

Gas Geoeconomics Essential to Win the “Long War” In Ukraine—And Asia



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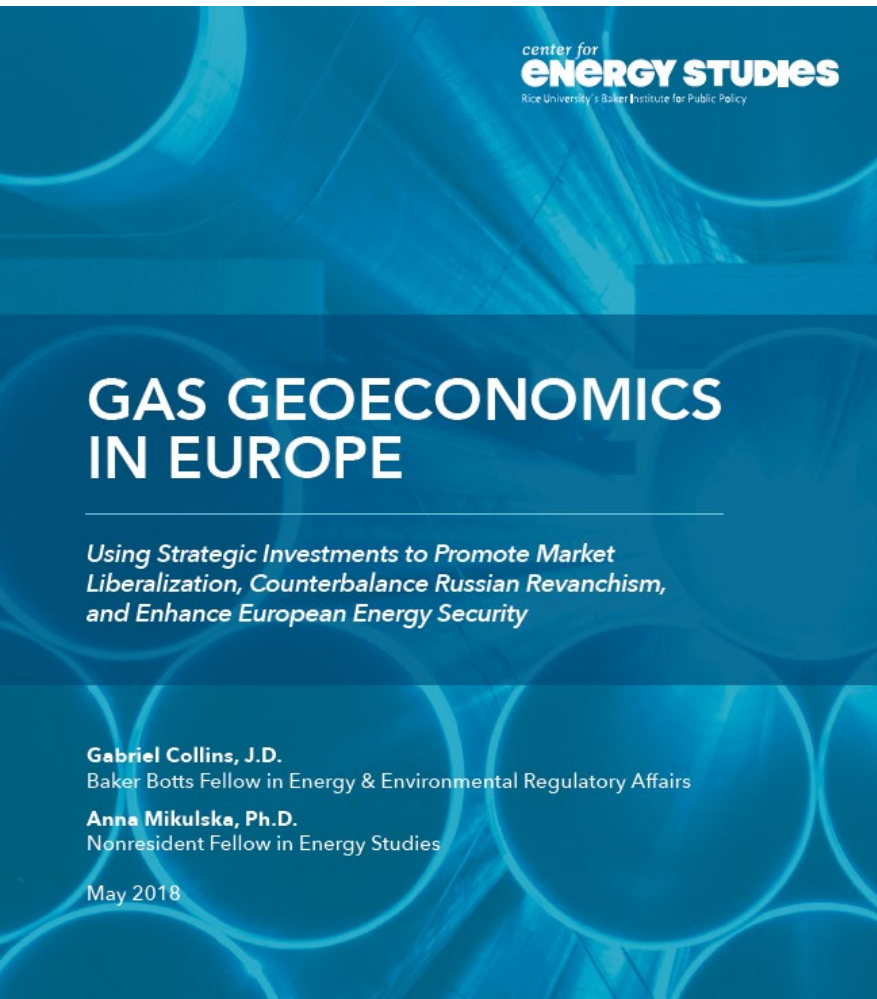
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Executive Summary

- *Gas geoeconomics is an essential prerequisite for victory in Ukraine, U.S. credibility in Asia, and should be one of Washington's top national security priorities.*
- *Russia's invasion of Ukraine credibly reflects reveals a desire to re-establish Moscow-centric imperium through force of arms, potentially along the approximate territorial parameters of the mid-19th Century Russian Empire in Europe.*
- *Rolling back the Kremlin's existing war of conquest and deterring future depredations will require a level of NATO defense-industrial mobilization not seen since the 1980s. Present sanctions efforts, even if deepened, cannot compensate for NATO's undersized munitions stockpiles and insufficient ability to recapitalize forces and potentially, timely replace combat losses—three elements critical for deterrence.*
- *Energy insecurity corrodes the economic and political foundations needed to sustain defense-industrial mobilization. Russia is thus intensifying its unprecedented efforts dating from early 2021 to use gas as an instrument to coerce and destabilize prime customers in Western Europe. *Unless Europe adopts proactive, war footing gas security policies, "General Time" will be on Russia's side.**
- *EU/NATO member states can build in resilience through Gas Geoeconomics policies. These would facilitate physical supply fungibility via expanded pipeline linkages within Europe and increased seaborne LNG supplies. Gas Geoeconomics would also aim to reform markets where needed and reset the investment environment by clearly communicating to the global gas value chain that gas has a 25-year forward time horizon on the Continent given its scale, superior emissions profile, capacity to yield hydrogen, and ability to facilitate wind and solar expansion.*
- *Public capital investments in Gas Geoeconomics by NATO member states approximating the roughly \$25 billion in military assistance pledged to Ukraine thus far would powerfully accelerate gas supply diversification efforts and would likely unlock a substantially larger amount of private capital.*

What is “Geoeconomics?”

...“using economic instruments to produce beneficial geopolitical results.”
(Blackwill, 2016)



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GAS GEOECONOMICS IN EUROPE

Using Strategic Investments to Promote Market Liberalization, Counterbalance Russian Revanchism, and Enhance European Energy Security

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Nonresident Fellow in Energy Studies

May 2018

Senate (10/11/2018)

115TH CONGRESS
2D SESSION

S. 3585

to prioritize the efforts of and enhance coordination among United States agencies and countries in Central and Eastern Europe to diversify their energy sources, enhance Europe's energy security, and help the United States reach its global energy and other purposes.

IN THE SENATE OF THE UNITED STATES

OCTOBER 11, 2018

MR. MURPHY (for himself and Mr. JOHNSON) introduced the following bill; which was read twice and committed to the Committee on Foreign Relations

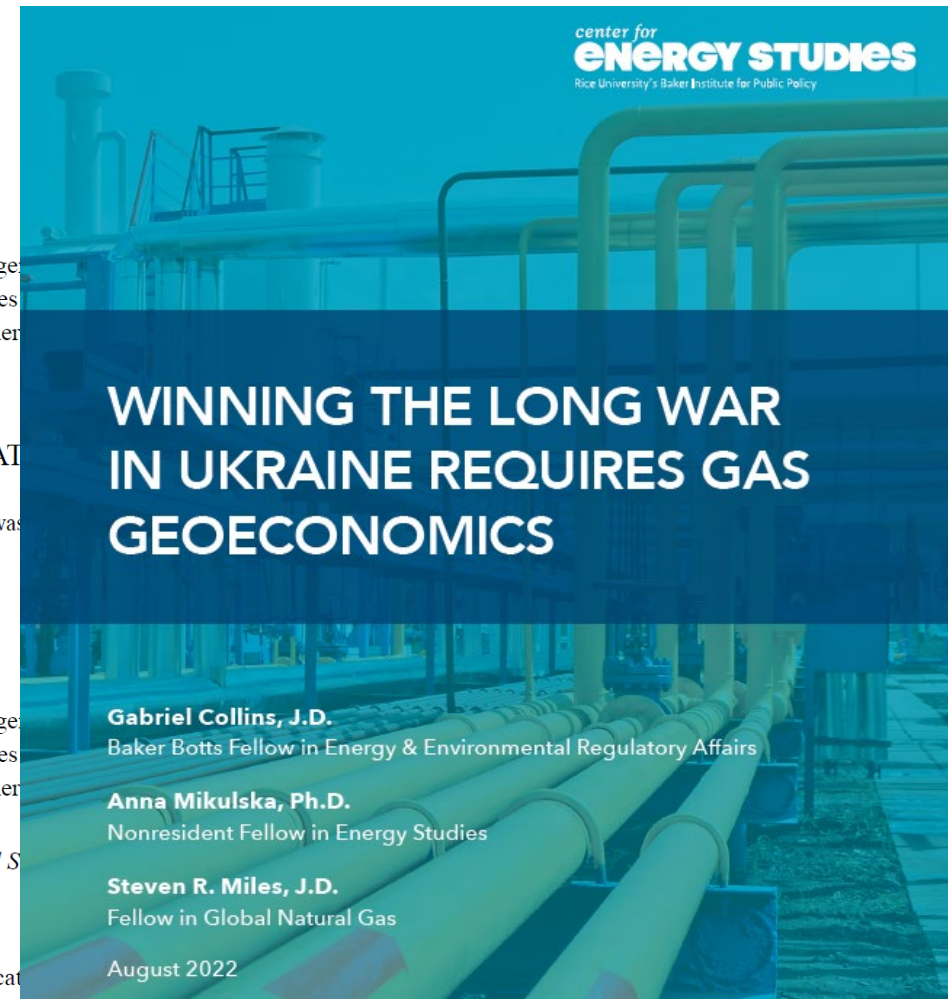
A BILL

to prioritize the efforts of and enhance coordination among United States agencies and countries in Central and Eastern Europe to diversify their energy sources, enhance Europe's energy security, and help the United States reach its global energy and other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “European Energy Security and Diversification Act of 2018.”



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WINNING THE LONG WAR IN UKRAINE REQUIRES GAS GEOECONOMICS

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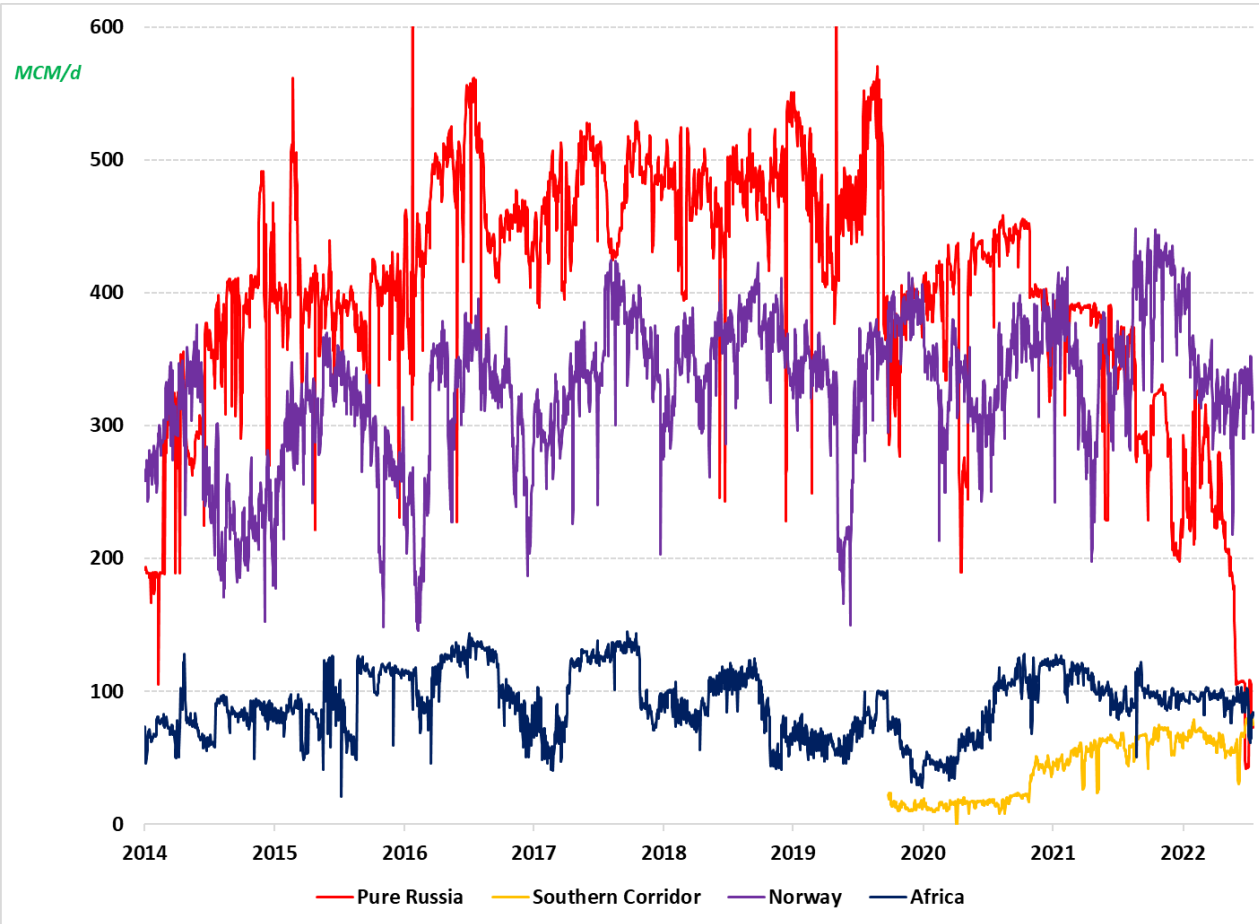
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August 2022

