



In Brief: Transatlantic natural gas trade offers important strategic, commercial, and environmental opportunities for both Europe and the United States. However, policy roadblocks currently limit the effects that U.S. supplies can have. Gas trade should be fully liberalized, both through executive action in the United States and eventually enshrined in the Transatlantic Trade and Investment Partnership (TTIP). Europe must complete its Energy Union and extend cooperation beyond the EU's borders to enable liquefied natural gas (LNG) supplies to reach vulnerable countries in Europe's east and south and build a credible market for private investment. Targeted European cofunding, regional cooperation, and attractive private investment frameworks are crucial. All players along the value chain need certainty over the approach to gas from a policy and regulatory standpoint in the long run. Such certainty is not in place today on either side of the Atlantic, but it is achievable.

The Strategic Role of Natural Gas Trade in Transatlantic Relations

by David Koranyi and Neil R. Brown

Gas Trade as a Strategic Asset

In 2016, U.S. natural gas will set sail to the European Union. U.S. liquefied natural gas (LNG) cargoes will bring much more than a small shift in trade balance between these two close economic, political, and military allies. The cargoes will, for the first time, put U.S. molecules behind twin bipartisan U.S. diplomatic imperatives: Europe's energy security woes and reducing climate pollutants. While these will be empowered by competitive markets, more needs to be done on both sides of the Atlantic to get full potential from U.S. gas supplies to Europe.

Natural gas already plays a vital market role in the transatlantic context. It is fundamental to energy security and the competitiveness of both the European and the U.S. economies. Gas is essential in electricity generation, home heating, heavy industry, and, increasingly, transportation. In the United States and parts of Europe, production is also an important economic driver for jobs and tax revenues. It is central to climate action as well, inasmuch as it provides a cleaner burning bridge fuel to a low-carbon energy future.

Because gas is so important, dependence on a single, unreliable supplier — as Russia has proven to be for the EU — shifts gas trade from the realm of commer-

cial policy to national security. Access to secure and competitively priced gas supplies is essential for the geopolitical positions and freedom to maneuver of key European and Eurasian allies. For some nations in Europe, gas security is an existential concern. Little wonder that the EU and several of its bilateral member states are calling for free access to trade in U.S. natural gas.

Even before the first lower-48 U.S. LNG cargoes set sail for Europe, burgeoning production of U.S. natural gas has expanded the pool and increased affordability of LNG. That effect has lately been accelerated by a slowdown in Asian demand coupled with market realization that global export capacity is billowing. Spot prices have fallen by well more than half in the past 18 months. In such a competitive market, the specific origin and landing points of LNG tankers has little physical market impact.

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But such a narrow view misses the truly strategic potential of gas trade between the United States and EU. Physical trade in gas will help align our energy security policy agendas, stiffen the spines of vulnerable allies, stimulate economic growth, accelerate reductions in climate pollutants, and set norms for trade through the Transatlantic Trade and Investment Partnership that can reverberate around the globe.

Maximizing the potential of gas trade between Europe and the United States requires policy action on both sides of the Atlantic. For the United States, that means providing certainty of fair treatment in gas trade to Europe. Meanwhile, Europe must complete the internal gas market, open entry points for diverse sources, and ensure member states uphold legal frameworks and shared strategic goals. For both jurisdictions, creating stable, long-term frameworks for reducing climate pollutants should also be a priority for ensuring the investment necessary for gas production and infrastructure.

Diverging Pathways, Common Interests for Gas Markets

The prominence of natural gas in economic, energy security, and climate trajectories of the United States and Europe has risen dramatically over the past decade, driven by geopolitics on Europe's eastern flank, the U.S. shale revolution, and the growing global consensus on the need for climate action.

