

# Economic and Political Implications of Disrupting Russian Energy Flow

by Scott Semet

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All data and references are current as of that date unless specified otherwise.*



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I N S T I T U T E

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## Introduction

Moving energy from rich sources to productive uses, enabling the development of an advanced society with great benefits, is the story of our species. Our policies that disrupt these energy flows, ostensibly to punish Russian misdeeds, are causing severe long-term pain, particularly in Europe and the Global South. The costs to the United States and Russia are much less. We largely do not notice or do not care that imposing these costs on the rest of the world undercuts our position and undermines our claim to global leadership.

Furthermore, sanctions have not worked: Russia has not changed policies and its economy has begun to expand again. China, India, and the Global South continue to trade with Russia and have further distanced themselves from the United States due to its arm twisting. Going forward, doubling down on these failed policies and pressuring others to toe the line is likely to backfire as higher global energy prices degrade the economies of Europe and the Global South, fueling social unrest and animosity toward the United States.

In the United States, increasing LNG exports to capture higher prices abroad risks driving domestic gas prices up unless the current administration allows greater expansion of production and transport infrastructure. This would damage the US economy and could become a national security threat. Increasing exports at prices greater than those in the United States, together with our political stances, sows doubts and misgivings among allies about our motives and values.

These policies are also harmful to the environment. Few would argue against phasing out dirty coal, but US policies are actively encouraging the rest of the world to massively expand coal-fired capacity, damaging health globally. Pressure on these countries to not increase energy consumption is tantamount to suggesting that their people remain in poverty to achieve US policy goals, a most immoral, anti-human stance.

If these policies had been implemented on a temporary basis, the pain would have been less severe and easier to understand and tolerate. Making these measures permanent is a terrible policy. Even if we bracket away the possibility of nuclear war, a never-ending state of hostility between the West and Russia does not bode well for achieving US foreign policy aims. Also, negative effects on the rest of the world and foreigners' perception of our place in it are likely to worsen.

This paper analyzes the effect of current sanctions on the United States, Russia, Europe, the Global South, and the environment. It concludes that damage to relations between the United States and the rest of the world, the environment, and the economy argue for a change in US policy toward Russia, including a political solution to the conflict and restoration of energy flows. Such a solution would be more conducive to achieving our foreign policy goals, improve our standing in the world, and contribute to the well-being of people everywhere.

## US Sanctions Policy and Domestic Effects

### *Current Sanctions Policy*

The United States is trying to decrease Russian income from sales of energy via sanctions, boycotts, and weaponization of the dollar and the financial system. These measures were introduced immediately after the start of hostilities in 2014 and have been steadily increasing in number and severity. Instead of evaluating their efficacy and making changes, US decision-makers continue to double down on these failed measures. There is no reason to expect that major changes in US policy are imminent.

To limit revenue, the West has imposed a price cap of \$60/bbl, above which no Russian oil can be sold. Also, there are restrictions on the use of Western-flagged tankers and on Western companies insuring Russian cargoes. The EU is boycotting seaborne Russian oil shipments, but pipeline flows continue unabated.

There are no restrictions on Russian pipeline gas, but sabotage has made three of the four Nord Stream

pipes unusable, and the fourth undamaged pipe is idle. Decisions by Ukraine to close a major pipeline intake point and by Poland to shut the Yamal pipeline drastically reduced gas flow. Existing LNG projects continue to operate as before, but the Arctic LNG-2 project, currently commencing operations, has been slapped with sanctions.

On April 6, 2022, the White House issued an executive order banning all new investments in Russia by US persons and sale or supply of goods and services as determined by the Secretaries of the Treasury and State.<sup>1</sup> This significantly hampers new projects and maintenance of existing facilities. Additionally, many Russian banks have been disconnected from the SWIFT messaging systems and other elements of the US financial system, making it harder to pay for goods and services. Furthermore, the Treasury prohibited “US persons from purchasing both new and existing debt and equity securities issued by an entity in the Russian Federation,” allowing only sales.<sup>2</sup>

### ***Likely Results of Current US Policy***

Current US measures to limit Russian energy sales are not likely to be effective. China, India, and the Global South have not joined the sanctions and continue to buy. The price cap might sound good on paper but in practice has been very easy to work around.

Prohibitions on Western-flagged tankers carrying Russian oil have had some effect, but most tankers sail under other flags for tax and regulatory reasons, such as environmental restrictions. Also, there is a shadow fleet, estimated at 12 percent of the world market, which operates in the dark without transponders and can transship product in international waters.<sup>3</sup> Russia has also been acquiring tankers to further decrease reliance on foreign hulls. Complex ownership structures complicate analysis, but some 40 percent of top ten beneficial owners of Aframax tankers are believed to be Russia-linked.<sup>4</sup>

Recently, the West has sanctioned some of these ships. If buyers such as India respect these secondary sanctions, they could reduce sales volumes, resulting in lower revenue for Russia or higher cost for buyers.

However, given the lack of spare capacity, any effect is likely to be limited because the world needs this energy. At the same time, the mere threat of such unilateral sanctions by the US will further poison relations with these countries.

Insurance costs have risen but an estimated three-quarters of Russian cargoes do not use Western insurance, indicating limited impact.<sup>5</sup>

Ukraine could close the one remaining intake point for its gas transit system and the Russian-Ukrainian Gas Transit Agreement could expire at the end of the year. However, since the amount of gas currently transiting Ukrainian territory is so small, 17.8 bcm in 2023, the loss of revenue to Russia would be minimal and thus unlikely to influence policy. Exports to Turkey through TurkStream and South Stream and onward are unlikely to decrease, although sabotage by hostile forces cannot be ruled out.

The EU may stop buying Russian LNG, but there is no shortage of other buyers, particularly in Asia. Sanctioning the Arctic LNG-2 and other LNG projects could result in delays in launch because the consortium building it includes Western investors and was to use Western technology. Ultimately, Russia is likely to develop its own technology, as was the case in the past, removing what little leverage the West currently has in this area.

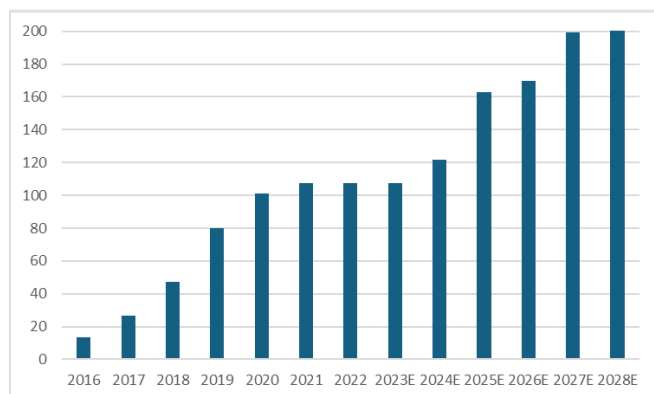
## **Domestic Effects in the United States**

### ***Increasing LNG Exports Could Drive Domestic Prices Up***

US LNG production has ramped up from practically nothing seven years ago to 108 bcm/year at the end of 2022. The EIA estimates that capacity will nearly double to 206 bcm/year by 2028. Such phenomenal growth has the potential to ease energy poverty across the globe.

However, natural gas production in the United States has risen much more slowly. Since LNG production is rising from a very low base, the effect

**Figure 1. US LNG Production Continues to Grow by Leaps and Bounds (US LNG Capacity, bcm/year)**



Source: US Energy Information Association

on US natural gas prices thus far has been small.<sup>6</sup> Nevertheless, utilities have called attention to rising costs and the subsequent need to raise tariffs to retail and commercial customers.<sup>7</sup>

This risk of increasing volumes of LNG exports driving up domestic natural gas prices was mentioned in the Biden administration's decision to pause the issue of new LNG permits. Rising gas prices in turn would increase the prices not only of electricity and heating but nearly all goods and services.

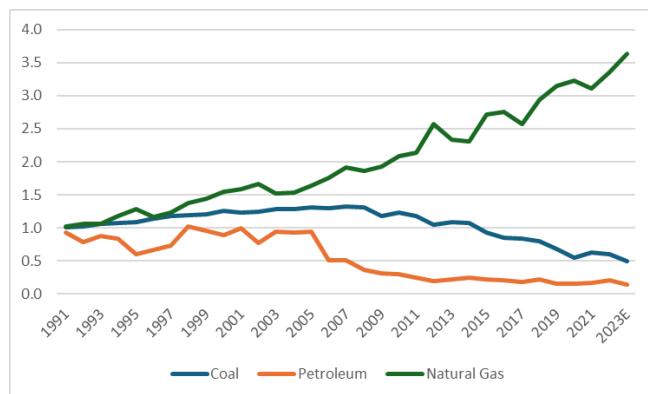
However, this decision was probably driven by domestic politics ahead of elections in November, particularly given that the decision came from the White House, not the Department of Energy, which already had statutory authority to withhold exports if they would cause problems for generation or transmission.<sup>8</sup>

Lack of adequate domestic supply could be a serious risk if gas continues to displace other fuels in the generation mix, as it has over the last three decades. This seems very likely due to its superior energy and environmental characteristics.

### **Current US Policies Lead to Underinvestment in Hydrocarbons**

The Biden administration recently adopted a five-year plan for offshore oil and gas leases with no

**Figure 2. The Share of Gas in US Fuel-Fired Electricity Production Has Soared (US Fuel for Electricity, 1990=1)**



Source: US Energy Information Association

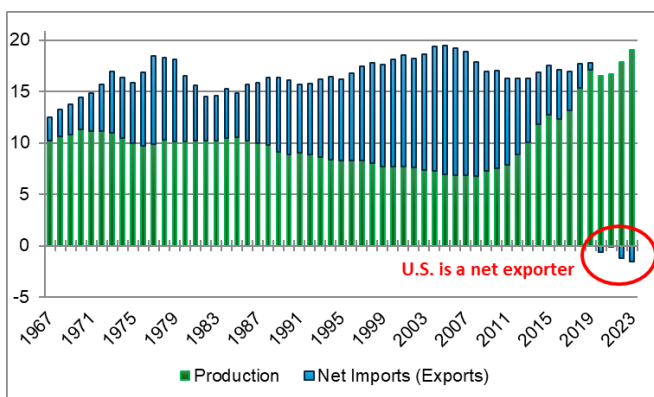
sales in 2024 and just three in the next four years, the fewest on record.<sup>9</sup> This came on the heels of the administration's canceling the sale of leases in 2022 before the US Court of Appeals ordered the sale to go ahead, citing the administration's "weaponization of the Endangered Species Act."<sup>10</sup> If such policies continue, oil and gas production could fall dramatically.