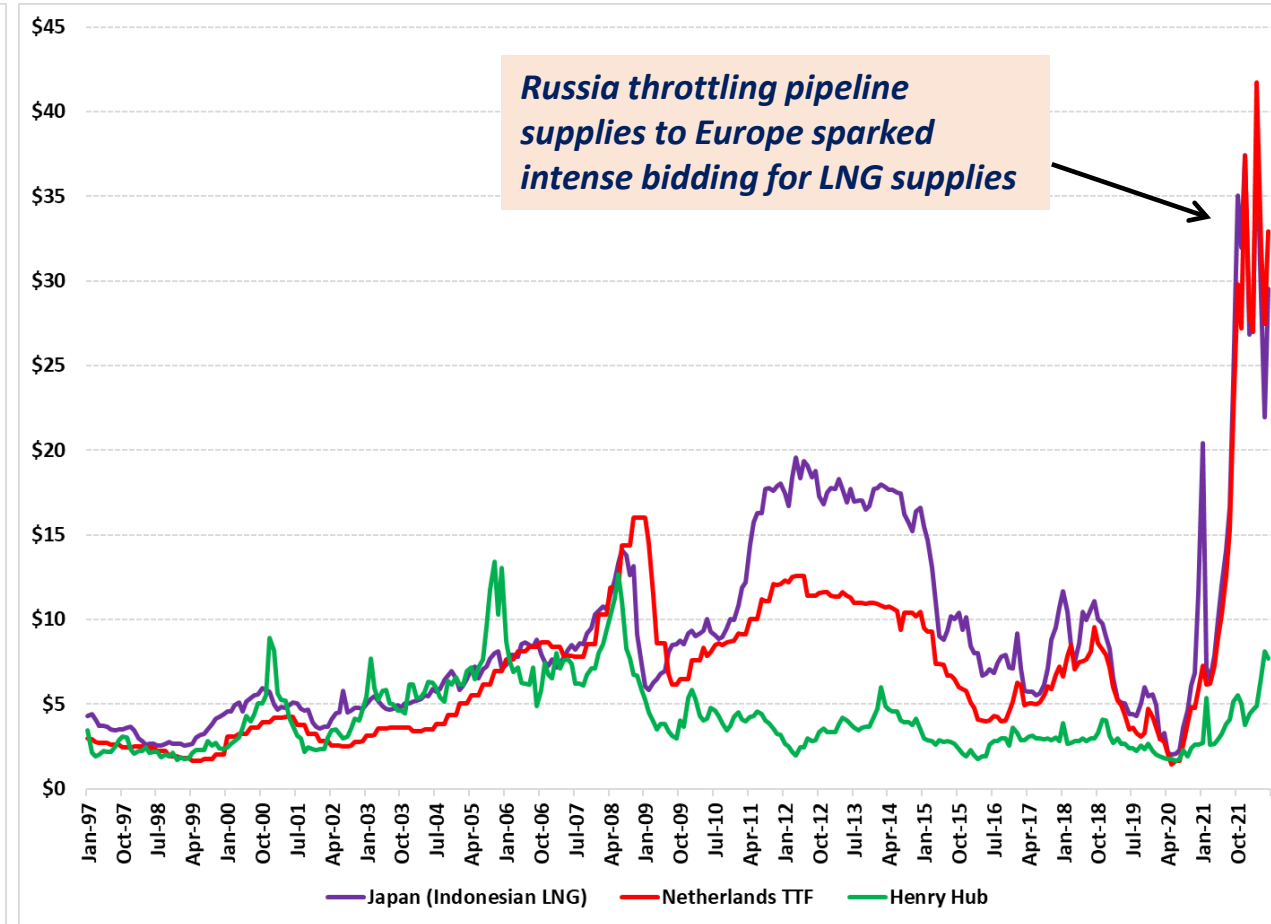
Russia Is Deploying The Gas Weapon Against Europe...

Pipeline Gas To Europe—Only Russia Cut Volumes in 2021



Source: ENTSOG, Authors' Analysis

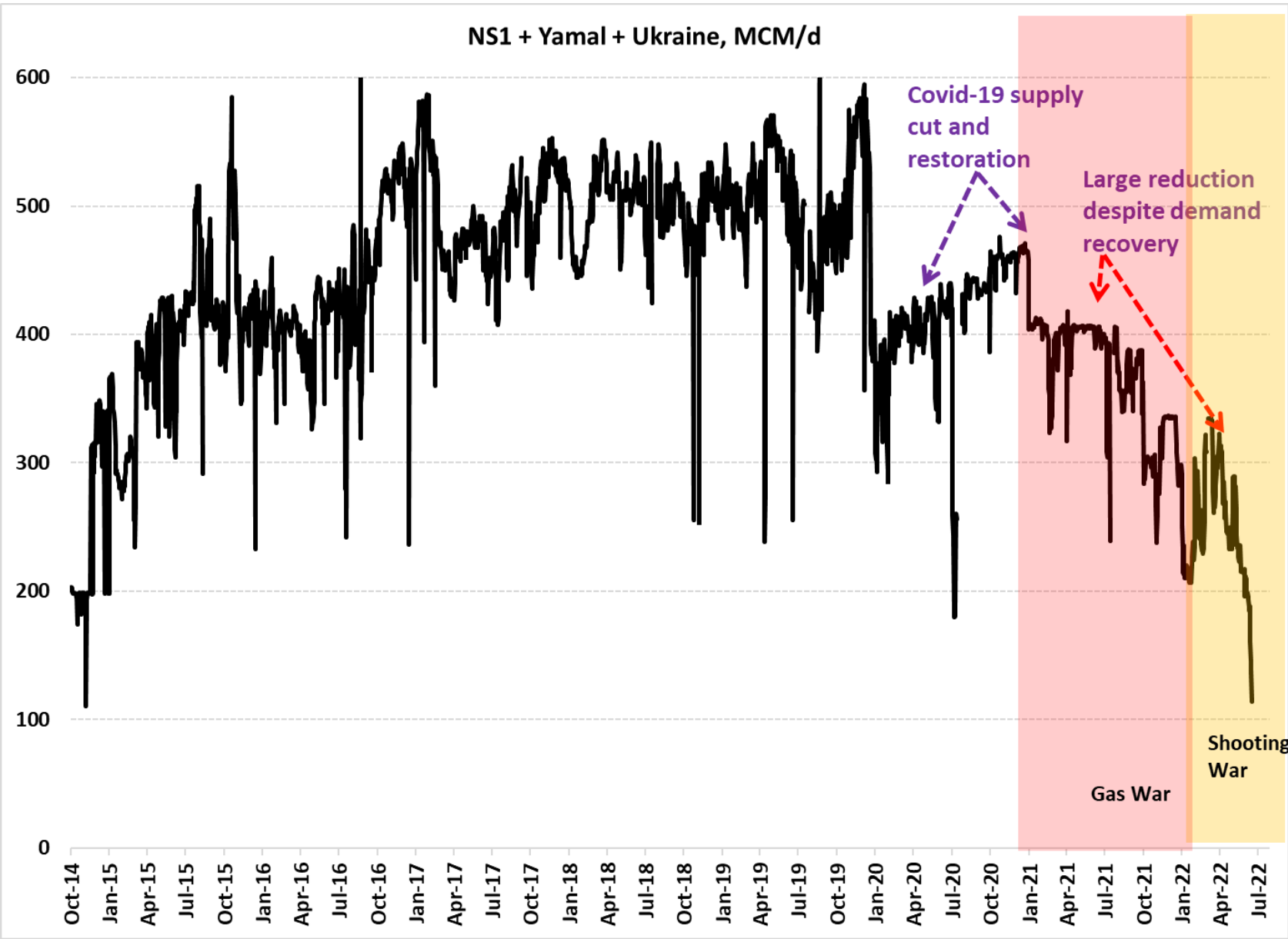
Natural Gas Prices in Europe, US, and East Asia, \$/mmbtu



Source: EIA, FRED St. Louis, IMF, Authors' Analysis

...Causing A Scale of Energy Disruption Not Seen Since 1973 and 1990

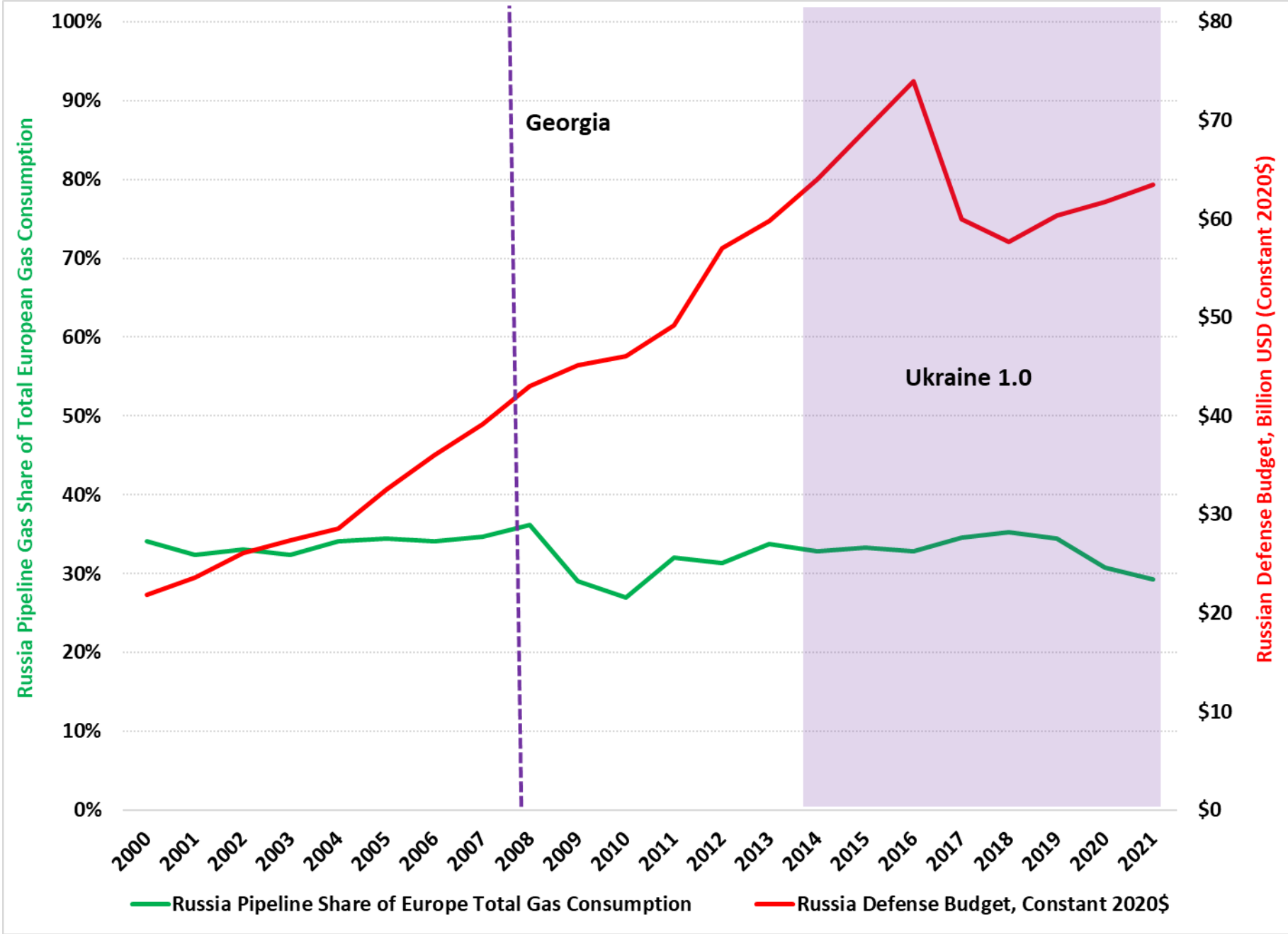
Russian Pipeline Gas Supplies to Europe, Million Cubic Meters/Day