As large consumers, the U.S. and European markets are aligned in benefitting from more flexible and competitive global markets enabled by LNG, helping to reduce sole reliance on regional markets that are defined by pipelines. The United States and the European OECD countries are among the largest gas consumers in the world, using 757 billion cubic meters (bcm) and 458 bcm in 2014, respectively.¹ Gas covered 28 percent of total primary energy consumption in the United States² and 16.7 percent in the European Union.³ More critically for individual citizens and businesses, gas plays an essential — and often not easily substitutable — role in residential, commercial, industrial, and, increasingly, transportation sectors. U.S. gas demand in the power sector will continue to be the main source

1 IEA data, <https://yearbook.enerdata.net/natural-gas-consumption-in-the-world.html>

2 Source: Energy Information Administration, 2014, https://www.eia.gov/totalenergy/data/monthly/pdf/flow/css_2014_energy.pdf

3 European Commission, 2013 http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports

of growth, at an annual rate of 1.5 percent until 2020,⁴ as the U.S. power sector shifts away from coal, but new demand sources in transportation, petrochemicals, and exports via pipelines and LNG encourage investment. Although European gas demand fell by 23 percent between 2010 and 2015, it posted small gains last year. However, the absolute market remains large, and the role of imported gas is expanding.

Gas consumption will become more important on both sides of the Atlantic as momentum builds on climate action. There is growing recognition that gas must play a major role in reducing climate pollution, in decarbonization strategies particularly, since gas is cleaner burning than coal, less capital intensive than nuclear, and is an effective base load and peaking power source to complement intermittent renewables. Increased gas usage has already enabled the United States to make significant cuts in its carbon emissions in the past ten years⁵ and figures prominently in British climate policy, but the EU as a whole has yet to embrace it as a climate solution. The UNFCCC COP 21 meeting in Paris and the global agreement to ramp up climate action will have an impact on decarbonization strategies around the world. But while Paris provided an important signal about general policy direction, it is up to individual jurisdictions to determine the practical policy guides for cleaner energy market development.

Although largely aligned as consumers, the supply trajectories of gas markets are dramatically different on either side of the Atlantic, due to both policy choices and geological realities.

Since the mid-2000s, unconventional natural gas production has been steadily rising, reaching 47 percent of total dry gas production in the United States in 2013 and increasing total dry gas produc-

tion by more than one-third between 2005 and 2013. Despite depressed oil prices affecting associated gas production in the United States, U.S. gas production remains largely resilient in the low price environment through production efficiency gains and prospects for new demand, with a 114 bcm gas production growth forecast by 2020.⁶ The United States will turn into a net exporter of gas by 2017, a dramatic shift in global energy markets.⁷

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Meanwhile, Europe's already high gas import dependence is slated to grow further, primarily due to the decline in indigenous gas production across Europe. OECD Europe's gas production will decline by 27 bcm by 2020 to below 225 bcm, one-quarter below 2010 production levels.⁸ Production caps have been introduced in the giant Groningen field in the Netherlands, and Norway's production is expected to diminish in the next five years.⁹

Europe's growing import dependency is compounded by its conflicting energy policies. Ambitious climate targets and renewable energy policies are coupled with a decline in zero carbon nuclear power generation, extending the life of coal base load power. As the continent is struggling with gas supply diversification, public policies there largely result in foregoing even the modest opportunity presented by domestic shale resources. Hopes for a U.S. style unconventional

4 U.S. Energy Information Administration Annual Energy Outlook 2015, <http://www.eia.gov/forecasts/aeo/>

5 EPA U.S. Greenhouse Gas Inventory Report: 1990-2013, <http://www3.epa.gov/climatechange/ghgemissions/usinventoryreport.html>

6 Medium-term Gas Market Report, International Energy Agency, June 2015

7 <https://www.eia.gov/todayinenergy/detail.cfm?id=20992>

8 Ibid.

9 Ibid.

gas revolution in Europe has proven to be illusory. Although the U.K. and Poland may still proceed with modest production outlooks, a combination of challenging geology, commercial bottlenecks such as availability of pipeline networks, and above-the-ground issues like regulatory constraints (and outright bans), sub-surface minerals ownership, and environmental concerns have so far prevented the shale industry in Europe from taking off. Overall, European gas imports are expected to grow by one-third until 2020.¹⁰

In addition, Europe is becoming more and more concerned about Russia's behavior and reliability as a supplier of natural gas, and is in the midst of a fundamental rethink of its energy and gas supply security strategy. The relative importance of alternative gas resources grew further as easing the dependence on Russian gas became a policy priority on a European level.