At some point, policy will have to change to meet US energy needs, barring some major technological breakthrough. As yet unknown and unproved technology should not serve as the basis for decision-making. Also, it is worth noting that when policy changes, long lead times to bring new resources online could put upward pressure on prices and thus damage the economy.

At the same time, depletion of existing fields continues apace, with annual declines averaging 6 percent, and in some cases reaching 20 percent.<sup>11</sup>

For all these reasons, underinvestment in hydrocarbons could presage declining future output, perhaps below the level of total consumption, as was the case for decades before the widespread use of fracking and horizontal drilling. This could be a national security issue with potentially catastrophic consequences if there is an event like the 1973 Arab oil embargo.

**Figure 3. Technology Adoption Helped the US Overcome Dependence on Foreign Oil (US Production and Net Import of Petroleum Products, mbpd)**



Source: US Department of Energy, US Energy Information Association

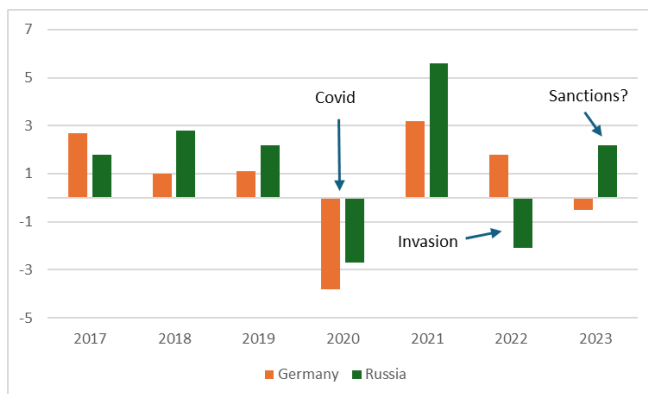
This is not to argue that limiting hydrocarbon production is inherently wrong but rather that there are trade-offs. These policy decisions are a loud signal to oil and gas companies not to invest in expanding production, which would cost billions of dollars and take years to break even.

### Effect on Russia

Stretching back to antiquity, sanctions have been a weapon of economic warfare, and just as in military warfare, people in the country that is under attack tend to respond by rallying around their leader. This has been the case in Russia, where support for the leadership and the operation in Ukraine has increased. Sanctions have failed to elicit political dissention or opposition sufficient to force changes in Russian policies.

Sanctions are economic punishment intended to coerce the target nation into a certain political outcome, such as regime change or cessation of hostilities. While sanctions may inflict severe economic pain on the target for a time, they rarely cause the desired policy change. In Russia, the pain has been limited and qualitative in nature. To continue the current sanctions policy and expect different results is not logical.

**Figure 4. Sanctions as a Weapon: Loose Cannon? (Annual Change in Real GDP, Percentage)**



Source: IMF

### Sanctions and Other Policies Have Not Weakened the Russian Economy

Western sanctions and other measures to pressure Russia into pursuing different foreign policies have not worked and are unlikely to be successful in the future. These measures were taken to damage the Russian economy, in turn denying Russia the economic ability to fight or increase its political cost, leading to an unfavorable negotiated settlement. Some even prophesized revolution and disintegration of Russia into numerous statelets.

However, the opposite happened. After a small contraction in 2022, the Russian economy expanded in 2023 by 3.6 percent to ₺171 trillion (\$2 trillion at nominal exchange rates or \$5 trillion at PPP) as military production continued to accelerate.<sup>12</sup> Large increases in military and social spending did lead to a budget deficit of ₺3.24 trillion (\$38 billion), just 1.9 percent of GDP, and demand for workers, reflected in a 2.9 percent unemployment rate, resulted in inflation rising to 7.4 percent.<sup>13</sup> In the long term, deficits and inflation could be problematic, but these levels seem manageable for now. Increased social spending to soothe the home front as well as generous pay and benefits for soldiers are also inflationary and increase deficits. Much will depend on how long such spending persists. On the revenue side, some increase in net taxation seems inevitable.



There have been qualitative charges to the economy, such as difficulty in procuring spare parts or luxury goods, but these are not enough to fuel widespread discontent that could lead to a change in political course.

### LNG to Supplant Pipeline Gas Exports

Because of the sabotage of the Nord Stream pipeline and the closure of one Ukrainian access point and the Yamal pipeline, supply of Russian pipeline gas to Europe has dwindled. Customers are not making full use of available capacity, some due to refusal to pay in rubles, some due to political pressure. It is also likely that Russia is not shipping as much gas as it could.

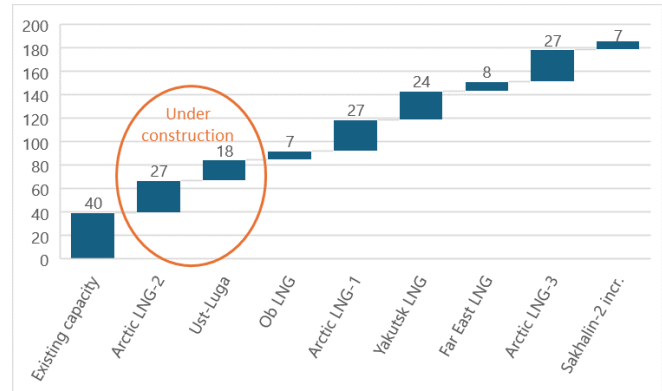
For now, supply via Turkey through South Stream and TurkStream continues unabated, but the potential for sabotage exists and the West may attempt to disrupt these flows using political and economic levers.

In Asia, the Power of Siberia pipeline continues to supply China and upon completion in 2025 is to deliver 38 bcm annually. This volume is much less than the amount previously piped to Europe, and the project may be delayed. Power of Siberia 2 is still under discussion, and there are no other pipelines envisioned in that part of the world.

While pipelines are a cheap way to deliver fuel, they are susceptible to disruption due to sabotage. Also, there is the possibility of interruption due to sanctions and buyers' strikes, such as Turkey's unilateral demand that TurkStream prices and volumes be cut despite no contractual basis for such demands. Additionally, sales are limited to customers connected to the pipeline or require third parties willing to transport gas to customers. Historically, lower delivery cost outweighed these vulnerabilities, but the situation may be changing.

Unless distances are very great, delivery of gas as LNG is more expensive and less ecologically friendly. However, it offers greater customer and geographic flexibility. Also, large capital expenditures are not required for every new project: After construction of

**Figure 5. Russian LNG Capacity to Increase Greatly (LNG Capacity, bcm/year, under High Scenario)**



Source: LT LNG Plan

liquefaction plants and tankers, further outlays are not necessary for new clients. If European customers choose to boycott Russian gas for political reasons, cargoes can easily be diverted to Asia. Likewise, increasing China sales via LNG is logical since it affords flexibility if Sino-Russian relations sour.

Due to the geopolitical realities resulting from the West's efforts to cut Russia off from the rest of the world, this trend away from pipelines toward LNG looks set to intensify. Russian energy policy recognizes this new reality. In the words of Deputy Prime Minister Aleksandr Novak, "The world gas market is becoming maximally globalized and in the future LNG will be more in demand due to its flexibility."<sup>14</sup>

The importance of LNG exports explains why the US recently targeted the sector, specifically sanctioning Russia's Arctic LNG-2 and tankers that transport its cargoes. These sanctions could potentially cause Russia some short-term pain, especially if domestic equipment and tanker production cannot be increased quickly.

### Russian LNG Capacity to Increase Greatly

From the launch of Russia's first LNG project, Sakhalin-2, exports have grown and may reach 49 bcm this year, up from 44 bcm in 2023.<sup>15</sup> According to Russia's Long-Term Program to Develop LNG

(LT LNG Plan), annual production is to hit 109 bcm under the low scenario and 190 bcm under the high scenario in 2028.<sup>16</sup> Since the plan was announced, some media reports have mentioned higher numbers, such as 45 bcm/year, not 18 bcm/year, at Gazprom's massive Ust-Luga plant.<sup>17</sup> Japan, Korea, Taiwan, India, and China are expected to be the principal sources of demand for these projects.

The LT LNG Plan was adopted by the government in March 2021, before the invasion. Thus far, delays have not been announced, but they are likely given sanctions and the exit of Western partners from several projects. Also, massive tax breaks for LNG projects may be reduced depending on military spending and the shape of the budget.

Before Arctic LNG-2, nearly all LNG projects used Western technology. Pressure from Western governments has led to a de facto embargo on LNG equipment and most Western partners voluntarily exiting Russian projects. As a result, Russia must develop its own technology. It should be noted that Russia built around twenty small LNG plants for domestic consumers. Also, Russia built two medium-scale facilities in the Baltic region using "70 percent" Russian technology.<sup>18</sup> However, crucial liquefaction cycle equipment was made by Germany's Linde.<sup>19</sup>

NOVATEK's proprietary "Arctic Cascade" technology, which uses very cold ambient temperatures in the Arctic, is to play a key role. The fourth train of Yamal LNG was the first large-scale project using this technology. Due to difficulties in development and implementation, there were delays and serious problems in the beginning, but in May 2021 it began producing 1.3 bcm/year.<sup>20</sup>

Because this technology utilizes only equipment manufactured in Russia, it is likely to be used for nearly all LNG projects in the future. Indeed, both the LT LNG Plan and numerous government officials have stressed the need to develop domestic technology and skilled personnel. Chinese manufacturers may also enter this space if the US continues to ramp up restrictions on China.

The successful completion of maintenance work at Sakhalin-2 last year despite the exit of project operator Shell in 2022 also suggests that Russia will develop the needed technology and know-how. In the words of management, "This plant has given us the opportunity to learn how to build and operate similar plants. It is our working desk where we train our people."<sup>21</sup> Mitsubishi and Mitsui have remained in the project, 60 percent of whose LNG goes to Japan.

### ***LNG Tankers Are a Chokepoint***

The real bottleneck in increasing Russian LNG supplies is the tankers, particularly ice-class capable of operating in the Arctic. Russia ordered three such Arc7 tankers to ferry LNG from Arctic LNG-2 through the icy Northern Sea Route but is having problems taking delivery.<sup>22</sup> Sovcomflot was sanctioned by the US government on February 23 and cannot take delivery.

Mitsui also ordered three tankers, but sanctions put it in a difficult spot. According to its president, "Our contractual obligation is that if we cannot provide the service to Arctic LNG-2, we have to sell our vessel to Arctic LNG-2," but "there is a sanction that says we should not do that deal with Arctic LNG-2. So it's a bit complicated."<sup>23</sup> The lack of tankers has already resulted in delays in expanding output.