- Gazprom's pre-COVID supply levels to Europe suggest it withheld approximately 30 billion cubic meters (BCM) of gas, equal to about 5% of Europe's actual gas consumption in 2021 (with the figure of actual gas withheld by Russia in 2022 dramatically higher).
- While 5% may not seem significant at first glance, it is.
- The 1973-1974 Arab Oil Embargo reduced crude oil supplies by an amount equal to about 7% of global consumption and caused oil prices to rapidly quadruple—like gas prices in Europe over the past 18 months.

...And Capitalizing on a Vulnerability Decades in the Making

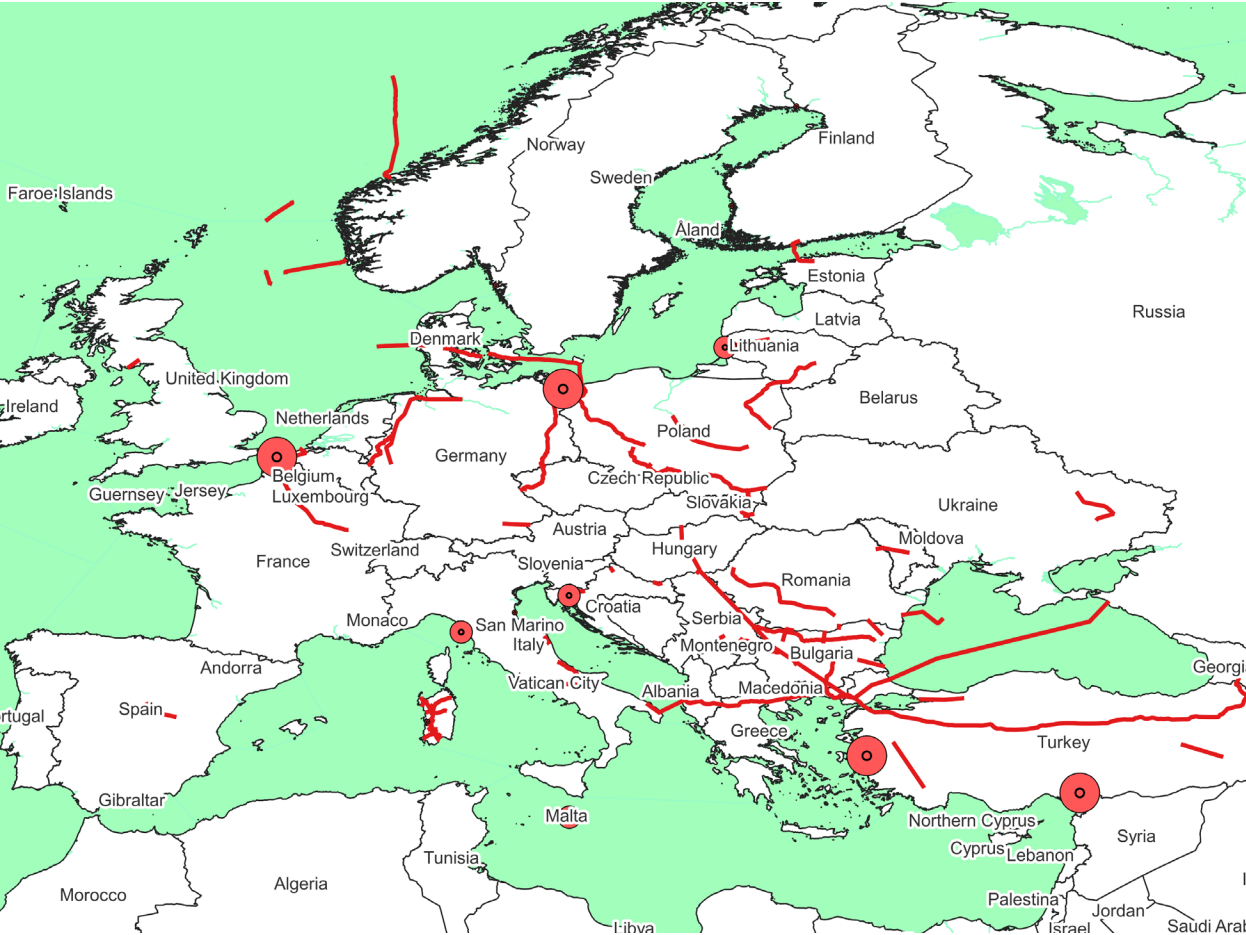
Russia Invested in Its War Machine While Europe Largely Failed to Diversify Its Gas Supplies



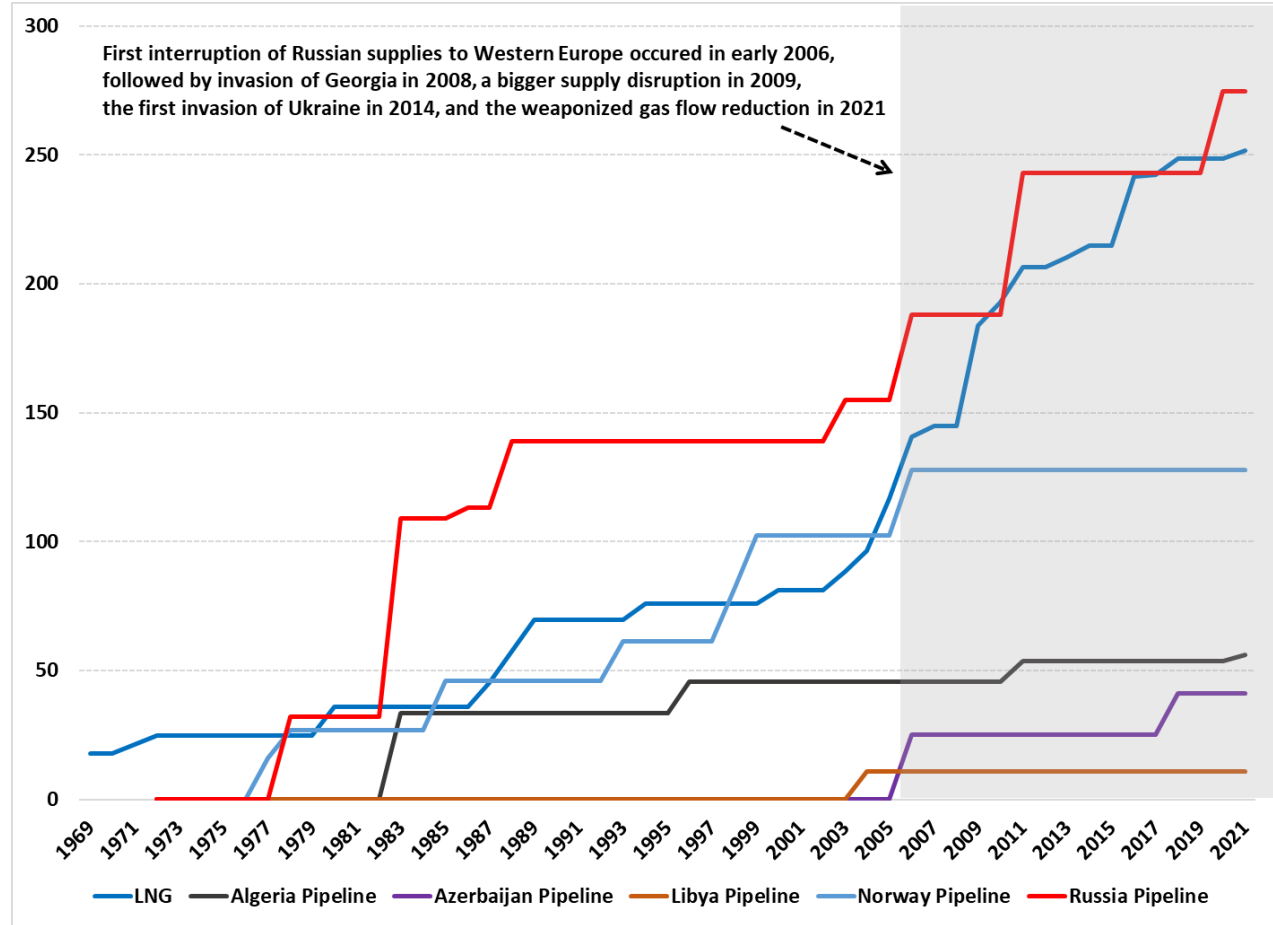
Source: BP Statistical Yearbook of World Energy, SIPRI, Authors' Analysis

...A Product of Anti-Gas Policies That Hindered Supply Diversification...

