

POTENTIAL UNINTENDED CONSEQUENCES OF U.S. NATURAL GAS PRODUCTION CURTAILMENTS
White House LNG Delays Raise Questions & Concerns Over Strategic Commitments to U.S. Hydrocarbon Production

Pending authorizations of several U.S. Gulf Coast LNG projects, notably Venture Global's Calcasieu Pass 2 (CP2) and Commonwealth LNG projects, among several others, have become visibly elevated given their possible impact on the 2024 U.S. elections.

The geopolitical, foreign policy and domestic political considerations of curtailed U.S. LNG production and export delays take on even greater significance as the presidential contest gets underway in earnest.

Following Russia's invasion of Ukraine, the US has become a primary source of LNG to European allies once reliant on Russian gas. Any reduction in that supply, similar to reduced direct US military support for Ukraine, could have significant implications for global security.

The LNG authorization process runs sequentially, beginning with FERC (Federal Energy Regulatory Commission) and then, if approved, concluding with the DOE. The DOE is critical for any LNG exports that are contemplated to non-FTA (non-free trade agreement) countries. Since Japan and all European countries have not received FTA designations, and these countries are substantial LNG consumers, DOE approval is crucial.

A less urgent but very much related subject is the operational spillover of the FERC, DOE, and Biden Administration deliberations. What affects U.S. natural gas production also affects the production of U.S. crude oil and natural gas liquids (NGLs - ethane, propane, butane, and plant condensate). Of the total average 2022 108 BCF/d of U.S. natural production, there was 15.1 BCF/d (14% of total U.S.) that was associated gas (associated natural gas is produced as either a co- or by-product from crude oil production).

In addition, of the total 2022 average of 11.9 million barrels per day (MB/d) of U.S. crude oil production, 4.25 MB/d were produced in associated oil and gas fields. Of the total 2022 average 6.2 MB/d of U.S. NGL production, 1.3 MB/d was produced from associated oil and gas fields.

This implies that any production curtailment of one category of hydrocarbons will have implications on the production of other hydrocarbons from associated fields. A brief assessment is provided in Table 1.

Table 1

U.S. Associated Crude Oil and Natural Gas Field 2022 Averages			
	Marketed Gas From Associated Fields (BCF/d)	Crude Oil from Associated Fields (TB/d)	NGLS from Associated Fields (TB/d)
Totals	15.1	4,250.0	1,315.1
Shut-in %tage of Associated Wells – How much comes off?			
-10.0%	-1.5	-425.0	-131.5
-20.0%	-3.0	-850.0	-263.0
-30.0%	-4.5	-1,275.0	-394.5
-40.0%	-6.0	-1,700.0	-526.0
-50.0%	-7.6	-2,125.0	-657.6
Analysis based on Industry Reports and EIA Data			EPRINC

A curtailment of 10% of U.S. natural gas production, would lead to a reduction in 10.5 BCF/d from a total 110.5 BCF/d, of which 1.5 would be from associated fields. That in turn would lead to a curtailment of 425 TB/d of crude oil, or 3.6% of total U.S. crude oil production.

NGLs would be impacted similarly since 90% of NGL production is tied to that of natural gas.

Background / You might be interested ...

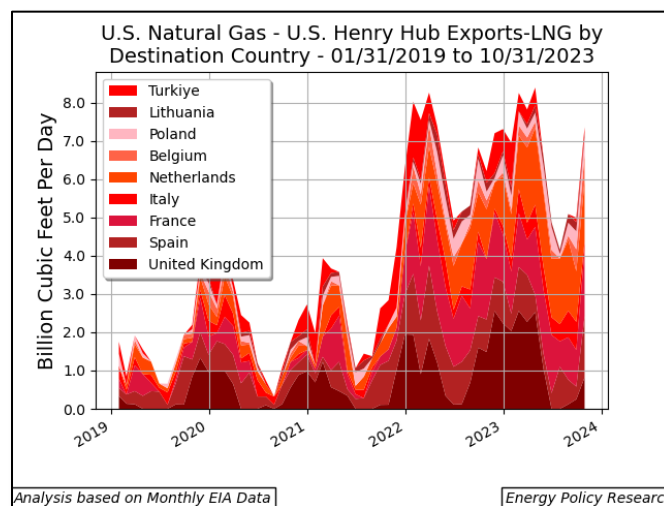
In a 2014 peer-reviewed paper, [Energy Strategy Reviews article, "The Global Gas Market, LNG Exports, and the Shifting U.S. Geopolitical Presence,"](#) respected energy policy researchers Amy Myers Jaffe, Meghan O'Sullivan, and Kenneth Medlock wrote:

"Of particular debate is whether the United States government should undertake policies to promote exports of liquefied natural gas (LNG) from its shores in the wake of the Russian-Ukraine conflict of the spring of 2014. Recent political rhetoric has even suggested that the United States could replace Russia as the major supplier of natural gas to Europe or somehow use trade policy to favor allied nations, especially North Atlantic Treaty Organization (NATO) members, in the process of granting export licenses to natural gas companies seeking to export U.S. LNG.

"The prospects that Russia could further use its natural gas exports as a geopolitical lever has elevated strategic elements of U.S. natural gas policy and intensified interest in a push to increase U.S. presence in the global gas market. While the level of U.S. exports will ultimately rest on the commercial decisions of energy companies, U.S. and European governments, through policy, can remove barriers to commercial opportunities and even promote trade flows otherwise not deemed to be commercial."

As a result of the application of new technologies to hydrocarbon development, natural gas production has grown faster than consumption, and the U.S. has been able to shift to an exporter, moving natural gas via pipelines and LNG tankers. In 2022, U.S. gross natural gas exports averaged 18.8 billion cubic feet per day (BCF/d), of which 10.6 were in the form of LNG, and of which 5 to 8 BCF/d of the LNG were exported to Europe (*please see Figure 1*).

Figure 1



[As Lucian Pugliaresi, EPRINC's President, along with Fred Hutchinson, President of LNG Allies wrote in a recent OpEd:](#)

"This has transformed our domestic energy situation—enabling vast renewable power growth, significant coal-to-gas switching, large CO₂ reductions, and the reshoring of dozens of fertilizer, chemical, and other industrial facilities. It has also made America the top LNG exporter and permitted us to bolster the energy security of allied nations from Japan and Korea to Poland and Germany.

"U.S. LNG exports are making substantial contributions to U.S. trade balances and domestic employment and bolstering the energy security of our allies. The disruption of pipeline gas shipments to Europe following the Russian invasion of Ukraine was a severe blow to European economic growth and security.

Alliance cohesion in response to the Russian invasion of Ukraine would be much more difficult in the absence of U.S. LNG, and although some in Europe initially viewed such shipments as a temporary necessity, a more pragmatic view is emerging."

U.S. European allies are underscoring the importance of this alliance "Since March 2022 [a few weeks after Russia's invasion of Ukraine], U.S. developers have signed 57 supply agreements representing about 73 million metric tons of LNG annually [9.5 BCF/d] ... more than four times the number of contracts they signed between 2020 and 2021," [reported Benoît Morenne in the Wall Street Journal.](#)

Information on these charts is available at: <https://eprinc.org/chart-of-the-week/>

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