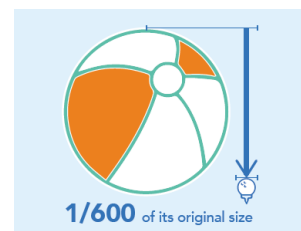


Q&A: Europe, Russia and U.S. LNG Exports

Russia's invasion of Ukraine has highlighted the critical need for a **secure, reliable supply of natural gas** to our European allies and trading partners around the world. What can the U.S. LNG industry and policymakers do to help and what are the implications for customers in the United States?

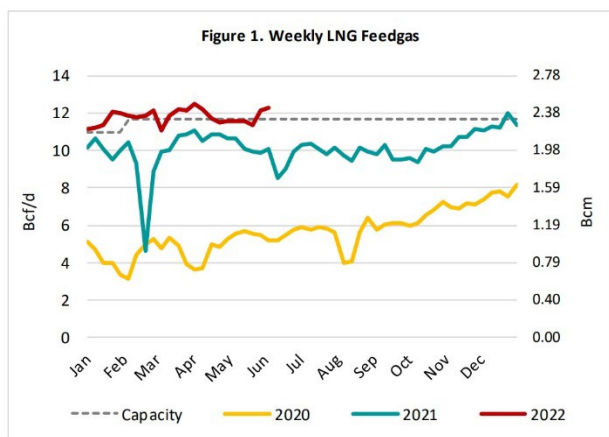
1. What is LNG?

LNG stands for liquefied natural gas. It is natural gas that has been chilled to its liquid form at specialized LNG facilities, resulting in a product that is 1/600th its original volume. This process makes it possible to transport LNG in large quantities by ship. At the other end of its journey, the LNG is re-gasified before use.

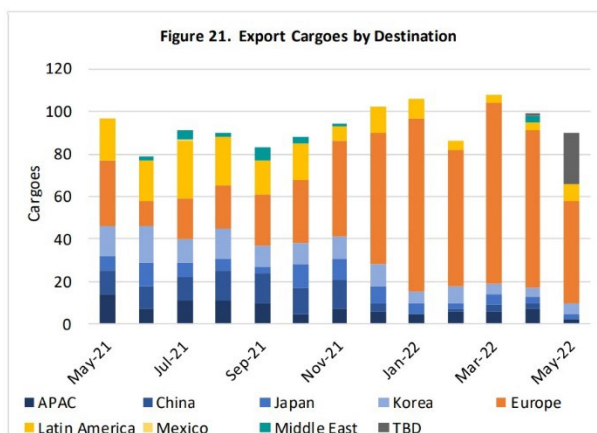


2. How is the U.S. LNG industry helping Europe?

When Europe began searching for alternatives to Russian gas, the U.S. LNG industry stepped up in every possible respect to maximize use of our existing LNG export facilities, which operated at an average of 11-12 billion cubic feet per day (Bcf/d) all winter and frequently hit peak capacity of more than 12 Bcf/d.



Source: RBN LNG Voyager Weekly Report, May 31, 2022



In the first quarter of 2022, over 75% of U.S. LNG shipments went to Europe.¹ Many of these cargoes were originally intended for destinations in Japan, Korea, China and other Asian countries. However, a mild winter in those regions combined with U.S. LNG exporters uniquely flexible long-term contracts allowed their excess LNG to be rerouted to fill demand in Europe.

The U.S. was the largest provider of LNG to Europe throughout the winter of 2021-22, including the months prior to Russia's invasion, and with many new projects in the queue for development, the U.S. is poised to continue playing a critical role in stabilizing global energy markets and providing energy security.

