—a jump likely attributed to the completion of four additional liquefaction plants.

? The only qualifier on an otherwise buoyant LNG export picture lies in the possible detrimental policy and political outcomes, especially within the complicated nature of the U.S.-China relationship. Suppliers, producers, government planners, and importers all fear possible collateral damage to trade should diplomatic quarrels or regional tension cloud an already dense risk environment.

James Clad is the Senior Fellow for Asia at the American Foreign Policy Council and former U.S. Deputy Assistant Secretary of Defense for Asia-Pacific Security Affairs.

James Grant is a Junior Fellow with the American Foreign Policy Council where he specializes in Geopolitics, Energy Security, and Economics.