Such problems could be particularly acute for Arctic LNG-2 because it plans to make extensive use of the arctic Northern Sea Route, which can cut travel times in half, and is thus cheaper.<sup>24</sup> (Other LNG projects can use conventional LNG tankers rather than the more expensive ice-class.) Furthermore, year-round navigation is to begin this year with help from Russia's nuclear-powered icebreaker fleet. If the Northern Sea Route is economically viable and traffic increases, the Arctic is likely to become another zone of contention between the West and Russia.

In the medium term, much will depend on whether these tankers will be used for Arctic LNG-2. There have been reports that ownership was transferred to a UAE-registered company to evade sanctions, but the actual status of the tankers is unclear.<sup>25</sup> Whether

India, China, and the Global South observe the sanctions is a critical factor. It is possible that Russia will offer discounts on this LNG, as it did on oil in 2022, to entice buyers.

In the longer term, Russian shipyards should be able to eliminate the transportation bottleneck. In 2022, the Zvezda Shipyard began construction of fifteen Arc7 LNG tankers, five of which are to be delivered in 2024.<sup>26</sup> However, these projects' South Korean partners, nearly the only source of expertise in this area, exited in 2022, suggesting further delays.<sup>27</sup> Nevertheless, the ability of Russian shipyards to complete such vessels is more a question of when, and Chinese companies may also enter this niche.

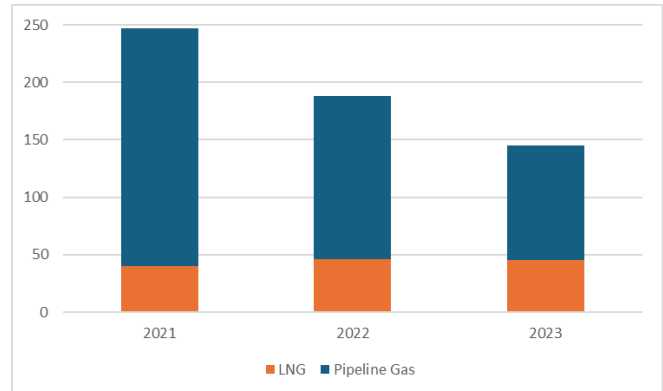
Thus, lack of access to Western tech may slow implementation of the LNG program but in the end will benefit Russia by forcing it to develop its own technology and manufacturing base. From a strategic point of view, this is desirable, but it should be noted that such import substitution indicates a huge opportunity cost: purchasing LNG technology and expertise abroad is cheaper and easier and thus more profitable.

This is reminiscent of when the Kennedy administration forced the cancellation of West Germany's planned sale of wide-diameter pipe to the USSR. Soviet ambassador to Washington Anatoly Dobrynin later remarked, "I wish to thank you on behalf of my government. When you got the Germans to renege on their contracts, you forced my country to do what we should have done long before—build facilities to make wide-diameter pipe. Now we're independent of the world. So we're grateful to you."<sup>28</sup> Apparently, history is rhyming.

In response to loss of export routes and European customers, total gas production in Russia decreased 16.5 percent from 762 bcm in 2021 to 637 bcm in 2023, roughly equal to the loss in exports.<sup>29</sup>

In addition to increasing exports especially via LNG, domestic consumption is to rise. According to Deputy Prime Minister Novak, domestic consumption in 2023 rose 3.5 percent to 501 bcm, up from 461 bcm

**Figure 6. Pipeline Export Declining; LNG Exports Flat (Total Russian Gas Exports, bcm/year)**



Source: RosBusiness Consulting

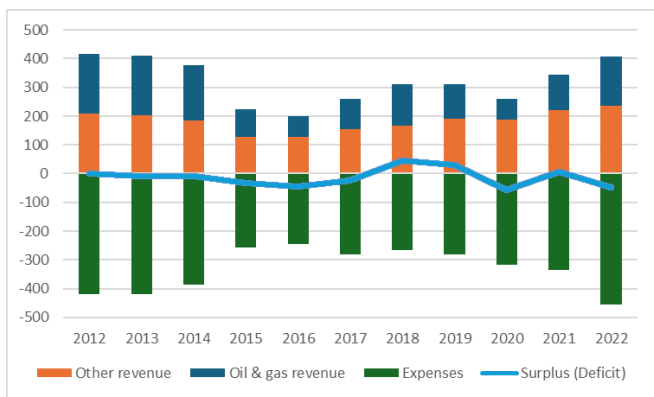
in 2020.<sup>30</sup> Gradual increases are expected across the board, from heating and electricity to industry and gas chemistry. Gasification of Russia is also increasing. According to Novak, the level of gasification in Russia reached 73 percent, the world's highest, up from 53 percent twenty years ago.<sup>31</sup>

In sum, measures to reduce exports of Russian gas, including closing and destroying pipelines, as well as sanctions and boycotts, are not likely to be very effective in the long run, because a hungry world needs the energy and LNG tankers offer an effective delivery mechanism. Secondary sanctions on non-aligned countries do have the power to limit exports, but at the expense of worsening relations with the West. Also, declines in volume would drive prices up.

### **Gas-Related Sanctions Unlikely to Lead to Russian Policy Changes**

Even if these measures were effective, it is highly doubtful that they would lead Russia to change policy because the economic impact is small. In 2021, gas exports to the EU were valued at \$46 billion, or 0.8 percent of GDP.<sup>32</sup> In 2022, soaring gas prices led revenue to spike to \$138 billion but still only 2 percent of GDP.<sup>33</sup> In 2023, gas prices eased, lowering revenue to a more normal \$43 billion. The loss of this small amount of revenue is very unlikely to factor into any foreign policy calculations, especially given that

**Figure 7. Despite Dependence on Oil & Gas, the Budget Remains Fairly Balanced (Russian Federal Revenue, Expenses and Surplus, \$ Billions)**



Source: Russian Ministry of Finance

revenue from oil exports is much larger and continues to climb.

Over the last ten years, oil and gas has represented 40–50 percent of federal budget revenue as depicted in figure 7, above. Given fairly steady volumes, revenue from oil and gas is more sensitive to prices. From 2016 through 2020, oil averaged \$50.64/bbl, causing revenue to decline, while the \$95.02/bbl average in the other years enhanced revenue.<sup>34</sup> The level of federal expenditures has fluctuated in counterphase to total revenue, leading to small deficits or surpluses.

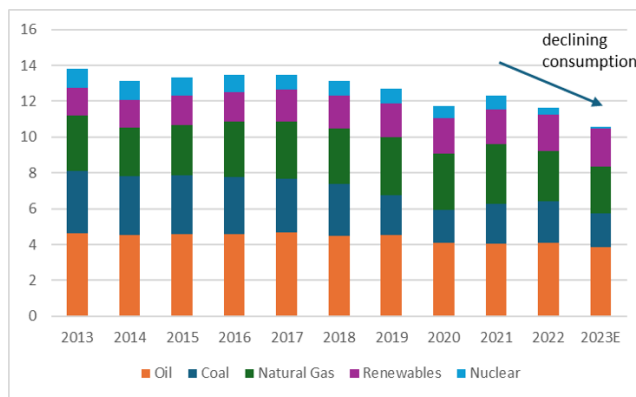
Theoretically, large decreases in the amount of oil and gas exported by Russia could lead to declining Russian federal revenue. However, removing such large amounts of hydrocarbons, or even the threat thereof, would cause prices to spike, as we saw in 2022. As a result of higher prices, despite reduced volume, Russian revenue from oil and gas sales would likely be resilient.

## Effect on Germany and Europe Generally

### Germany Still Needs Fossil Fuels

Although cheap Russian pipeline gas has dwindled, hydrocarbons still dominate the German energy balance at 78 percent of total energy in 2022 and

**Figure 8. Hydrocarbons Continue to Dominate the German Energy Balance (Primary Energy Consumption by Source, Exajoules)**



Source: BDEW, AGEB

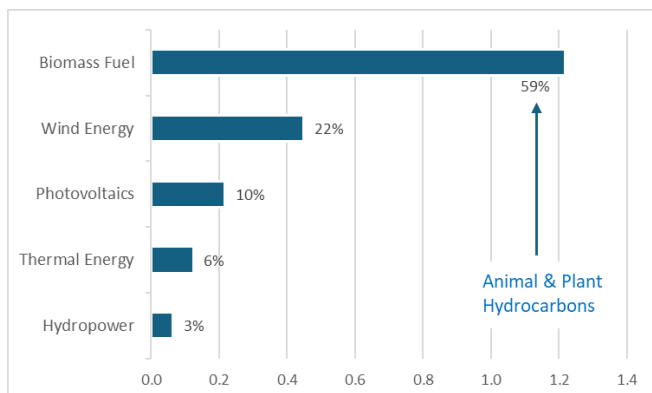
2023E.<sup>35</sup> Germany has now eliminated nuclear power, which once represented 13 percent of total energy. The share of coal has eased but is still some 20 percent of total energy. It is also worth noting that over the last several years, half the coal burned in Germany was lignite, the dirtiest coal with the lowest energy content.

Renewables have increased, rising to 18 percent of total energy from a mere 4 percent two decades ago, but some 59 percent comes from burning plant- and animal-derived hydrocarbons. It is encouraging that wind and photovoltaics have risen to one-third of renewables, but they are expensive, even more so given their intermittency and low energy density.

It is difficult to see the share of renewables rising much more, except at very high cost, which would be very painful given the present state of the German economy. It is more likely that Germany will continue to burn coal and import more expensive LNG to replace cheaper Russian pipeline gas. The decreased availability and higher price of energy is likely to retard economic growth for some time.

Natural gas continues to be an important fuel, supplying around a quarter of Germany’s energy. However, the amount imported has decreased 15 percent over the past two years to 318 bcm.<sup>36</sup> This was due to the sabotage of the Nord Stream pipelines, as well as the closure of the Yamal pipeline

**Figure 9. Burning Biomass Is More Than Half of Renewables (German Renewable Energy by Type, Exajoules)**



Source: AGEBA

and the one intake of the Ukrainian Gas Transit System. Additionally, EU pipeline gas customers have decreased purchases, and perhaps Russia is deliberately selling less pipeline gas than it could.<sup>37</sup> The resulting change in volumes has been dramatic.