¹ RBN's LNG Voyager Weekly, April 19th

3. Will exports to Europe mean higher natural gas prices here in the United States?

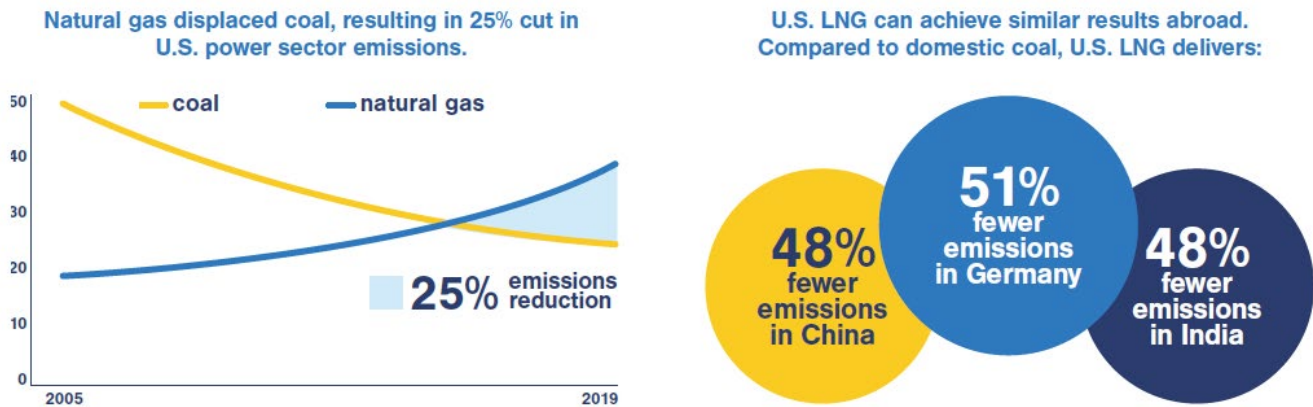
No. U.S. natural gas prices are currently higher than normal, but so are the prices of all energy sources, including coal, nuclear and renewables. There are many reasons for the higher price of energy and, while exports are a contributing factor, they most certainly are not the sole driving force. The best remedy for higher prices is to optimize our natural gas supply chain by providing greater regulatory certainty and removing unnecessary delays in the permitting of infrastructure and development of natural gas projects. It is a time-tested fact that if you increase supply, it will place downward pressure on price.

4. How do U.S. LNG exports fit into the energy transition? Shouldn't we be moving away from fossil fuels?

More LNG to Europe will prevent the restarting of old coal plants and other emissions-heavy energy sources and support the growth of renewables all while ensuring people have access to clean heat and power, which are all essential to the energy transition.

This is a time for actionable solutions that address energy and climate security and we'd like to see policies that acknowledge the role of natural gas in achieving both.

U.S. LNG producers and exporters adhere to stringent environmental regulations. They are also investing billions of dollars in the development of innovative technologies that can decrease emissions further and help us reach our shared ambition of a low carbon future by 2050.



Source: <https://www.api.org/news-policy-and-issues/lng-exports/new-lifecycle-analysis-of-us-lng-exports>

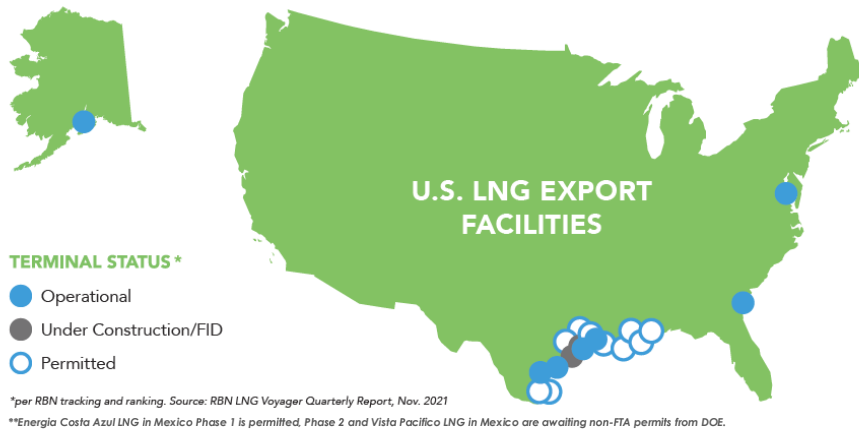
5. What is the significance of the agreement that the United States and the European Union (EU) reached on providing LNG to Europe?

The U.S.-EU agreement signals support for the industry and paves the way forward for a more certain, secure market for LNG and European consumers. It will likely expedite the approval process for LNG exports and facilities at both ends, along with improvements to contracting and buying. It is already inspiring some innovative and entrepreneurial solutions within the industry. However, CLNG member companies would like to see actionable policies follow. There's a sense that Europe's energy crisis has caused policymakers to gain appreciation of the value and importance of natural gas and U.S. LNG exports to the world's climate goals and energy security. We must follow-through on the promise of natural gas by ensuring that we have the infrastructure to support its growth and export to all our customers.

6. How can the Biden administration help bolster U.S. LNG exports?

Our ability to export more LNG now and in the future – as well as the danger that comes from inaction – is directly linked to regulatory certainty. We currently lack a definitive guide, or at minimum, a general expectation of how long it might take to navigate the way through the authorization process. The LNG industry is building multi-billion-dollar projects that take years to permit and complete while, at the same time, are subject to opposing pressures from growing global demand for natural gas to help reduce emissions while others attempt to limit its use by obstructing development. To bolster U.S. LNG exports, regulators must do their part to help expedite the essential infrastructure that is needed both here and in Europe.