Transatlantic Gas Trade Potential

The diverging gas trajectories of the United States and Europe create an opportunity to enhance their already robust trade relationship, with both commercial and economic benefits. Put simply, Europe provides a natural market for U.S. LNG exports, which will largely originate on the U.S. Gulf Coast.

Diversification of European gas supplies, especially for those Central and Eastern European countries heavily dependent on Russia, is a major priority. Progress is being made on piped gas alternatives with Azerbaijani gas via the Southern Corridor, and more distant prospects for additional volumes from the Eastern Mediterranean, Iran, Iraq, and Turkmenistan. That gas will be exceptionally important in the small European markets it reaches, but it will not turn the dial in most of Europe. Meanwhile, the traditional European piped gas suppliers Algeria and Libya are extremely challenged. These risk factors associated with pipeline gas increase the relative importance of LNG.

¹⁰ Ibid.

A surge of new LNG liquefaction projects around the world are scheduled to become operational in the next ten years, reaching up to 561 bcm per year (bcma) by 2020 (a 45 percent increase).¹¹ Australia and the United States are by far the biggest new entrants to the market, as they will be responsible for 90 percent of new global LNG export capacity increase until 2020 (164 bcm combined added capacity).¹² By 2020, the United States will become the third largest LNG exporter in the world, added to the approximately 7 bcm of pipeline export capacity to Mexico currently under construction.¹³

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With nearly 60 export applications lodged, there is no lack of commercial interest in U.S. LNG exports; the question, rather, is how many projects will be competitive in a more robust global market. A dozen LNG export projects in the continental United States have received final federal approvals or are close to it, and five of those are actually in construction, with a combined 10.62 billion cubic feet/day export capacity).¹⁴ Cheniere's Sabine Pass facility is slated to commence operation soon.

The availability of U.S. LNG on the global gas markets will be a major boon for European supply security and competitiveness. With 23 operating import LNG

¹¹ IEA Medium-Term Gas Market Report, June 2015

¹² <https://www.iea.org/newsroomandevents/graphics/2015-09-15-growth-of-gas-imports-by-region-2014-to-2020.html>

¹³ <http://www.oilandgasinvestor.com/long-term-outlook-puts-us-third-largest-lng-exporter-799981>

¹⁴ IEA Medium-Term Gas Market Report, June 2015, http://www.iea.org/bookshop/707-Medium-Term_Gas_Market_Report_2015

terminals in the European Union (as of May 2015),¹⁵ European LNG import capacity surpasses the total imported Russian gas volumes. Utilization far lags that potential, but it has increased over the past couple of years with the steep decline in LNG prices. Europe is slated to increase its LNG supplies in the next five years, reaching 91 bcm by 2020.¹⁶

U.S. LNG exports will be market driven, and there is no guarantee that these supplies will land in Europe. The volumes and their impact on European gas markets and energy security will be determined primarily by pricing and market conditions, as well as infrastructure developments on the receiving end, in addition to the behavior of competitors, including Russia. Yet the recent convergence of Asian and European LNG prices, lower transportation costs to Europe, and energy security considerations on the continent prompt strong prospects for U.S. LNG to comprise a significant part of European gas imports in the coming decades. That will be a win-win for U.S. sellers and European buyers — and for their governments.

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Impediments to the Gas Trade Potential

While a gas trade relationship will almost certainly emerge and be strategically important for individual EU member states, notably Lithuania and Poland, establishing a broad gas trade relationship of strategic importance faces significant headwinds.

The creation of a more competitive and fluid global market with dramatically lower prices, enabled by U.S. shale gas, also raises the risk of U.S. LNG being priced out of Europe. Global LNG spot prices have collapsed with the economic slowdown led by China and market realization of the coming glut of LNG. U.S. LNG carries an approximately \$5 premium above Henry Hub (the U.S. gas benchmark price), making it challenging to compete with already (or nearly) amortized facilities in Qatar and other existing suppliers even with U.S. domestic prices below \$2. Nonetheless, Europe is a natural market for U.S. gas geographically — including gas retraded from its contracted destinations in Asia — as well as the approximately 20 percent of nameplate U.S. capacity reserved for opportunistic trade. Over the medium-term, gas prices are unlikely to remain at their current levels. Current depressed demand in both Europe and Asia will stabilize based on climate policy and economic adjustment, respectively, by the end of the decade.