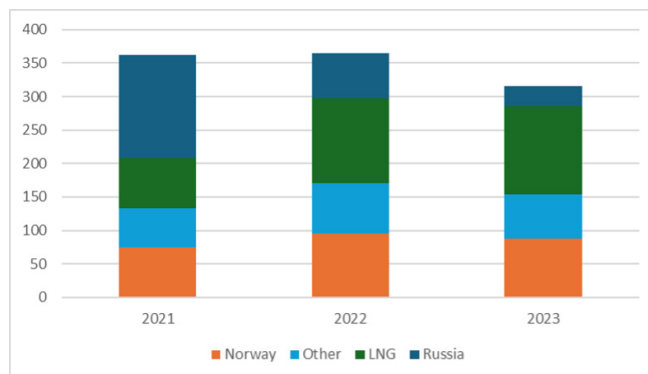
### **LNG Has Helped Moderate the Pain, but at High Cost**

Softening the blow was the huge 71 percent increase in LNG imports to 134 bcm in 2023, paced by a stunning 175 percent jump over the last two years in US LNG, to 67 bcm, or half of total European imports. This sharp growth was the result of the massive build-out of US liquefaction capacity.

Additionally, LNG cargoes transiting the Panama Canal fell 12.3 percent y-o-y due to low water levels, decreasing profitability of exports to Asia, to Europe's benefit.<sup>38</sup> Redirection of cargoes became more important when Qatar suspended LNG exports through the Suez Canal to Europe on January 15, 2024, because of attacks on shipping by Houthi forces.<sup>39</sup> For the last several years, annual LNG exports from the Middle East have averaged some 18 bcm, 70 percent of which has been from Qatar.<sup>40</sup> Costs will increase globally as this cargo will be redirected or ships will take the longer route around Africa.

Gas in Europe and Asia has been more expensive than in the United States for some time. There are several

**Figure 10. Russian Pipeline Gas Dried Up Quickly (EU Natural Gas by Source, bcm)**



Source: McWilliams, Sgaravatti, Zachmann, "European Natural Gas Import," Bruegel

reasons for this, including the use in the United States of fracking and horizontal drilling, which are shunned elsewhere, and aggressive development of reserves. Partially replacing the loss of cheap pipeline gas with more expensive LNG exacerbated this problem.

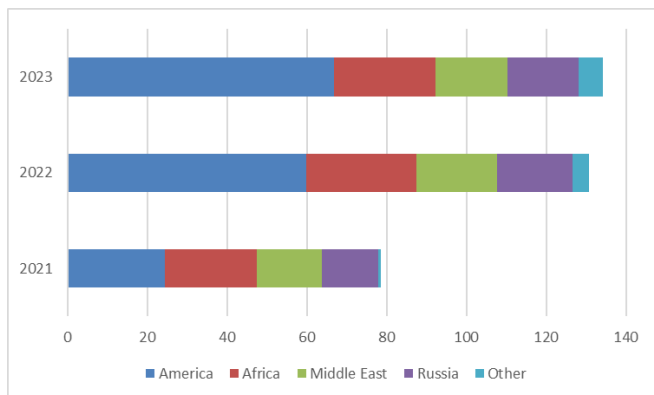
This represents an economic disadvantage for Europe. Historically, the price differential was less and could be compensated by higher productivity or lower energy intensity. Following the invasion, prices in Europe and Asia spiked. While prices have eased much since then, they remain 322 percent and 378 percent respectively above US prices.<sup>41</sup> This is a major headwind for the European and Asian economies and their consumers.

The winter of 2023/24, like 2022/23, has been warmer: The temperature in 2023 was 2.13 degrees higher than average, according to preliminary NOAA data.<sup>42</sup> If not for this, demand and thus prices would have been higher, with the concomitant decrease in well-being. However, the weather is variable and unpredictable and thus should not serve as the basis for policy.

### **Higher Fuel Prices Damage the Economy**

Since so much electricity generation capacity is gas-fired, higher gas prices translate into higher electricity

**Figure 11. Imports of US LNG Have Jumped (EU Annual Imports, bcm)**



Source: : McWilliams, Sgaravatti, Zachmann, “European Natural Gas Import,” Bruegel

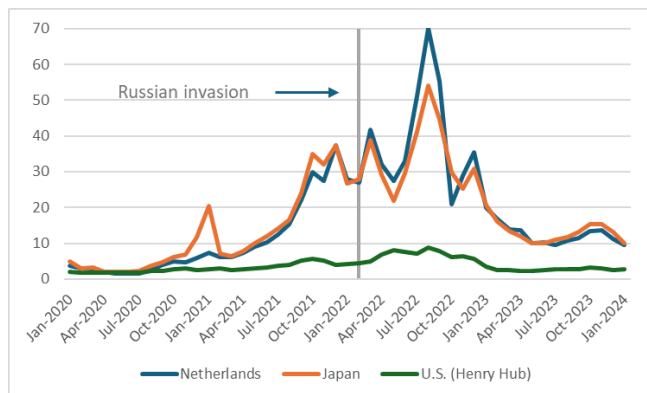
prices. In the second half of 2021, before the outbreak of hostilities, electricity prices in Germany were 29 percent higher than in the United States. This competitive disadvantage has grown far worse, rising to 93 percent in Germany in the first half of 2023. This is bad not only for the economy, but also for consumers who face higher bills or consume less electricity, i.e., lower their standard of living.<sup>43</sup>

In 2003, German demand for electricity fell a steep 4.8 percent, in part because demand from energy-intensive industries cratered in 1H23, despite some relief in wholesale prices.<sup>44</sup> Coal-fired output declined 48 TWh to its lowest level in six decades, leading CO<sub>2</sub> emissions to return to the level of the 1960s.<sup>45</sup> Indeed, falling demand for electricity represented half of the decline in CO<sub>2</sub> output.

Europe has muddled through this self-imposed crisis by reducing demand for energy. For industry, this means declining production and shuttering energy-intensive factories, with the subsequent loss of jobs and damage to the economy. Industrial output, once the pride of Germany and the heart of its competitive economy, has declined 14.1 percent since 2018, as shown in Figure 14, and is down 15.3 percent since peaking in 2017.

This impact is not just dry statistics. For example, due to high energy and input costs, Vallourec, which has been manufacturing steel pipes since the nineteenth

**Figure 12. Gas Prices Remain Much Higher in Asia and Europe (Natural Gas Spot Price, \$/MMBtu)**



Source: IMF Primary Commodity Prices

century, closed two plants in Germany, resulting in the loss of 2,400 jobs there, plus another 500 jobs mostly in France and Scotland.<sup>46</sup> These specialized pipes for pipelines, oil and gas drilling, and bridges were once a major German export. Facilities relocated to Brazil and the United States to take advantage of lower input costs and greater demand.<sup>47</sup>

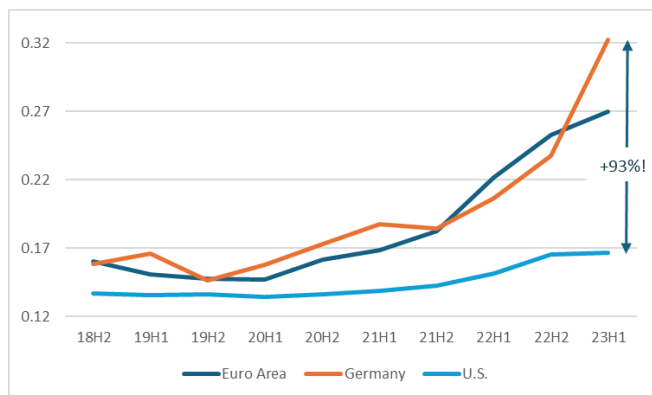
Although Germany appears to be the sick man of Europe, the pain is widespread: In January 2024, Tata Steel announced that in the UK it would fire 3,000 workers and close the last two blast furnaces in the country, which will now be the only G20 member incapable of producing primary steel.<sup>48</sup>

**The United States Stands to Gain from Europe’s Pain**

One of the prime beneficiaries of Europe’s woes is the United States. Not only does the United States get the benefit of expanded economic activity, but also potential competitors in Europe are eliminated. Furthermore, besides European, especially German, industries relocating to the United States to take advantage of low energy and input prices, skilled workers are also emigrating, boosting the US workforce.

Despite EU governments handing out over €600 billion in energy subsidies last year, an unsustainable level, energy-intensive industries like aluminum,

**Figure 13. Electricity Is Much More Expensive in Europe than in the United States**  
(Average Semi-Annual Electricity Tariff, \$/kWh)



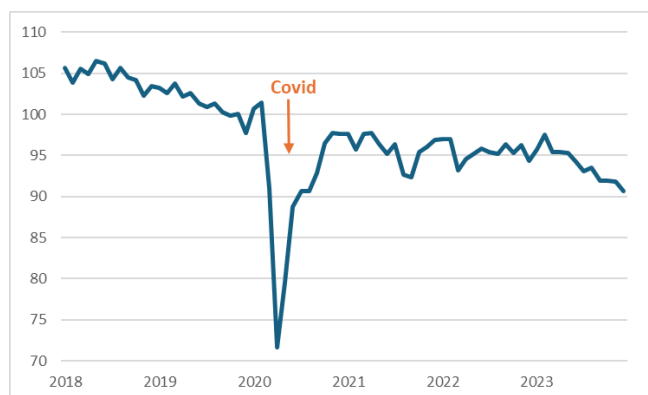
Source: Eurostat, St. Louis Fed

steel, and fertilizer saw massive declines in output, further hurting national budgets and consumers alike.<sup>49</sup> This “deindustrialization” has allowed Europe to survive the last two years, but there is a limit to how far this can go, as evidenced by recently escalating protests.

Furthermore, the retail sector has also experienced demand destruction, both voluntarily and because of households’ inability to afford gas and electricity. In other words, people are colder and consume less, both in quantity and quality. Such worsening living standards do not bode well for societal harmony. Nevertheless, EU bureaucrats are “pleased that the Ministers today found an agreement on the Commission recommendation to continue voluntary demand reduction by 15% over the next year,” indicating more misery will be inflicted on the people of Europe to achieve political aims.<sup>50</sup>

These massive increases in the price of energy caused inflation in Europe to jump to 13.6 percent (6.6 percent annualized) since the invasion.<sup>51</sup> In Germany, monthly inflation spiked to nearly 9 percent in late 2022 and early 2023 before easing to 3.7 percent in December 2023. For the period, prices are up 12.7 percent. Many countries experienced even worse inflation, such as the Baltics, Poland, and Hungary, which have seen prices soar more than 20 percent.