Europe LNG Terminals & Gas Pipelines Built: 2013-2022



Europe Gas Import Capacity by Source, Billion M³/Yr

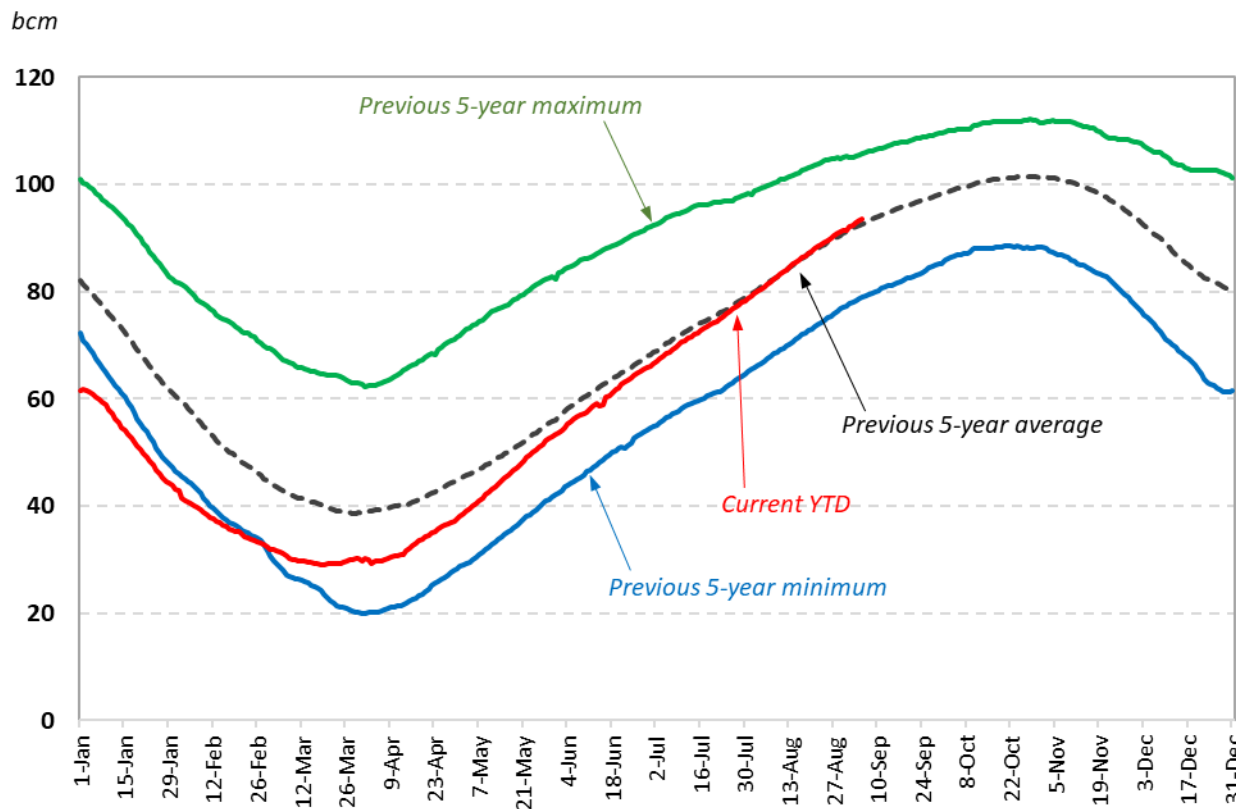


LNG terminals added between 2013 and 2022 could only offset about 1/6 of inbound Russian pipeline gas capacity

Europe Increased Russian Import Capacity by Over 100 BCM/yr Despite Major Geopolitical Warning Signs

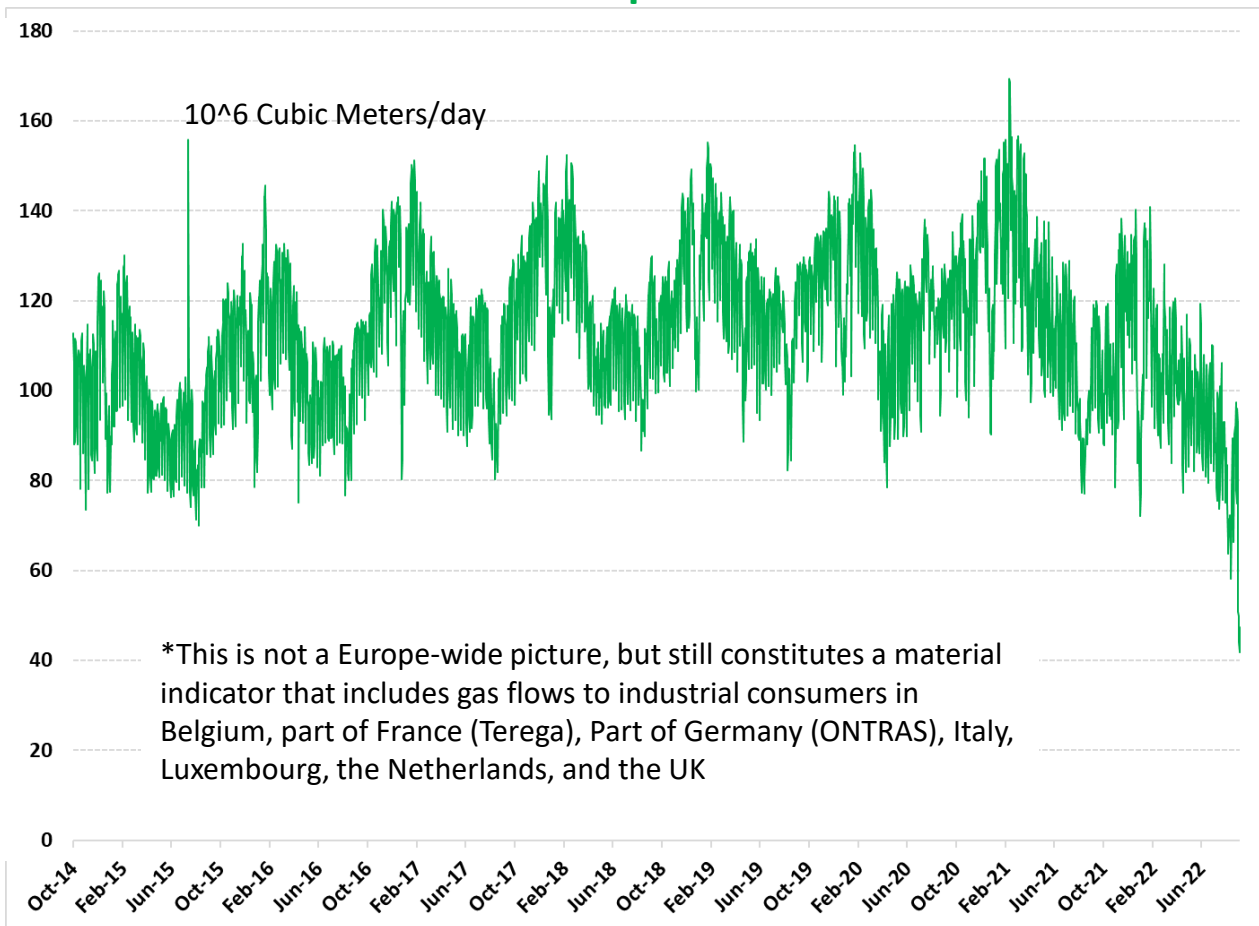
...And Now Force Europe to Sacrifice Industrial and Power Sector Gas Use

European Gas Storage Levels Track the 5-Yr Average...



Source: GIE, Authors' Analysis

...But Have Been Built at Expense of Industrial Gas Use



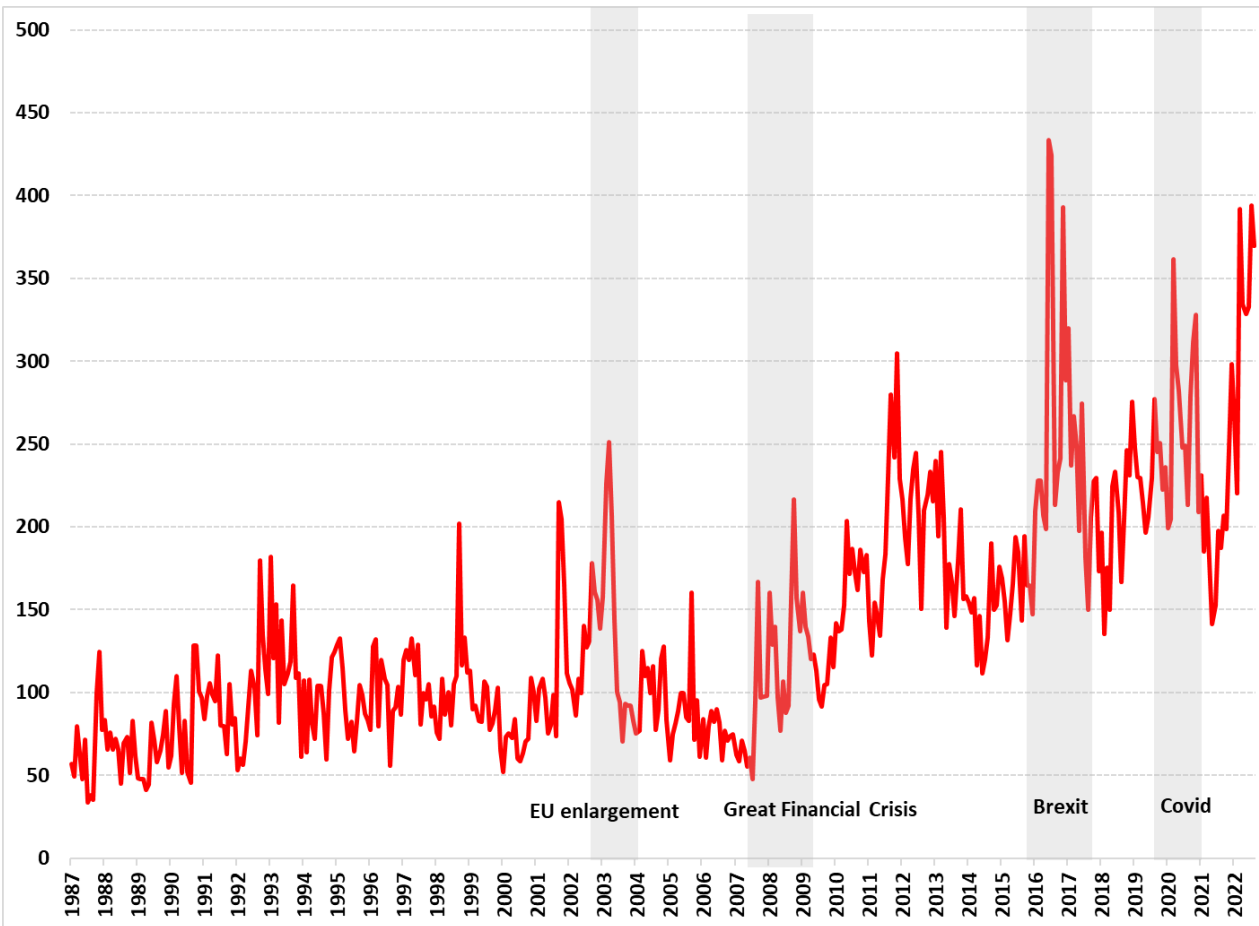
*This is not a Europe-wide picture, but still constitutes a material indicator that includes gas flows to industrial consumers in Belgium, part of France (Terega), Part of Germany (ONTRAS), Italy, Luxembourg, the Netherlands, and the UK