When we say “regulatory certainty” we mean workable, predictable review processes at the federal permitting agencies that provide greater certainty and support investment in future infrastructure projects. The Federal Energy Regulatory Commission (FERC) has authority to authorize the siting of LNG export facilities and the Department of Energy (DOE) has authority over permits to export the commodity. As of May 2022, there are 14 LNG-related projects pending before FERC and 15 export applications awaiting non-Free Trade Agreement authorizations from the DOE. We estimate that these projects represent about 3.8 Bcf/day of export capacity that is waiting for regulatory approval. Speeding up export authorizations and accelerating permitting processes for building new LNG terminals and pipelines would be instrumental in bolstering U.S. LNG exports.



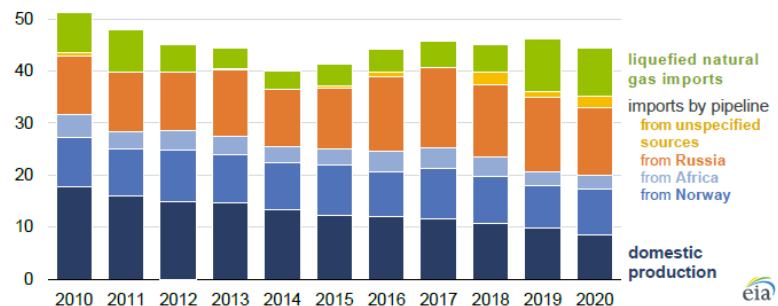
7. What about Europe? What should they be doing?

Europe’s ability to import more LNG – as well as diversify its natural gas supply and transition to a low carbon future – is directly linked to accelerated investments in their infrastructure and to securing supply by signing long term contracts.

Europe has an estimated LNG import capacity of 22.6 Bcf/d as of May 2022, but the reality is that 50-80% of that import capacity hinges on expanded pipelines and infrastructure. Europe needs infrastructure to connect the cities and regions that desperately need natural gas with the port facilities where LNG is off-loaded.

The increased demand for natural gas could help finance more U.S. LNG facilities, but first, developers need the green light from regulators to start construction.

Europe (EU-27) and the United Kingdom (UK) Natural Gas Supply (2010-2020) billion cubic feet per day



Source: U.S. Energy Information Administration (EIA), Today in Energy, Feb 11, 2022

8. Will Europe’s urgent need for reliable and secure energy cause changes in how LNG contracts work?

The concept of what is considered a long-term contract has changed over the years and it would not be surprising if further changes take place as the energy crisis in Europe continues. Europe is emerging as a major market for LNG and European buyers, who to date have not been big investors in U.S. LNG plants but could decide to sign supply contracts lasting decades or more.

9. How realistic are the pledged amounts in the U.S.-EU Cooperative Agreement?

The agreement pledges to supply EU countries with an additional 15 billion cubic meters (Bcm) of LNG in 2023 and 50 Bcm by 2030. This essentially replaces the amount of Russian LNG imported into Europe annually. The challenge in meeting the pledged volumes is two-fold: first, the U.S. is currently maxing out our existing export capacity; and next, we cannot deprive buyers in other countries with signed contracts who also have a demonstrably great need for LNG. The clear solution is to construct more capacity so that more LNG is available for all our customers.

To put the quantities of the agreement into context:

- Current U.S. LNG exports equal roughly 12 Bcf/d on average
- 15 Bcm is equivalent to an additional 1.45 Bcf/d on average
- 50 Bcm is equivalent to an additional 4.8 Bcf/d on average

LNG INDUSTRY LINGO

MEASUREMENTS

Bcm = Billion cubic meters
Bcf = Billion cubic feet
Bcf/d = Billion cubic feet per day

1 Bcm = 35.3 Bcf
1 Bcf = 0.028 Bcm

Current estimates for all projects waiting for regulatory approval represent about 4.27 Bcf/d. However, the U.S. LNG industry cannot step up the total volume of our exports unless regulators speedily approve new projects and expansions of existing facilities.

10. Does EXIM Bank’s “Make More in America” initiative help the U.S. LNG industry?

Even the most advanced coal technologies **PRODUCE 70% MORE LIFECYCLE GHG EMISSIONS** than power generated by natural gas.

70% MORE

COAL **NAT GAS**

The Export–Import Bank of the United States (EXIM) could help facilitate LNG import facilities around the world by providing financing assistance. U.S. LNG exports not only fulfill the bank’s statutory requirements for the work it supports, but they also match the goals outlined in the “Make More in America” initiative, specifically the “environmentally beneficial” and “transformational” components.

Support from the bank would likely be directed at import facilities and infrastructure abroad to help countries move away from dirtier fuel sources.