**Figure 14. German Industrial Output Decline Has Accelerated without Cheap Russian Gas** (German Production in Industry, Monthly Data, 2015=100)



Source: Eurostat

To be sure, other factors also contributed to inflation, such as reckless fiscal and monetary policy, supply chain disruptions, “Green” agendas, and chronic instability and war in the Middle East and other regions. Still, rocketing energy costs were a major driver.

To combat high inflation, the European Central Bank raised its main refinancing rate from 0 percent before February 2022 to 4.5 percent since September 2023. This in turn has led to lower consumption, cooling the economy and lowering investment, which will result in decreased economic output in the future.

## Current Status and Potential Developments

### The Future of Gas Transit through Ukraine

The current contract governing Russian gas transit through Ukraine was signed in 2019 at the last minute after long, difficult negotiations, avoiding a gas shutdown like the one in 2009.<sup>52</sup> It is to expire at the end of the year, although it can be extended for another ten years.

Publicly, EU bureaucrats state that there is no need to extend the transit contract and that the countries that receive that gas through Ukraine—Austria, Hungary,

and Slovakia—can find alternative suppliers with a limited price increase.<sup>53</sup> However, the populist leaders of Hungary and Slovakia have repeatedly called for an end to sanctions, and sentiment in Austria seems to be moving that way.

Ukraine has also stated that it has continued to ship Russian gas only because certain landlocked EU countries have asked. Naftogaz CEO Alexey Chernyshev said, “We will not initiate a transit extension. The contract ends—transit will stop.”<sup>54</sup>

However, this ignores the huge sums of money earned from gas transit, particularly if transit returns to pre-war volumes of some 90 bcm from the 19 bcm shipped last year. In President Putin’s words, “Aggressor, aggressor, but the money does not stink. They bank our money for transit.”<sup>55</sup> Officially, Russia has stated that no negotiations are underway with Kiev or Brussels, but probably there is contact at some level.<sup>56</sup>

Despite the small volume, its loss would hurt Europe. Negotiations during wartime are certainly difficult, but on the other hand Russian oil and gas have been flowing across Ukraine despite two years of hot war. Money is a very powerful motivation. Also, the people and some politicians of the EU countries that buy this gas have seen the pain caused by its loss and want to return to previous supply levels. Indeed, transit to the EU may offer Ukraine an excuse to keep accepting the money, as its prime minister stated, “if any of our European partners wishes to transit their gas, we are ready to provide such a service. The ball is in the court of the EU. . . .”<sup>57</sup>

### **Other Attempts to Limit Gas Flow and Their Implications**

There have been other attempts to further limit flow and increase the price of Russian gas to Europe. In October, Bulgaria imposed a €2.4 billion annual tariff on Russian gas flowing from Turkey through Bulgaria to other European countries, such as Serbia.<sup>58</sup> Only after vociferous protests by EU members Hungary and Slovakia was the tax on Russian molecules, which cannot be distinguished from other countries’

coming into Turkey, quashed. In the future Brussels may attempt to artificially raise the price of Russian gas again.

Some EU ministers and others want to phase out all Russian gas by 2027 and sign no new contracts.<sup>59</sup> If politicians were to implement such policies, the price of gas, and thus negative economic and societal impacts, would increase further. This seems extremely shortsighted given the massive loss of Russian pipeline gas.

As a result of higher prices, protests against such policies have started to grow. Recently, the Austrian energy minister, an appointed position, called on partially state-owned OMV to renege on its Russian supply contract that runs through 2040 after Austria imported 98 percent of its gas in December 2023 from Russia.<sup>60</sup>

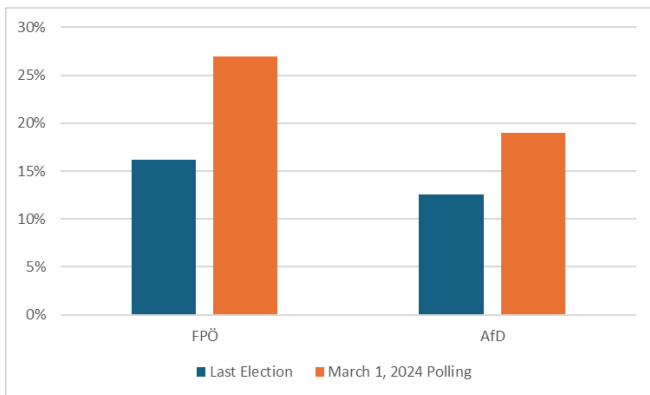
However, many in industry and society at large oppose such policies and point out that cheap Russian gas is essential for competitiveness. This shift in attitude is reflected in the rising popularity of the Austrian Freedom Party (FPÖ), which calls for an end to sanctions. The FPÖ is now leading in the polls with 27 percent, and a similar party in Germany, the *Alternativ für Deutschland* (AfD), is in second place, garnering 19 percent of the vote heading into upcoming elections.<sup>61</sup>

Farmers across Europe, from France to Greece, have been protesting higher costs for fuel and fertilizer. Even in Germany, more known for *Ordnung* than protests, farmers, joined by truckers, have been complaining about the removal of fuel subsidies by blocking roads and slowing traffic.<sup>62</sup> These elevated costs are in large part due to political decisions to remove Russian energy from the market, both directly as fuels and indirectly as inputs such as fertilizer.<sup>63</sup>

At less than 2 percent, the share of agriculture in European GDP is small, but farmers have outsized political influence.<sup>64</sup> This is not surprising given that food is necessary to survive. The plight of farmers is compounded by many countries currently trying to reduce the number of farms, fertilizer use, and herd size.



**Figure 15. Loss of Economic Competitiveness Is Changing the Political Landscape (National Parliament and Voting Intention, Poll of Polls)**



Source: Politico

As could be expected, to appease farmers the EU backtracked somewhat and punted major decisions to the next European Parliament, which will be elected in June and may feature a very different composition.<sup>65</sup> Generally, fuel prices cannot be lowered by policy changes, except for increasing production, which may be politically unpalatable, or lowering the tax burden, which causes budget problems. Increasing Russian imports would help reduce prices, but the political will to do so is still lacking. If protests intensify as the weather get warmer, this may change.

### **Possible Positive Developments**

How could fuel poverty and the negative effects on the economy and society be ameliorated? Resolution of political conflicts in the Middle East could restore the LNG flow through the Suez Canal. Russia could ramp up LNG production. And the United States could remove politics from decisions to increase gas and LNG production. However, these potential sources of added supply are not expected to provide any major relief any time soon.

Increases in gas deliveries could come from the Caucasus via Turkey or from North Africa, but this seems unlikely in the near term due to political tensions in those regions. Also, infrastructure and the resolution of bottlenecks are required. This will take

time and considerable investment, which will not be forthcoming until political problems are resolved.

Repairing damage to the Nord Stream pipes will be difficult, expensive, and require major political commitments that seem unlikely in any policy-relevant future. However, President Putin stated in a recent interview, “They damaged Nord Stream II, but one pipe is alive and well and it can send gas to Europe, but Germany will not open it. We are ready.”<sup>66</sup> If this is genuine, not posturing, it would represent quite an offer given Germany’s recent hostile actions against Russia. Many in the West would be categorically opposed, but 28 bcm/year of cheap pipeline gas would be a tremendous boon to the German people and industry right now.

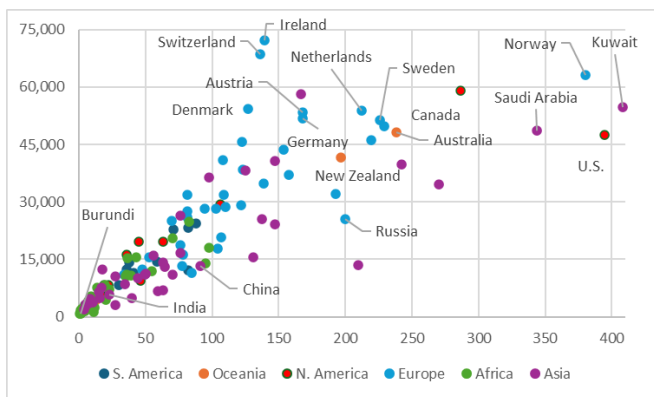
The Yamal–Europe pipeline also could be used. For now, Polish leaders seem unlikely to reverse their decision to close it, but as conditions worsen, Germany and others in Europe could bring enough political pressure to bear to force a change.<sup>67</sup> The mechanism of payment for gas and transit, allegedly the reason Poland chose to shut the pipe, would need to be solved, but this is a technical matter. Although capacity of 10 bcm/year is small, it would help on the margin.

## **The Global South**

### **More Energy Leads to a Better Life**

There is a very strong relationship between economic well-being and energy consumption. Indeed, prior to the Industrial Revolution most of the world lived in poverty, predominantly connected to agriculture, producing little more than what was necessary to survive. The story of mankind is the story of harnessing hydrocarbons—first wood, then coal, then oil, then gas—allowing society to develop and prosper. The rich, developed nations consume more energy and are in the upper right of figure 16, while the poorer countries in the lower left consume less energy. The latter strive to move toward the upper right, i.e., towards more energy and thus better quality of life.

**Figure 16. Economic Well-Being Is Tied to Energy Consumption (GDP, \$, vs. Energy Consumption, GJ, per Capita, 2016)**



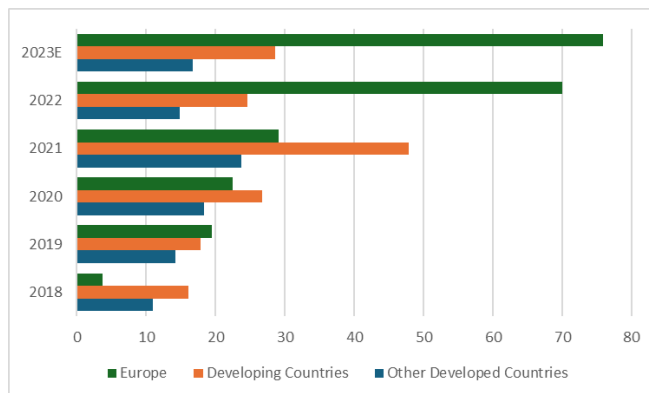
Source: Boston University Institute for Global Sustainability

Thus, China, India, and the Global South will continue to increase energy consumption using any fuel necessary to improve the quality of life of their people. Put simply, increased energy consumption equals increased prosperity. Seeking to procure more energy at lower prices is exactly what political leaders should do. US policies that remove Russian energy from the world balance, or direct energy from developing countries to developed countries, hurt the quality of life in China, India, and the Global South, where some 80 percent of the world lives. Such policies are unfair, chauvinistic, and immoral.