Source: ENTSOG, Authors' Analysis

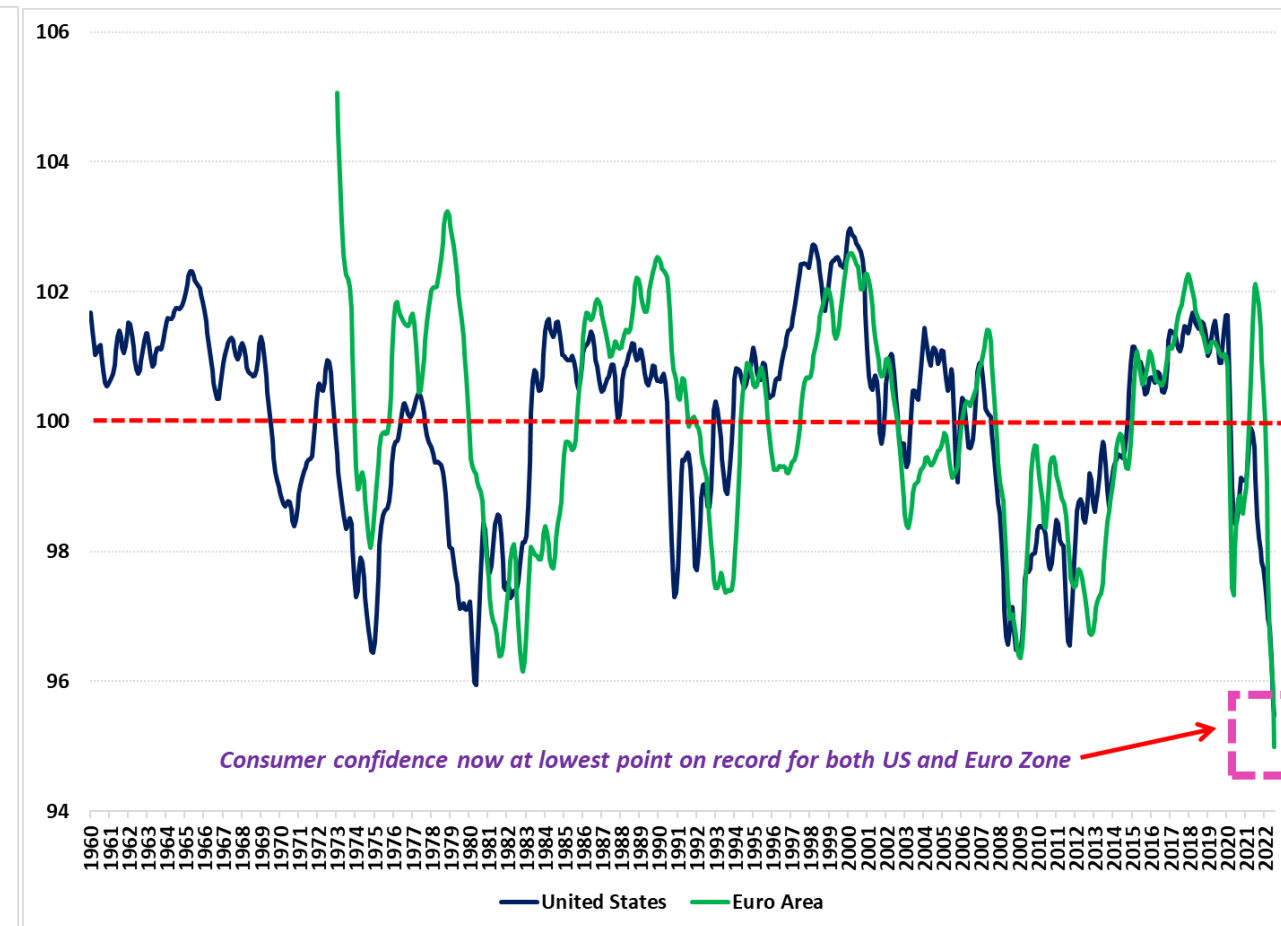
Sacrificing industrial gas consumption to fill storage is not a sustainable strategy and cannot cope with the multi-year gas security challenges ahead.

...With Significant Economic and Social Consequences

Economic Uncertainty in Europe Now Nearing Brexit Levels



US and Eurozone Consumer Confidence Now at Its Lowest Point in at Least 60 Years



Baker, Scott R., Bloom, Nick and Davis, Stephen J., Economic Policy Uncertainty Index for Europe [EUEPUINDXM], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/EUEPUINDXM>, September 1, 2022.

Organization for Economic Co-operation and Development, Consumer Opinion Surveys: Confidence Indicators: Composite Indicators: OECD Indicator for the Euro Area [CSCICP03EZM665S], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CSCICP03EZM665S>, September 1, 2022.

War is a test of wills. Dynamic, years-long, interplay between economic heft, industrial capacity, and political resilience determines victory and defeat when Great Powers clash.

This process is now well-underway in Ukraine. Energy security will play a pivotal role in efforts to hold the line.

**Europe's Energy Insecurity Will,
If Unaddressed, Enable Russia's
Imperial Ambitions**

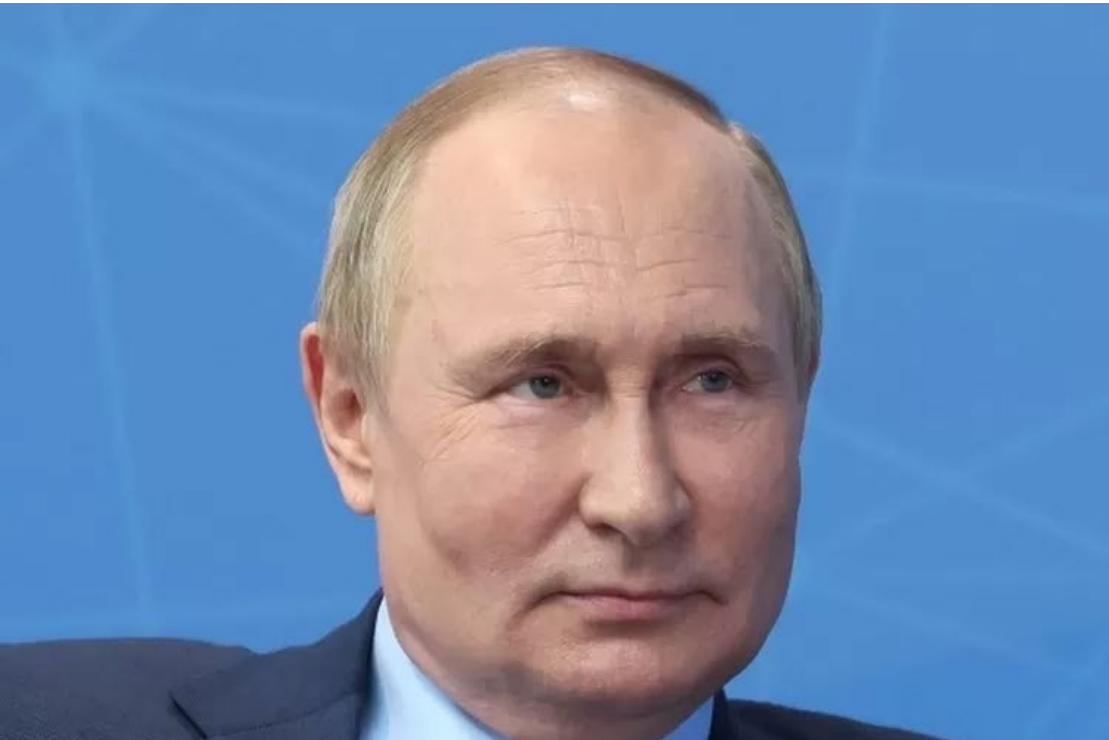
Russian Territorial Ambitions Likely Extend Beyond Ukraine



Putin Draws Historical Analogy to Tsar Peter's 20-Year Northern War

"You might think he was fighting with Sweden, seizing their lands. But he seized nothing; he reclaimed it! It seems it has fallen to us, too, to reclaim and strengthen..."—RF President Vladimir Putin, 10 June 2022

2022

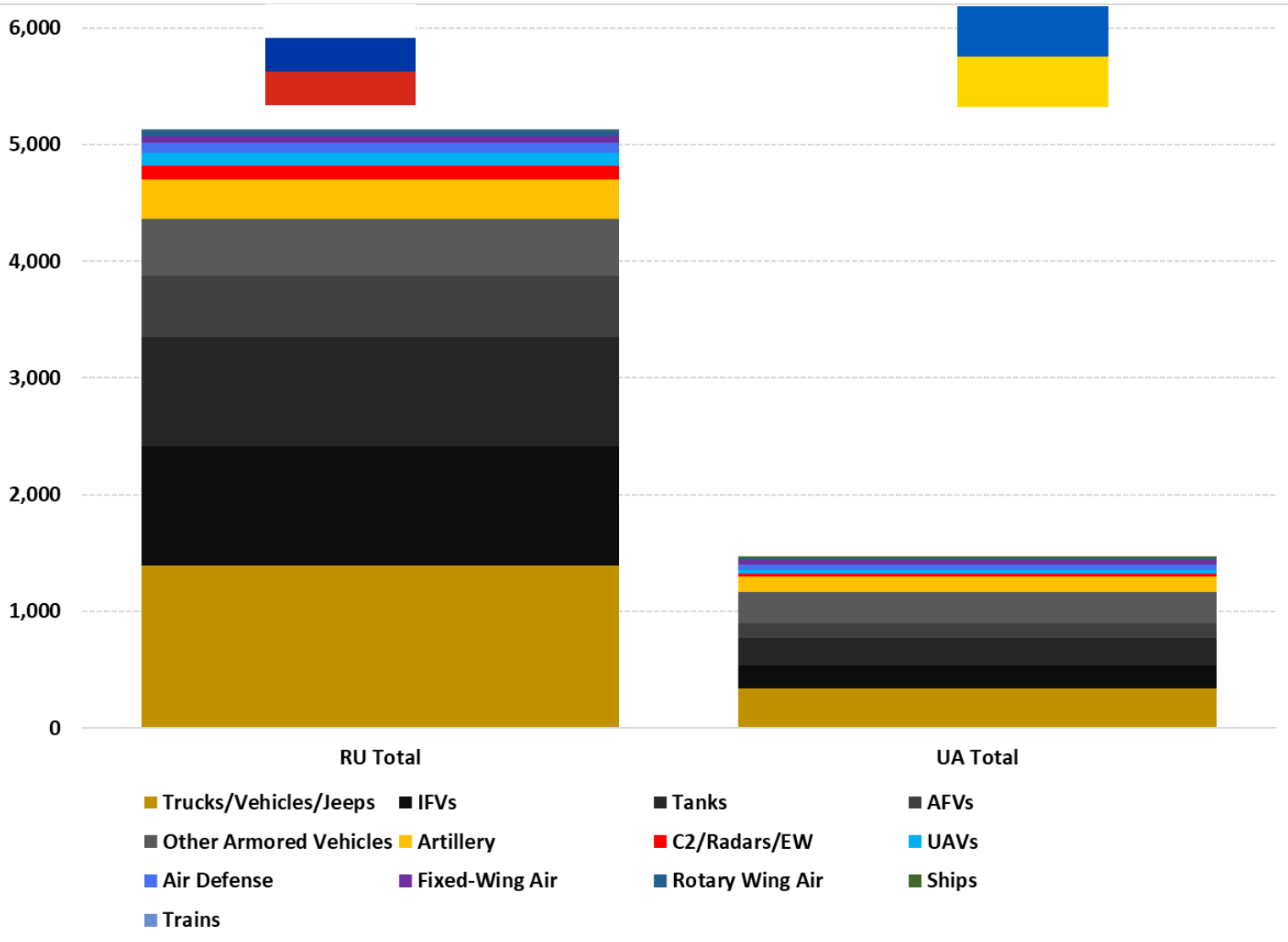


1709



Russian Forces Have Suffered Tremendous Losses Thus Far...