A second, and related, market competitiveness issue is that competitiveness of U.S. LNG in Europe will to a large extent depend on the reactions and shifting business strategies of incumbent suppliers, chief among them Russia. Piped gas prices in several cases have seen a sharp drop in prices in the last nine months, due in part to oil indexation and in part to price competition from LNG. In September 2015, for example, the German border price for Russian gas was \$6.49 per million Btu (mmBtu), down from \$10.45 per mmBtu in December 2014.¹⁷ Russia is and will remain the low-cost supplier of gas to Europe, with idle production capacity well in excess of 100 bcm,¹⁸ for the foreseeable future with the largest production potential and a vast export infrastructure geared for European markets. Russia retains the ability to significantly undercut U.S. LNG prices and still deliver gas at a profit to its European customers. Although

¹⁷ Index Mundi Commodity Price Indexes, <http://www.indexmundi.com/commodities/?commodity=russian-natural-gas&months=60>

¹⁸ James Henderson & Tatiana Mitrova: The Political and Commercial Dynamics of Russia's Gas Export Strategy, The Oxford Institute for Energy Studies, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2015/09/NG-102.pdf>

¹⁵ Gas Infrastructure Europe, <http://www.gie.eu/index.php/maps-data/Ing-map>

¹⁶ IEA Medium-Term Gas Market Report, June 2015

it so far has proven unable to do so, Gazprom could potentially adopt a strategy to secure its market share at lower prices, offering further discounts to European customers. This ability is constrained by the fecklessness of strategic commercial thinking in the Kremlin and increasing demands for revenues in Russia. Moreover, governments in Europe have put a premium on obtaining U.S. supplies.

Global LNG and piped gas market headwinds are compounded by policy and regulatory failures on both sides of the Atlantic. A frequently cited challenge is the political and regulatory bottleneck that LNG exporters face when they apply for export licenses from the U.S. Department of Energy (DOE), which enforces an outdated set of regulations (dating back to the 1938 Natural Gas Act) to determine whether gas export projects to countries with no free trade agreement with the United States are in the public interest. This resulted in a politicized and opaque licensing procedure that introduced a significant amount of uncertainty into LNG export prospects. With DOE in the lead, the Obama administration has largely overcome that situation to effectively put itself in a pro-export position. However, despite the bipartisan consensus on the need for Europe to diversify its gas sources, the administration has failed to use its executive authority to clarify equal treatment for Europe as free trade partners and Congress has failed to lift export restrictions as occurred in late 2015 for oil exports. Moreover, the U.S. trade representative has so far declined to agree to a priority request by the European Commission to explicitly authorize gas trade in the Transatlantic Trade and Investment Partnership, rather than rely on stability in existing U.S. law. A policy clarification is unlikely to change export facility investment decisions in the near-term, but it adds uncertainty for the future when market conditions and political power changes. Furthermore, lack of willingness for the United States to put its molecules where its mouth is on blunting Russian gas dominance erodes U.S. credibility on that the need for supply diversification.

A fourth headwind is uneven European implementation of its internal and external energy policies. Recent attempts by some EU member states (notably, Germany and Bulgaria) to increase Russian export capacity to Europe undermines the attractiveness of the EU market over the long-term, and continued unwillingness by leaders to finalize pipeline interconnections within Southeast Europe undermines their market potential. In addition to the lack of infrastructure, regulation, such as artificially high transit tariffs, can also hinder access to LNG. Further integration of European gas markets is necessary with special regard to Central and Southeastern Europe and the Baltics. Key to this effort is the realization of the so-called North-South Corridor, a patchwork of pipelines between the Baltic, Adriatic, and Black Seas, connecting underserved and isolated gas markets with each other and the rest of Europe.¹⁹

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Although Western Europe has substantial and vastly underutilized LNG regasification capacities, critical bottlenecks remain, such as between Spain and France, and most LNG terminals are isolated from vulnerable Central and Eastern European markets. Late last year, Lithuania inaugurated its floating regasification terminal with 4 bcma capacity. Another onshore