Nowhere is the relationship between energy consumption and well-being felt as acutely as at the low end of the scale. There, even small increases in energy can work wonders; conversely, taking away the little available energy could be catastrophic. This is a function of the physical universe, namely, that energy is required to do work, not some philosophical construct to explain human existence.

Therefore, pursuing rational self-interest, developing countries will continue to buy Russian goods, particularly hydrocarbons, despite US efforts to curtail such purchases. As Indian foreign minister Jaishankar put it, “[India] has a per capita income of \$2,000. These are not people who can afford high

**Figure 17. Europe Continues to Siphon off US LNG from Developing Countries (US LNG Exports by Destination, bcm/year)**



Source: US Energy Information Administration

energy prices. It is my moral duty—an obligation—to ensure to get them the best deal possible.<sup>68</sup> This attitude is echoed in China and throughout the Global South.

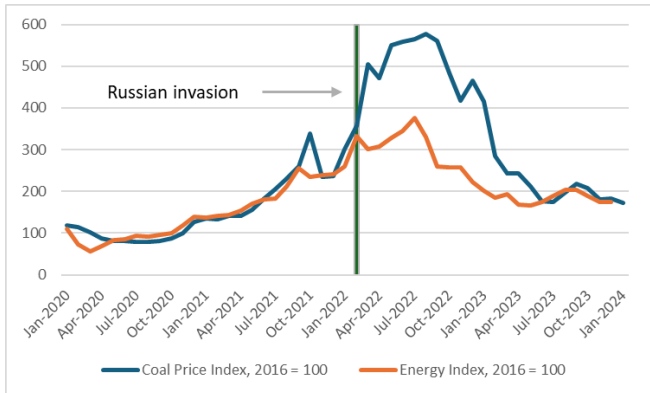
### Poor Countries Priced Out of the LNG Market

To meet their growing energy needs, developing countries have been importing more LNG, including from the United States, from which imports peaked in 2021 at 47.9 bcm, or nearly half of all US LNG exports.<sup>69</sup> Following the Russian invasion, Europe began importing vast quantities of US LNG that would have gone to emerging markets. In 2022, Europe purchased 64 percent of exported US LNG, or 78 percent together with other developed markets, leaving just 22 percent for developing markets.

Europe and other wealthy countries were able to attract so much LNG because they simply outbid poorer developing countries: US LNG exports averaged \$5.21/MMBtu in 2020 before rising to \$11.30 in 2022.<sup>70</sup>

To wage war against Russian gas in isolation would be one thing, but in our interconnected world actions have consequences across the globe. Poor countries that are priced out of the market must ration fuel and electricity. For example, in Pakistan imports of US LNG fell from 1.3 bcm in 2021 to zero in 2023,

**Figure 18. Energy Arbitrage Keeps Other Fuel Prices High (IMF Coal Price Index, 2016 = 100)**



Source: IMF Primary Commodity Prices Indexes

forcing the government to hike electricity tariffs, in turn leading to unrest and riots.<sup>71</sup>

The West's efforts to remove Russian energy have caused many other impoverished countries in the Global South to do without what little electricity they had ex ante, resulting in shortages, rationing, and brownouts. Inflicting more punishment on some of the poorest souls on the planet is beyond cruel.

Also, it remains to be seen if global gas output plus gains in efficiency will outpace rising demand. Since many of these countries are starting from such a low base, increases in demand may be huge. The EIA, despite very optimistic assumptions regarding declines in energy intensity, and adoption and effectiveness of renewable energy, predicts that Indian gas consumption will triple by 2050 or at an average annual rate of 4.4 percent, more than double the 2 percent growth expected in Chinese use.<sup>72</sup>

### **Use of Dirtier Fuels on the Rise**

To secure energy supplies and try to limit prices, developing countries have been aggressively increasing use of dirtier coal. Because of imperfect energy arbitrage among fuel sources, fears of removal of Russian energy from the market and diversion of LNG has caused coal prices to soar. Although prices have recovered from the spike that followed the

invasion, they remain double what they were a few short years ago.

Higher prices for and less availability of fuel and electricity were painful for many Middle Eastern and North African countries, resulting in a significant increase in immigration to Europe.<sup>73</sup> There were over one million asylum seekers in 2023, a level not seen since 2016, with thousands dying in dangerous sea crossings. This has exacerbated an already tense situation in Europe.<sup>74</sup>

### **Many Nations Seek to Pursue Their Own Path**

The Global South has not only refused to stop trading with Russia but also has chosen not to condemn Russia. Many in the region see the conflict as between two great powers and prefer to not get involved, rejecting the binary "you're with us or you're with them." In part, this harkens back to the Cold War, when many nations chose to be non-aligned, affording more flexibility to pursue their own agendas.

Many are quick to point out the hypocrisy inherent in Western diplomacy, in which the West plays by one set of rules and the Global South is expected to play by another; in which the West pursues its own rational self-interest, but the Global South is expected not to. Additionally, while recognizing that Russia sent the troops in, many realize that the United States provoked the conflict to serve its own agenda, in the process ignoring Russia's interests, legitimate or not, much in the same way the West treats the Global South.

Efforts to convince India to stop trading with Russia seem particularly dubious. For decades the United States sent weapons to Pakistan to kill Indians, whom Russia/USSR equipped. Expectations of changes in Indian politics, given that Russia supplies two-thirds of India's military equipment and is helping alleviate Indian energy poverty by building a nuclear reactor, seem very misplaced.<sup>75</sup>

Successful resistance to the West's calls to sanction or condemn Russia has emboldened the Global South

to question and even go against the United States. At the 2023 United Nations General Assembly, India expressed this sentiment: “Diplomacy and dialogue are the only effective solutions. . . . The days when a few nations set the agenda and expected others to fall in line are over.”<sup>76</sup>

This was echoed by the president of Brazil, who also mentioned the illegitimacy of such sanctions: “Unilateral sanctions cause great harm to the population of affected countries. In addition to not achieving their alleged goals, they hinder . . . the peaceful resolution of conflicts. Brazil will continue to reject measures taken without support from the UN Charter.”<sup>77</sup> The vice president of China added, “A small number of countries have arbitrarily imposed illegal and unilateral sanctions, severely undermining the harmony and stability of international relations.”<sup>78</sup>

The illegality of unilateral sanctions is another common theme in the Global South, which has seen Cuba under sanctions for sixty years and Venezuela for fifteen. These countries oppose sanctions not only because they harm their economies, but also because they fear becoming the target of sanctions in the future. Indeed, if the United States is willing to sanction Russia, one of the most powerful countries on the planet, then it would not hesitate to sanction some poor, small country.

### **Global Realignments Underway**

The actions taken against Russia have also led other countries to forge new alliances and trading blocs away from the United States and its allies. One such organization is the BRICS, which was originally coined two decades ago to highlight large, high-growth emerging markets endowed with valuable natural resources or labor pools. For most of its existence, the economic significance of the BRICS was low.

This has begun to change due to US weaponization of the dollar and the US financial system. After the United States and its allies froze the reserves of the Russian Central Bank, a legally dubious move and horrible precedent, many countries began to worry

about their holdings of dollars and euros being frozen.

Furthermore, punishing foreign banks by excluding them from the SWIFT system has led some countries to develop their own interbank communication system to facilitate transfer of funds outside of the control of the United States. Although it will still be dominant for the foreseeable future, the share of SWIFT in bank communications will decline, an easily predictable result, and impact everyone adversely.<sup>79</sup>

Due to the unmatched size of the dollar-denominated investable universe, and the largest share of international transactions, the dollar will remain the dominant reserve currency for years to come. However, a downward trend is visible and is likely to accelerate as foreign countries search for alternatives. Already, the dollar’s share of reserves has declined to a level not seen since 1995.<sup>80</sup>

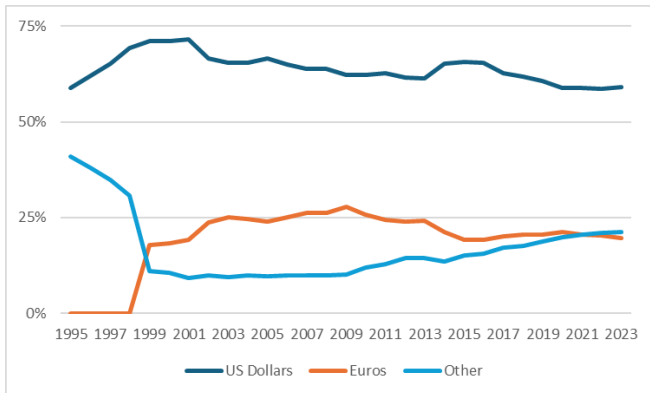
The BRICS certainly faces significant challenges, including differing agendas and historical grievances among its members. However, the organization received a boost on January 1, 2024, when Egypt, Ethiopia, Iran, and the United Arab Emirates joined. It now represents 45 percent of the world population and 31 percent of global GDP at PPP, surpassing the 28 percent share of the G7.<sup>81</sup> Several other nations are considering membership. To what extent the BRICS will increase trade and economic relations among member states is an open question, but it is certainly a positive development for these countries.

## **The Environment**

### ***Oil and Gas Supply/Demand Balance Is Precarious; Coal Use Is on the Rise***

Years of underinvestment in traditional energy sources have put considerable pressure on available supply and thus prices. The current political environment in the West actively driving the oil and gas industry out of business is not conducive to multibillion-dollar, multi-year investments. Promoting other sources of energy, which are not demanded by the market and

**Figure 19. The US Dollar Remains King, but Is Sliding (Share of Currencies in Official Foreign Exchange Reserves)**



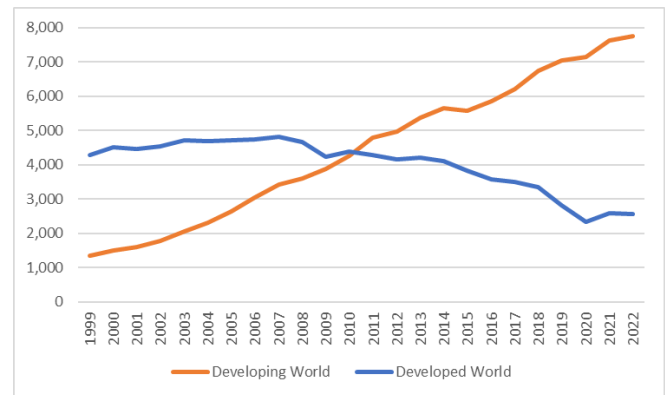
Source: IMF

seem competitive only because of massive wasteful government subsidies, further decreases investment in the fuels that drive modern society. This does not augur well for the future.