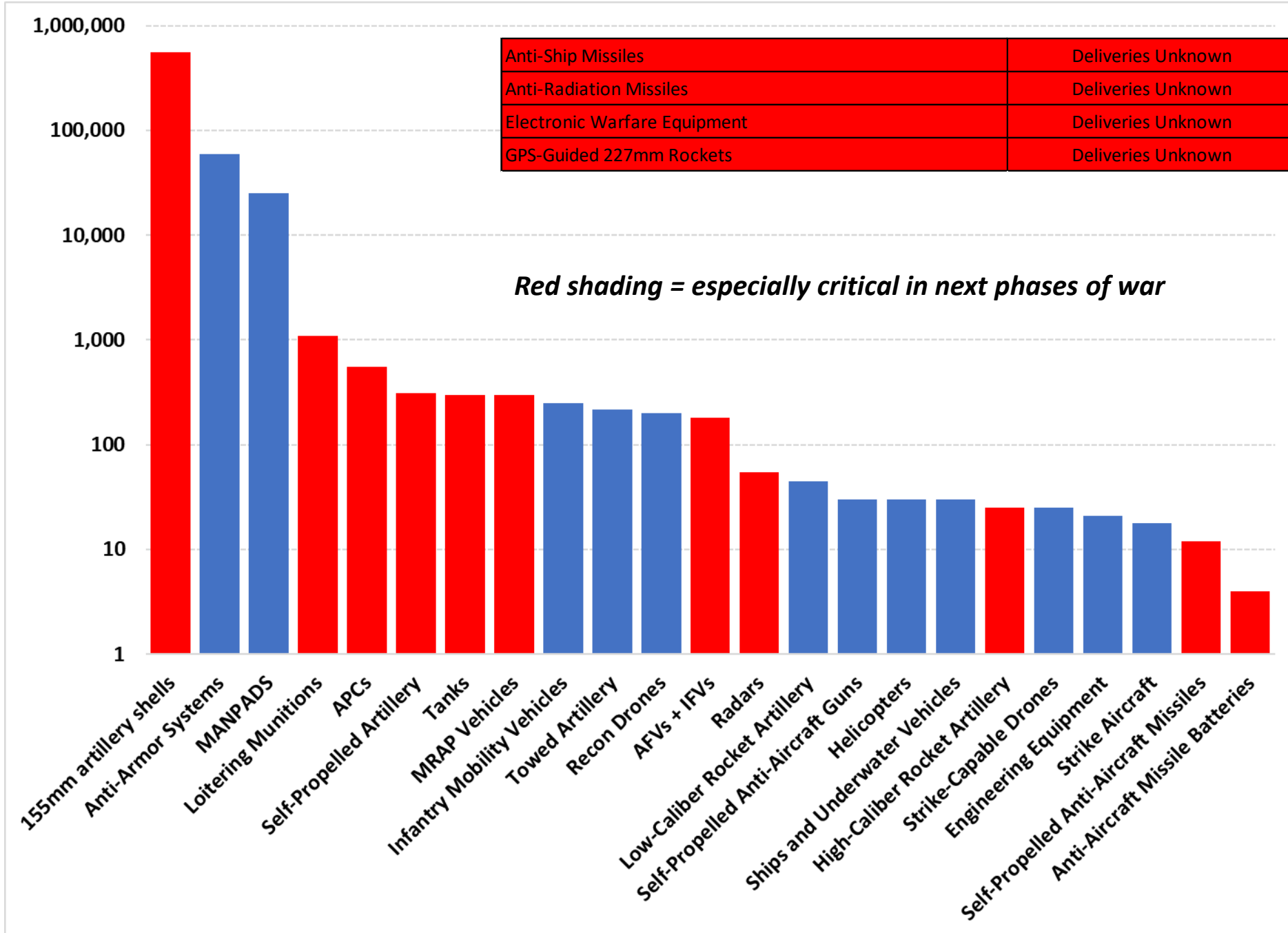
Russian and Ukrainian Equipment Losses (10 Aug. 2022 Confirmed)



- Perspective: Russia has already lost more than 1/3 as many tanks and roughly 1/3 as many infantry fighting vehicles as US has in its own active-duty inventory
- Source: IISS 2021 Military Balance

Equipment Committed and/or Delivered, Units

...As (And Because) Ukraine's Partners Have Ramped Up Arms Supplies



Anti-Ship Missiles	Deliveries Unknown
Anti-Radiation Missiles	Deliveries Unknown
Electronic Warfare Equipment	Deliveries Unknown
GPS-Guided 227mm Rockets	Deliveries Unknown

Sources: US Defense Department, <https://www.nytimes.com/2022/04/19/world/europe/us-ukraine-weaponry.html>, <https://www.oryxspioenkop.com/2022/04/answering-call-heavy-weaponry-supplied.html>

But Most Supplies to Date Are From Stockpile Drawdowns...

- Multiple NATO militaries now face urgent requirements to backfill arms transferred to Ukraine and in many cases, expand their defense platform base to deter a Russian threat who relevance the Ukraine invasion graphically proves.

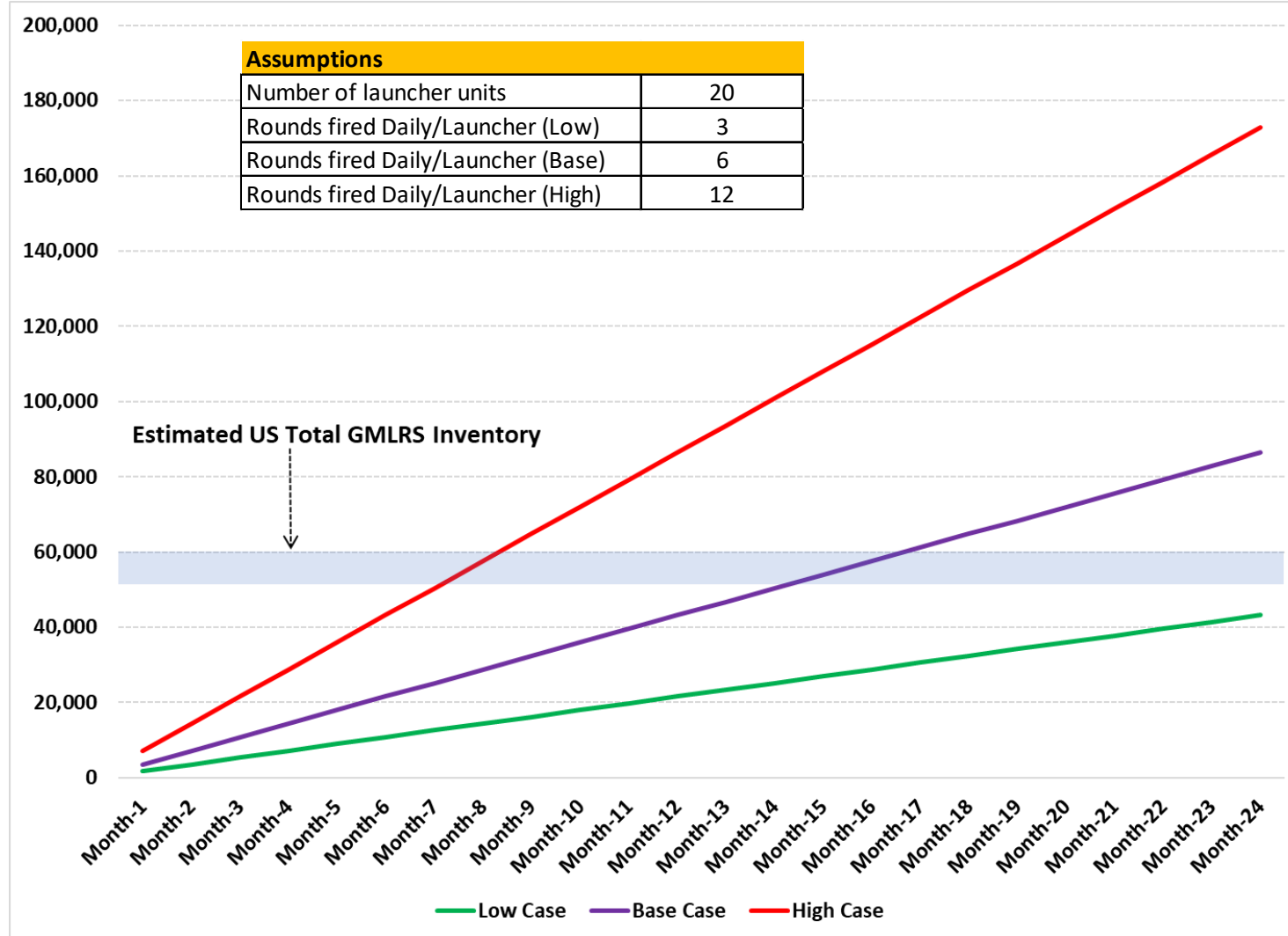
Country	System Type	System Name	% of National Inventory Transferred
Norway	artillery	M109A3	92%
Poland	armor	T-72	70%
Czech Republic	armor	T-72	34%
Poland	artillery	Krab	32%
UK	artillery	L118/L119	32%
USA	ATGM	Javelin	28%
France	artillery	CAESAR	24%
UK	artillery	M270	17%
Netherlands	artillery	Pzh-2000	14%
USA	artillery	M777	13%
Australia	artillery	M777	11%
Canada	artillery	M777	11%
UK	air defense	Stormer	10%
Germany	artillery	Pzh-2000	8%
Germany	artillery	MARS	7%
Australia	MRAP	Bushmaster	6%
USA	armor	M113	4%
USA	artillery	HIMARS	4%

Source: Oryxspionkop, IISS Military Balance 2021

...And Restoring Ukraine Pre-2014 Borders Will Require Massive and Sustained Additional Supplies of Platforms and Munitions