¹⁹ Completing Europe – From the North-South Corridor to Energy, Transportation, and Telecommunications Union, Joint Report by the Atlantic Council and Central Europe Energy Partners, November 2014, <http://www.atlanticcouncil.org/publications/reports/completing-europe-from-the-north-south-corridor-to-energy-transportation-and-telecommunications-union>

LNG terminal at Świnoujście, Poland, will soon start operating too, with 5 bcma capacity. These are important developments in regional gas supply diversification but come short of offering access to LNG to the whole region in large quantities. The Balkan region in particular is isolated from LNG supplies, where most countries — though only consuming small quantities of natural gas — are dependent on one single pipeline, and have no storage capacity, endangering their security of supply. Access to the existing LNG terminal in Greece (Revithoussa, 4.5 bcma current regas capacity, 7.0 after second expansion in 2017) and the realization of the long-planned Croatian LNG terminal (or creating enhanced access to the Italian LNG terminals) parallel to the realization of the missing links between the markets would dramatically increase the security of supply of the whole region and create more attractive markets for U.S. LNG.

The future of U.S.-European LNG trade depends both on a dynamic market picture and a directionally positive but inconsistent policy framework.

Thus, overall, the future of U.S.-European LNG trade depends both on a dynamic market picture and a directionally positive but inconsistent policy framework that will determine the overall volumes, pricing, and competitiveness of U.S. LNG supplies. Beyond the U.S.-Europe relationship, the precedent for trade in gas is important globally. Yet the fact that the U.S. gas export market remains fundamentally restricted and the European internal market remains balkanized is counter to the transatlantic goal of promoting more functional, liquid markets in gas and other commodities globally. Internal policy reforms are required in both the United States and EU to rectify that situa-

tion, but together they also can help establish global norms in this area through the Transatlantic Trade and Investment Partnership currently under negotiation.

Conclusion

Natural gas trade between the United States and Europe offers enormous strategic, commercial, and environmental opportunities. Realizing that potential requires policy changes on both sides of the Atlantic.

First, it is time for the United States to liberalize trade in gas across the Atlantic. Ideally, that will be done quickly by executive action, and, longer term, free trade in gas should be enshrined explicitly in TTIP. While the conclusion of TTIP would automatically put European Union members into the category of FTA countries entitled to a streamlined LNG export licensing procedure, it does not protect against future changes in U.S. legislation. Including legally binding provisions in TTIP would provide certainty and predictability for transatlantic gas trade. Equally important, it would help set a global standard for trade in gas to support a more transparent and flexible market.

Second, Europe must complete its internal gas market and extend it beyond the European Union's borders to enable U.S. LNG to reach vulnerable countries in Europe's east and south. Targeted European cofunding, regional cooperation, and attractive private investment frameworks are crucial to get this job done within the next five years.²⁰ Europe must also stand firm on implementing its current policies and regulations, which, if fully implemented, would dramatically reduce Russian gas-backed leverage. Physical and market integration, denial of Nord Stream II, and requiring open access to pipeline capacity are three key areas.

²⁰ Completing Europe — From the North-South Corridor to Energy, Transportation, and Telecommunications Union, Joint Report by the Atlantic Council and Central Europe Energy Partners, November 2014, <http://www.atlanticcouncil.org/publications/reports/completing-europe-from-the-north-south-corridor-to-energy-transportation-and-telecommunications-union>

Finally, optimizing the benefits of gas as a climate solution would benefit from more robust and reliable price signals, which are inadequately provided by the European Trading System or the Clean Power Plan. Gas infrastructure investments typically have 15 or more years of amortization requirements and substantial development lead times. In order to provide a stable and predictable investment environment in the context of climate action, all players along the value chain need certainty over the approach to gas from a policy and regulatory standpoint in the long run. Such certainty is not in place today on either side of the Atlantic.

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The Europe Program at GMF enhances understanding of the challenges facing the European Union and the potential implications for the transatlantic relationship. It contributes to the European and transatlantic policy debate through policy-oriented research, analysis, and convening to help improve the political, economic, financial, and social stability of the EU and its member states. The Europe Program focuses on the following key areas: integration and disintegration in the EU; Germany's role in Europe and the world; challenges in the EU's neighborhood; reconnecting Southern European member states; migration; the rise of populism; and EU energy security.

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