According to the IEA, 2023 global oil demand is expected to have risen 2.3 percent y-o-y to 101.7 mbpd, with supply rising less, 1.8 percent to 101.9 mbpd.<sup>82</sup> This small increase is insufficient to raise the standard of living in developing countries. Therefore, many developing countries, particularly China and India, have turned to coal. In 2023, coal demand is expected to have risen to 8.54 billion tons and coal supply to have reached 8.74 billion tons, both new record highs.<sup>83</sup> Many organizations, including the IEA and EIA, optimistically forecast demand to fall, but this would seem contrary to human nature, namely, the desire to consume more and live better.

Coal is worse for the environment than other fuels. Nevertheless, it is an inexpensive way for leaders of developing countries to increase the amount of energy available and keep its cost down, and thus fulfill their responsibility to improve the people's well-being. This trend was apparent long before the Ukrainian conflict: since 1999, electricity generation from coal in the developed world has declined 40 percent, but in the developing world it has skyrocketed 475 percent.

**Figure 20. The Developing World Continues to Burn More and More Coal (Electricity Generation from Coal, Terawatt-Hours/Year)**



Source: Energy Institute Statistical Review of World Energy

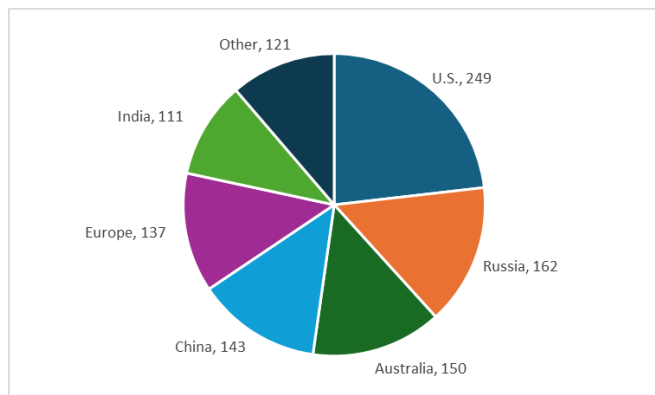
Over this period, the developing world's share of total electricity consumption rose from 24 percent to 75 percent with the share of coal rising from 24 percent to 42 percent, while the share of coal in developed markets declined from 46 percent to 24 percent.<sup>84</sup>

On the heels of a 14.7 percent jump in coal-fired generation in 2023, India is to commission another 19.6 GW of coal-fired capacity over the next eighteen months, including 13.9 GW this year.<sup>85</sup> The government expects to add 53.6 GW of coal-fired capacity over the next eight years to its total installed capacity of 428.3 GW, half of which burns coal.

Many other developing nations are also building out coal capacity to meet their needs, but China dwarfs them all. In 2023, China brought 47.4 GW of coal-fired capacity online to 1,137 GW, or 53 percent of the world total.<sup>86</sup> To appreciate this truly massive scale, in 2023 China produced 4.7 billion tons of raw coal and imported another 0.5 billion tons.<sup>87</sup> Global coal demand in 2023 is estimated at 8.5 billion tons, meaning China alone consumed 60 percent of the world's coal.<sup>88</sup>

Policies in developing countries to build out coal-fired capacity received new impetus from high energy prices brought on by political decisions to remove Russian energy from the world balance. The inability to buy LNG that had been bid up by wealthier countries in

**Figure 2I. Many Sources of Coal in Various Political Camps (Total Proved Coal Reserves at End-2022, Billion Tons)**



Source: Energy Institute Statistical Review of World Energy

Europe and North Asia reinforced the importance of securing supply. There are many sources of coal in countries with varying political views. This enhances energy security because coal can be sourced despite changeable politics and alliances.

If Russian energy is restored to the global balance, its LNG exports increase, and impediments and sanctions that artificially raise prices are removed, then the share of coal would decrease, or at least increase less rapidly, to the benefit of all.

**Coal Is Worse for the Environment and Human Health**

Coal’s cost per unit of energy of \$2.36/MMBtu compares favorably to natural gas’s \$7.21, explaining its widespread use.<sup>89</sup> However, it is dirtier. Natural gas (methane) is the simplest hydrocarbon, with one carbon atom, and as such burns nearly completely into water and carbon dioxide. Coal is comprised of various long and complex carbon chains that can burn incompletely, producing carbon monoxide and particulate matter, which in turn can cause lung cancer and asthma. Burning coal also releases sulfur and nitrogen oxides that can cause respiratory illness.

The negative health effects from burning coal and other negative externalities such as smog and damage

**Table I. Coal Has More Pollutants Than Gas Does (Pollutant Pounds per Billion Btu of Energy Input)**

Pollutant	Natural Gas	Oil	Coal
Carbon Monoxide	40	33	208
Nitrogen Oxides	92	448	457
Sulfur Dioxide	1	1,122	2,591
Particulates	7	84	2,744

Source: US Energy Information Association

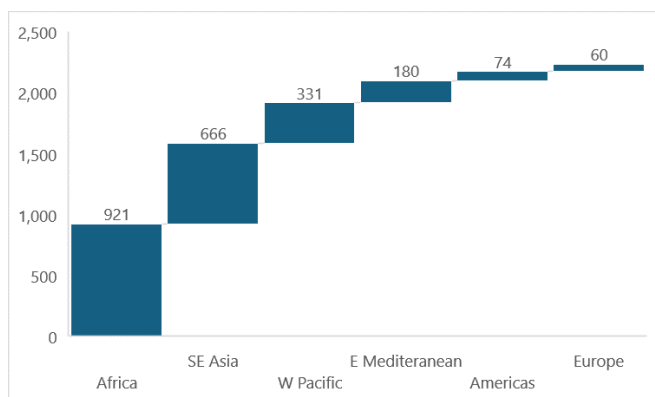
to the environment from certain mining techniques reduce lifespans. For this reason, coal’s share in output has been steadily declining in the developed world. However, in developing markets, the added energy from burning coal lengthens lifespans since the improvement from such a low base outweighs the negative health effects.

Therefore, the recent decision by the Biden administration to pause the issue of new LNG construction permits partly to protect the environment seems dubious, since reducing LNG supplies will result in people burning other, dirtier fuels.<sup>90</sup> Moreover, the mere threat of potential loss of any fuel source is motivation enough for developing countries to diversify the fuel mix, especially by increasing the share of coal. The only other option is to consume less energy, i.e., keep people in poverty, an incredibly immoral, anti-human policy.

A better solution would be to decrease energy poverty in developing countries with cleaner fuels and avoid the negative externalities, which affect people worldwide. In other words, more supply of cleaner fuels and at better prices would be beneficial to all.

Less gas supplied to the market and at a higher price has driven interest in renewables, which now account for 7 percent of total primary energy. However, of renewables some 19 percent globally and 59 percent in Germany is biomass, i.e., burning of plant and animal hydrocarbons, particularly wood and biodiesel.<sup>91</sup> Such fuels are less efficient and produce more pollutants than natural gas. Furthermore, their production requires intensive land use and squanders

**Figure 22. Millions Die Every Year from Burning Biomass (Population with Primary Reliance on Polluting Fuels and Technologies for Cooking, Millions)**



Source: World Health Organization

other uses of forests and fields. This is not an ideal solution to the world's energy needs.

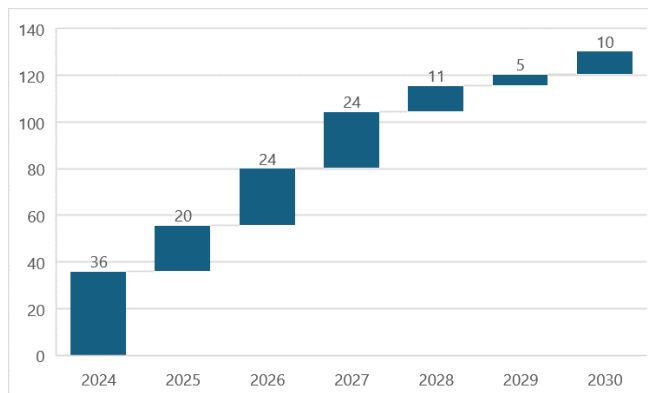
Also, 2.3 billion people, primarily in Africa and Asia, still burn polluting fuels—dung, charcoal, wood—to cook and heat their homes.<sup>92</sup> Not only are these fuels less efficient for reasons cited above, but also breathing the smoke from their combustion increases the incidence of heart diseases, cancers, and chronic lung diseases, resulting in millions of deaths every year, particularly of women and children in low-income countries. Switching to cleaner fuels would save millions of lives and improve the health of many more, especially in poorer, rural areas.

### **Nuclear to Ease the Energy Shortage**

Limiting hydrocarbon supply has had one positive effect: It has rekindled interest in nuclear power. It is also helped by Western governments' push to decarbonize energy production because it has the lowest emissions of all energy sources, at 5.1 g of CO<sub>2</sub> equivalent per kilowatt-hour.<sup>93</sup> Nuclear also diversifies the energy balance and fuel mix.

Presently, there are some 440 nuclear power plants in thirty-two countries with total capacity of about 390 GW, producing about 10 percent of global energy.<sup>94</sup> Nuclear capacity has been flat over the last two

**Figure 23. Dawn of a Nuclear Renaissance? (Nuclear Reactors Currently under Construction by Completion Year, GW)**



Source: World Nuclear Association

decades, but now 60 reactors are under construction with capacity of 69 GW, and another 110 are planned with 117 GW of capacity. An additional 360 GW of capacity has been proposed. If these plans are realized, the share of nuclear in the world energy balance would increase significantly.

It is worth noting that Russia's Rosatom is building three reactors in Russia and thirty-three in Hungary, Turkey, Egypt, India, Bangladesh, and China.<sup>95</sup> The latter five countries have serious issues with energy poverty. In addition to the environmental benefits of nuclear power, solving these energy issues is key to improving the economic well-being of their people. Thus, interference with construction would elicit a very negative reaction in these countries.

Furthermore, Rosatom's TVEL subsidiary produces 36 percent of total global enriched uranium and provides fuel for seventy-five nuclear reactors of thirty electric utilities in sixteen countries.<sup>96</sup> Even the United States is dependent on Russia for nuclear fuel, with 14 percent of US uranium imports and 28 percent of uranium enrichment services sourced in Russia.<sup>97</sup> Any attempts to interfere with the fuel flow, such as recent bills in Congress, could be very damaging. Expansion of non-Russian nuclear fuel production would be positive but would take many years.