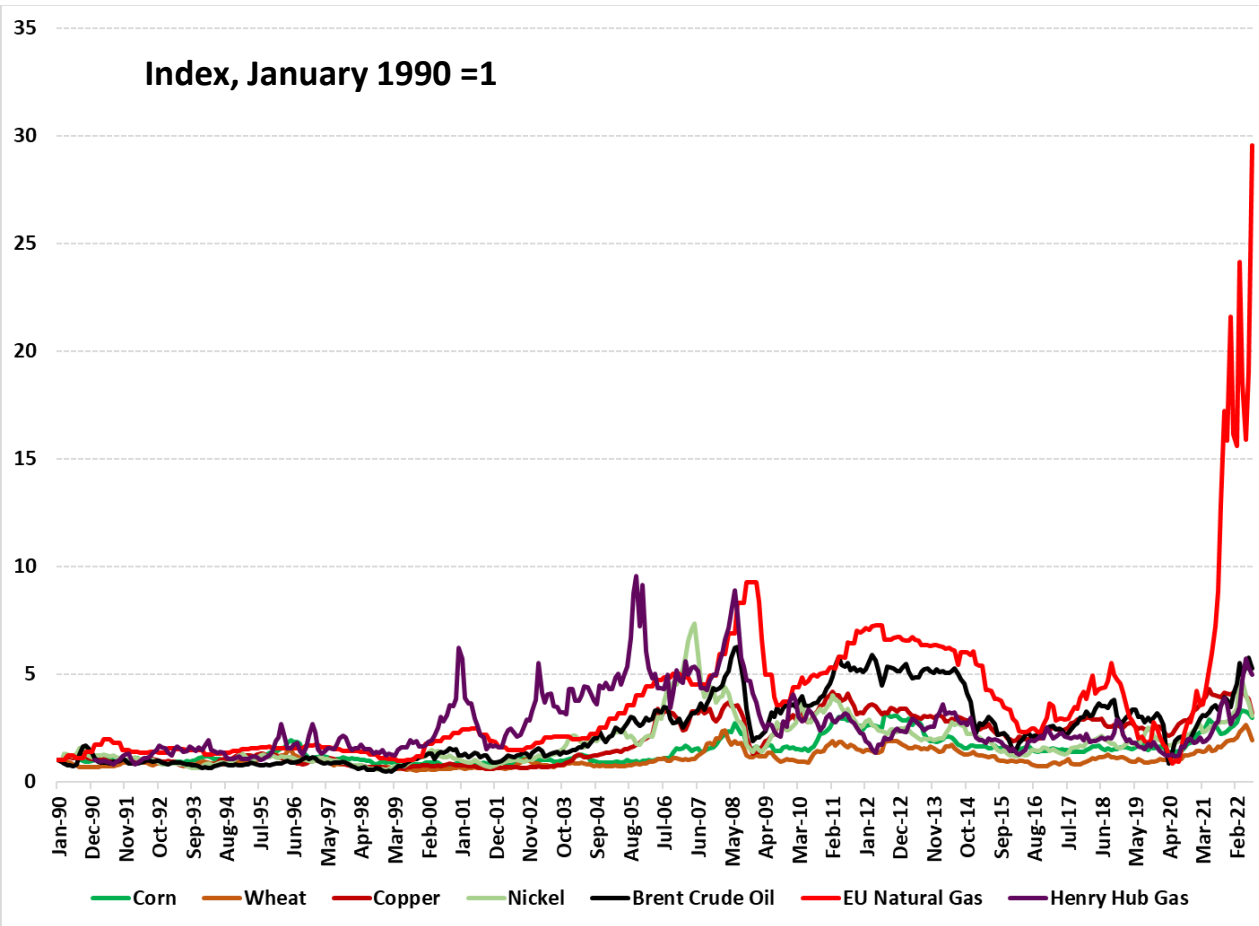
- Ukraine will need to recover roughly 120,000 km² of occupied territories: roughly the area of Pennsylvania, but stretched out along a frontline approximately 1,000 km long—roughly the distance from New York to Charlotte, NC
- It is likely that Kyiv will seek to use precision munitions to degrade Russian defenses in advance of attacks in order to preserve its soldiers.
- Cumulative shot count is going to be high
- Depending on campaign length, existing US stockpiles could be depleted. Industrial spool-up is urgently needed and is starting in earnest in the United States.

Potential Cumulative GMLRS Rocket Consumption, Units



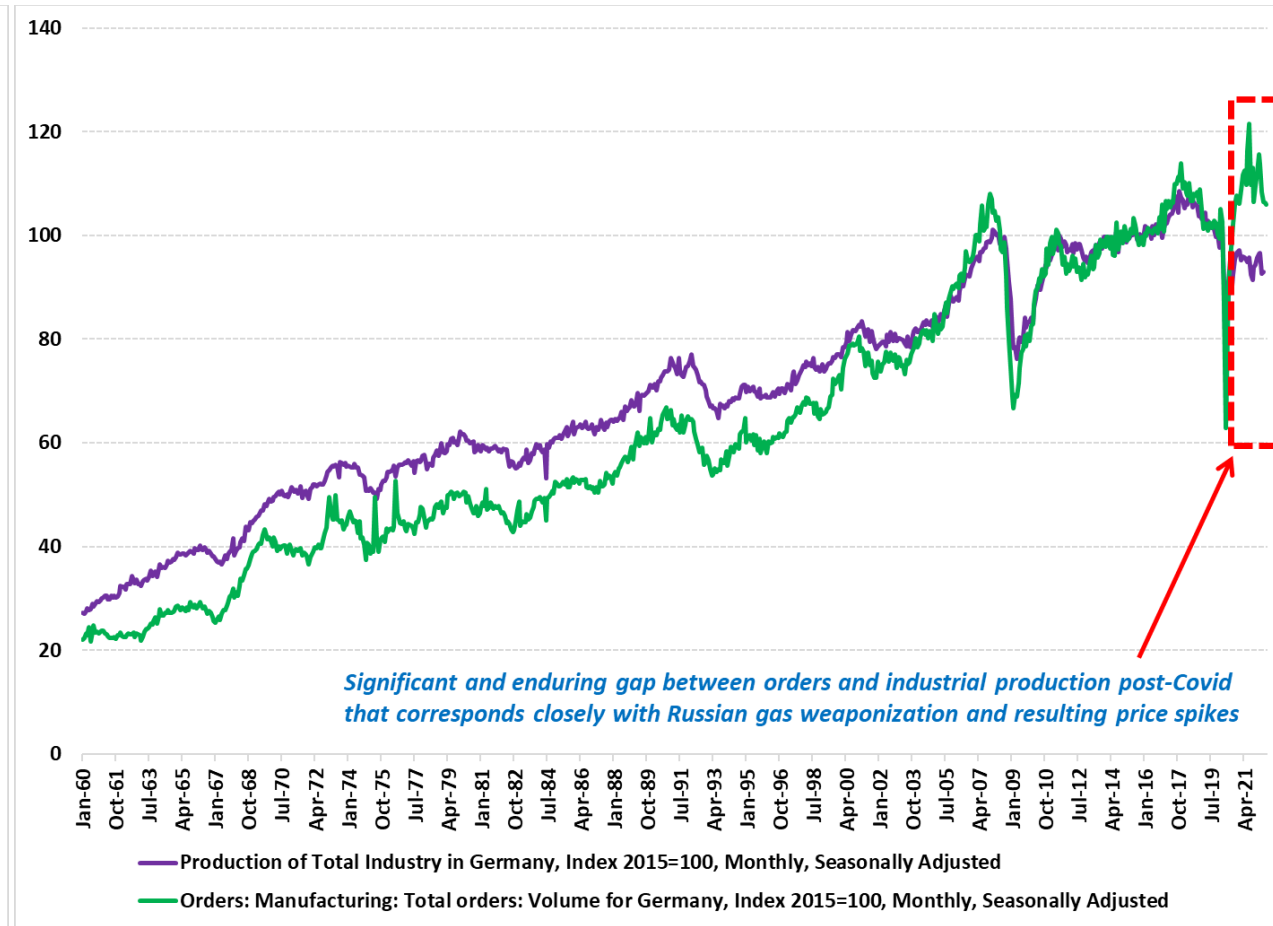
Perhaps Unsurprisingly, Russia Using Gas to Derail NATO Industrial Mobilization

Many Commodity Prices Spiked in 2021-2022, But Only European Gas Prices Have Exceeded Historical Bounds...



Source: EIA, FRED St. Louis

...And German Industrial Production Now Lags Manufacturing Orders

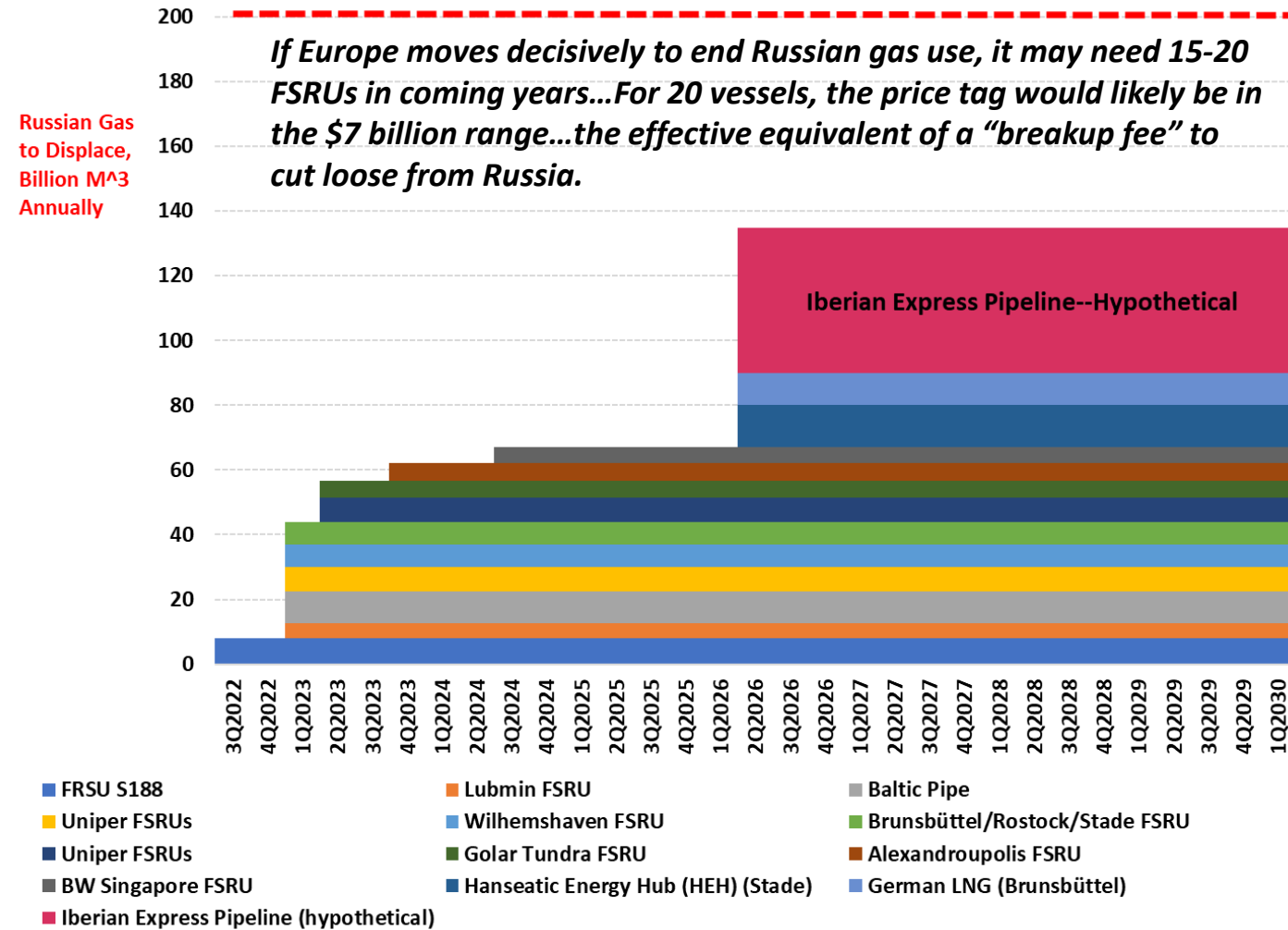


Organization for Economic Co-operation and Development, Orders: Manufacturing: Total orders: Volume for Germany [DEUODMNT001IXOBSAM], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/DEUODMNT001IXOBSAM>, September 6, 2022.

Short-Term is Grim, Gas Geoeconomics Essential to Close Supply Gap

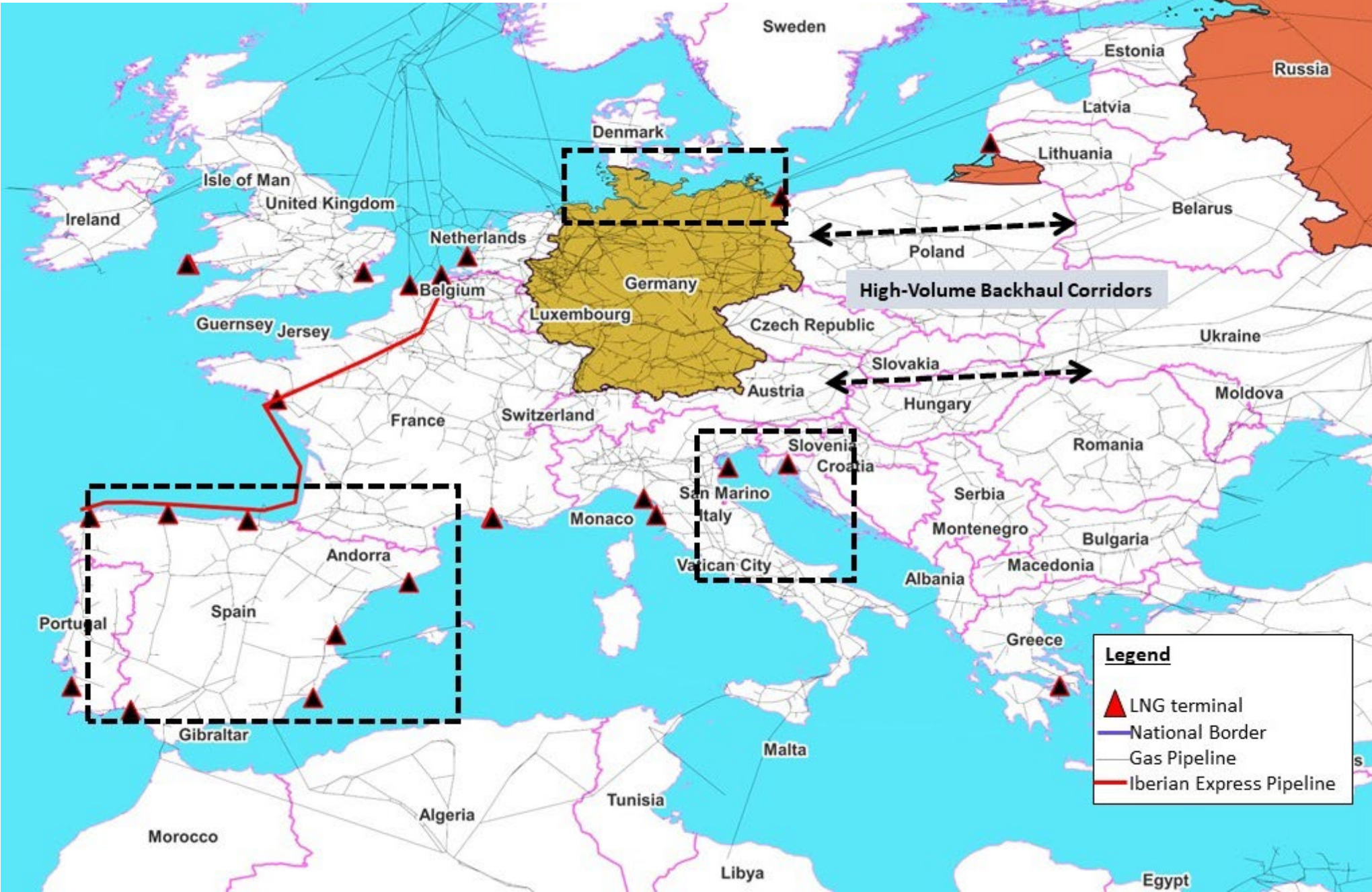
Five key items to resolve:

1. Maximizing the potential of existing LNG terminals in the Iberian Peninsula that are underutilized but stranded from other European markets by insufficient pipeline linkages;
2. Finding ways to bring more LNG into Northern Europe (especially Germany) and the Balkans;
3. Expanding interconnectors between markets to facilitate the shuttling of supplies;
4. Promoting greater market liberalization, including a slow and systematic liberalization of gas storage to reflect market principles rather than regulatory targets set by diktat; and
5. Reforming EU and US policy to assure project developers and sponsors that gas has a long-term future, including by supporting decarbonization goals through displacing coal globally and thereby encouraging investment in the full gas value chain worldwide.



Sources: Gastrade, RWE, Uniper, Upstream Online, authors' analysis

Key Gas Geoeconomics Investment Corridors



Gas Geoeconomics Can Help Contain a Global Axis of Autocracy

- Gas security is a global issue. Were conflict to erupt in East Asia (whether in China, North Korea, or both), Russia would almost certainly seek to capitalize on the diversion of American strategic focus to the Asian contingency. Indeed, preparing for (and hopefully, deterring) war in Asia already increasingly dominates thinking and spending in Washington. This makes sense because China now marshals economic power equal to all of its regional neighbors combined, making US participation irreplaceable to ensure a free and open Indo-Pacific.
- Yet Europe is also a core security interest, and deep US participation is essential to bridge significant divisions between Eastern and Western European countries over how to handle Russian revanchism. **Gas security will beget economic security and ease the path of diplomacy.**
- Russia's attack on Ukraine now directly threatens the world's second most important economic region, right as China doubles down its efforts to establish hegemonic control over the single most important economic area. The threat is global and responses must be commensurate. As our Russian counterparts might put it, "Всё переплетено" ("it's all intertwined").
- **Gas geoeconomics is an essential prerequisite for victory in Ukraine and US credibility in Asia—and should be one of Washington's top national security priorities.**

History Shows the Terrible Price of Insufficient Action



Chamberlain and Hitler, Munich, 1938

“It is the last territorial demand which I intend to make in Europe, but it is the demand which I will not abandon and which will, God willing, be fulfilled!”—
Adolf Hitler, 26 September 1938

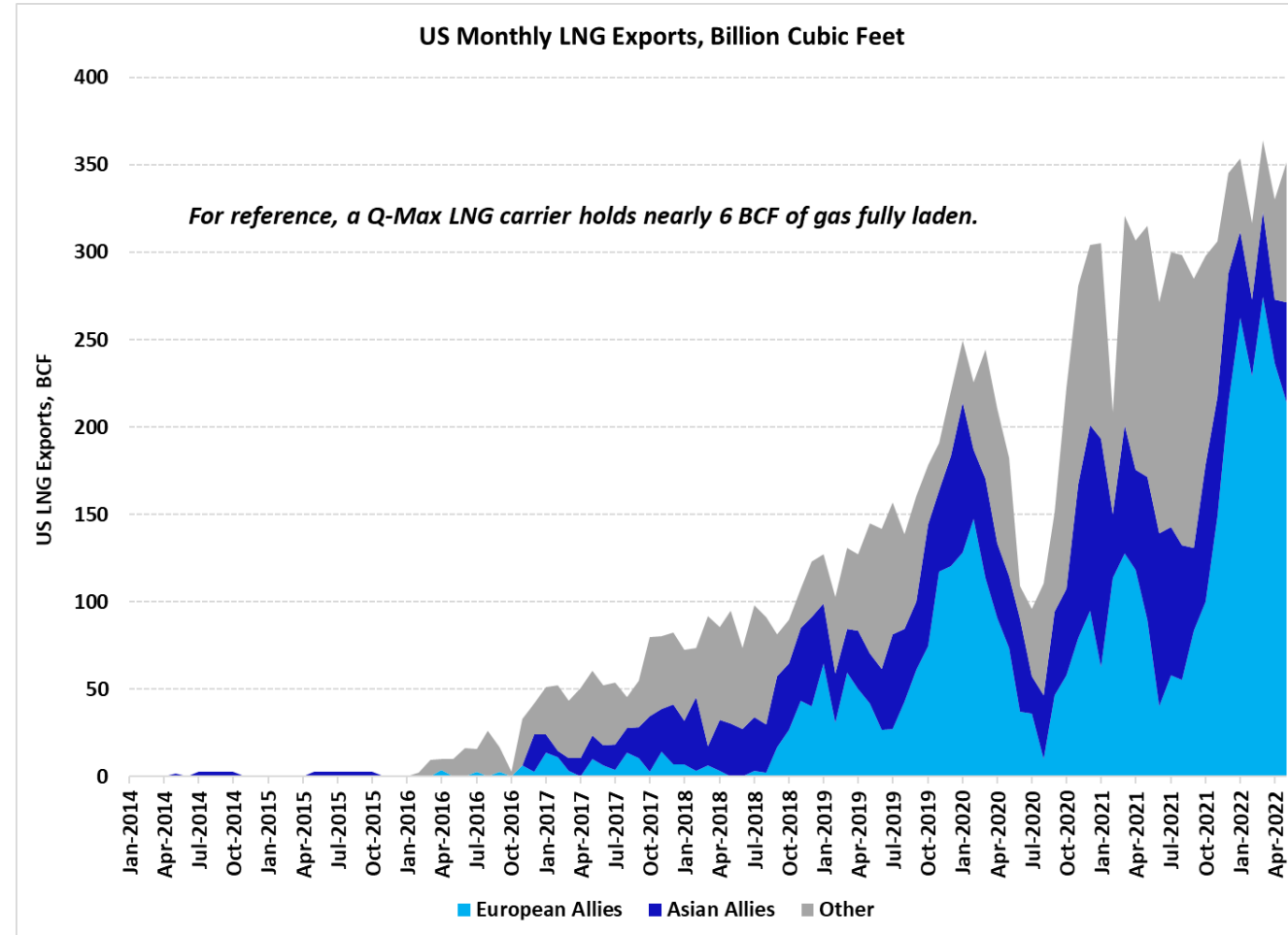
- Constructive negotiations with a revisionist foe requires a decisive and sustained military campaign to contain the aggression and roll back the conquests to antebellum status.
- Russia likely seeks to “freeze” the war but would only use the pause to solidify its hold on forcibly acquired territories, rebuild forces, and gear up for additional conquest.
- Frozen conflict would hinder Ukraine’s re-construction and likely ultimately cost Europe and NATO more than it would to invest in Ukrainian restoration of full territorial sovereignty as rapidly as possible. Accepting sacrifices for 2-3 years to achieve this end offers a far more positive path ahead than would alternating cycles of war and pause established on Moscow’s timetable and to Europe and the United States’ consistent detriment.
- Now is the time for the U.S. and Europe to buckle down, accept a degree of sacrifice, and gird for providing the industrial support Ukraine needs to prevail.
- Gas geoeconomics can help fortify the foundation of this vital industrial mobilization.

American Resource Abundance Has Helped Allies Face Down Revisionist Aggression Before

First It Was Food...

- **“Contrary to the general impression, our main exports to Europe have not been the weapons of war...The explanation for our great increase in exports is found rather in the group we call *food*, especially in breadstuffs.”**—Edwin Clapp, 1915*
- **“..agriculture is one segment of our economy already geared to meet any emergency challenge, already offering us fully productive resources to meet any threat of Soviet economic warfare throughout the world.”**—United States Senate, Committee on Agriculture and Forestry, 1958**

...Now It's About Energy



Source: EIA, Authors' Analysis

*ECONOMIC ASPECTS OF THE WAR: NEUTRAL RIGHTS, BELLIGERENT CLAIMS AND AMERICAN COMMERCE IN THE YEARS 1914-1915, <https://net.lib.byu.edu/estu/wwi/comment/Clapp/ClappTC.htm#TC> ; **"Food and fiber as a force for freedom: report by Senator Hubert H. Humphrey to the Committee on Agriculture and Forestry, United States Senate on policies and operations under the agricultural trade development and assistance act (Public Law 480, 83d Cong.) and its relationship to foreign policy", Senate Committee on Agriculture and Forestry," 21 April 1958, <https://books.google.com/books?id=ll1-xQEACAAJ&printsec=frontcover#v=onepage&q=economic%20warfare&f=false>

Thank You!

Questions, comments, and hate mail can all be sent to gbc3@rice.edu

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