## The United States—Foreign Policy Effects

### *US Policies Negatively Impact Many around the Globe*

Sanctions have had a limited effect on the United States, and damage to the Russian economy has been more qualitative than quantitative. However, higher prices hurt our allies and others around the globe and damage our relations with them. Also, there are longer-term consequences for the United States and the international systems it has set up.

It is very easy for US politicians to impose sanctions and take other actions to limit access to Russian energy and materials because there are practically no domestic repercussions. They are seen as “doing something” to right a horrible wrong in the world, even if they know that changes are unlikely to be achieved through sanctions. In this way, politicians seek to gain by virtue-signaling to internal patrons, e.g., corporate donors and ethnic groups and voters who have an interest in the outcome, and external groups such as regional allies and human rights groups.

Sanctions also represent a middle option between going to war or bold covert action against a target that is too strong, such as a nuclear power, and diplomatic protest or condemnation, which could appear weak.

As a superpower and the leader of NATO, the United States also uses sanctions to signal to other countries what policies they should pursue and what actions they should take. The unilateralism inherent in recent US foreign policy shows disdain and disrespect for others’ positions, leading to friction in relations. It also alarms many countries who rightly worry that they could become US targets in the future.

Besides sanctioning Russia, the United States has applied considerable pressure to foreign governments and companies to toe the line. This expansion of the extraterritoriality of US law, essentially raising it above the law of other sovereign states, leads other countries to distance themselves from the United

States and pursue more independent foreign policies, which do not always align with those of the United States. It also has reawakened interest in forging new alliance and trade blocs.

Until recently, the rest of the world was largely able to continue doing business as usual without running afoul of US law. However, the recent imposition of secondary sanctions, i.e., sanctions that punish non-US companies that do business with Russia, may force foreign governments to decide whether to fall into line or violate US edicts, a lose-lose scenario: if they acquiesce, they will hurt their people; if they refuse, they risk the United States sanctioning them directly.

In some respects, the United States is disregarding the interests of European allies. European business and government leaders decided to build pipelines despite the possible risks, including that Russia could theoretically cut off supply. They accepted these risks in exchange for cheap energy. For the United States to claim that it knows better, to tell Europeans that they made a mistake accepting this risk/reward trade-off, is arrogant and insulting and reinforces perceptions of a sovereign–vassal relationship. Indifference on the part of US politicians toward the suffering of Europeans reeks of condescension and has the potential to poison relations.

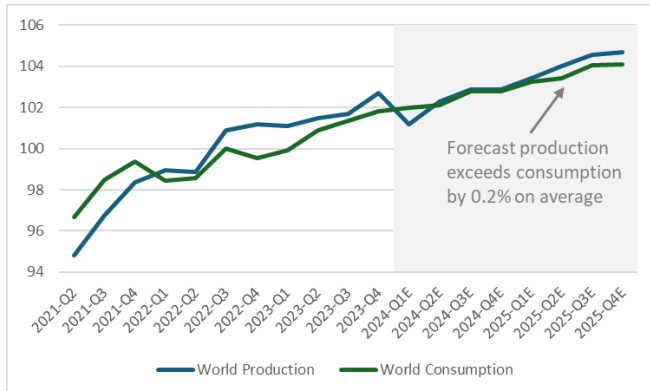
Also, it is worth remembering that European countries need Russian markets and vice versa. Moreover, Russia and other European countries have multiple centuries of relations and contact among societies and nations. Some of this history is good, some bad, but similar history with the United States is all but lacking. That the United States is willing to disregard this is not surprising, but it is not conducive to relations with Europe. That Europeans are willing to burn centuries-old bridges for short-term gain is somewhat surprising and is perhaps more due to current political structures and politicians themselves rather than changes in peoples’ opinions.

### *The Impact on Energy and the Economy*

Oil and gas are strategic assets, i.e., there is a finite amount of them in the world, although advances in



**Figure 24. Oil Supply and Demand Are Precariously Balanced (Total World Liquid Fuel Production, mbpd)**



Source: US Energy Information Association

technology are constantly increasing the recoverable amount. Therefore, from a realpolitik point of view, reducing European consumption of oil and gas to make sure that there is enough for the United States makes sense. The ability to redirect fuel from Europe to the United States may prove useful in the future if there is a shortage. No doubt Europeans take a dimmer view of this.

Also, any damage to the euro is beneficial to the US dollar's status as the world's reserve currency. The euro is not capable of dethroning the dollar in any foreseeable future due to the financial and military power of the United States. However, given the recent weaponization of the dollar and US financial system, damaging a potential competitor, if only a weak competitor, is advantageous.

Industry protestations notwithstanding, gas arbitrage is most certainly a goal of expanding LNG trade. In the United States, gas has traded in the \$3–4/MMBtu range for fifteen years, compared to \$8–12/MMBtu in the EU and even higher in Asia. Even with the added cost of liquefaction and long ocean voyages, US LNG is competitive in these markets.

This in turn sows doubts among our friends and allies about our true motives and whether we are helping or taking advantage of them. This sentiment was summed up by EU Internal Market Commissioner

Thierry Breton: “The United States sells us its gas with a multiplier effect of four when it crosses the Atlantic.”<sup>98</sup> Even if it is not the United States capturing these profits, the perception that it does harms relations and is counterproductive to forging alliances.

In fact, the share of trading houses, large oil and gas companies, and utilities in total LNG sales rose from 26 percent in 2016 to over 41 percent in 2022 and has risen more since.<sup>99</sup> This means that cargoes will be directed to where the price is highest because under most agreements, the buyer has the right to change the destination provided it does not violate US law or DOE export authorization.<sup>100</sup>

The CEO of oil major Total admitted as much: “Each cargo represents something like \$80 million, even \$100 million. So, when we are able [to] reroute or to arbitrage between the different markets, of course, it's a very efficient way to maximize the value coming from that business.”<sup>101</sup> He added, “It's a huge advantage for our traders, who can arbitrage between the US and Europe.” This, of course, ignores that such excess profits are added costs ultimately borne by consumers.

There is nothing inherently wrong or illegal with such activity. Indeed, it is part and parcel of capitalism, and company management has a fiduciary duty to maximize shareholder returns. Arbitraging higher gas prices in Europe and Asia certainly does that. For political purposes, largely dictated by Washington, Europeans must forgo cheaper Russian hydrocarbons for more expensive American ones. A common European refrain is that the economic pain should be shared among allies in exchange for Europe's political subservience; otherwise, tensions between the United States and its allies may increase.

### ***Russian Energy Cannot Be Replaced in the Policy-Relevant Future***

Arguments that removing Russian energy will harm Moscow without damaging the rest of the world ignore the reality of supply and demand, which are very tightly balanced. The loss of the 11 percent

of global oil that Russia currently supplies would be disastrous given that the EIA forecasts a supply cushion of a mere 0.2 percent.<sup>102</sup> Such a razor-thin margin forebodes serious problems if there are supply shocks in Russia or the Arab world, or difficulties with transportation due to war.

For comparison, when the United States and some allies resupplied Israel during the 1973 Yom Kippur war, Arab oil exporters responded with an embargo on sales. This represented 5 percent of global oil supply, but because cargoes previously headed to the United States were rerouted and black-market sales continued the effective loss was only 2.4 percent.<sup>103</sup> Even this small reduction caused oil prices to quadruple and led to rationing, price controls, and eventually inflation and a recession in the United States. Thus, policymakers should think carefully about removing Russian energy from the global balance because the consequences could be devastating, including a worldwide depression.

In the short run, energy supply and demand are inelastic. To the extent that sanctions are effective at all, they are taking some Russian energy off the market. The same demand chasing reduced supply drives prices up for everyone. This basic tenet of economics was summed up by Minister of Petroleum and Natural Gas Hardeep Singh Puri: “If India, instead of buying Russian oil, we start buying more of the Middle Eastern oil, oil prices will not be at \$75 or \$76; it will be \$150. The world is grateful to India for buying Russia’s oil.”<sup>104</sup>

The recent introduction of sanctions on Russian tankers may hamper oil exports. If so, oil prices globally will be higher. It remains to be seen whether these countries will tolerate US interference in bilateral trade with Russia. For now, officially, Indian minister Hardeep Singh Puri has stated, “When Russian prices don’t conform, we buy from Iraq, the UAE, Saudi Arabia,” but there may be other factors involved in purchasing decisions.<sup>105</sup> If so, not only will prices be higher with resulting decreases in well-being, but sentiment in these countries toward the United States will sour. Recent US and EU sanctions

on companies in China, India, Kazakhstan, and Turkey that make dual-use advanced technology items will similarly have a negative effect on attitudes toward the West.

The United States has publicly stated its desire to systematically destroy Russian energy output, regardless of the effect on the rest of the world. Assistant Secretary for Energy Resources Geoffrey Pyatt testified to Congress, “We leveled new sanctions against a project in the Arctic, Arctic LNG-2. . . . Our objective is to kill that project.”<sup>106</sup> US officials publicly expressing intention to destroy the assets of a foreign country with which it is not officially at war is inappropriate at best and a declaration of war at worst. It echoes President Biden’s statement: “If Russia invades . . . then there will be . . . no longer a Nord Stream 2. We, we will bring an end to it,” which was followed by the sabotage of the pipeline a few months later.<sup>107</sup>

The pain caused by these policies is already being felt globally and will worsen the longer they persist. Again, this intention has been repeatedly and openly declared. In the words of Pyatt, “This is something that we’re going to have to stick to for years to come. . . . We’re going to do everything we can to help make that [cutting Russian output in half] true.”<sup>108</sup>

Government officials acknowledge that cutting supply will raise prices globally but somehow believe that reducing Russian output will not have this effect. Cognitive dissonance allows “We do not have a strategic interest in reducing the global supply of energy, which would raise energy prices around the world and pad Putin’s profits” to cohabit with “We, and our allies and partners, however, share a strong interest in degrading Russia’s status as a leading energy supplier over time.”<sup>109</sup>

For most goods and services, cutting output from one supplier would induce others to produce more, or entice new suppliers to enter the market, or result in the appearance of alternative products. However, the market for oil is different. There is no spare capacity in the world and no plans to bring major new capacity online. To the extent that such resources

exist, considerable time and funds will be required to bring them to market, especially since we have already consumed the low-hanging fruit.

Undoubtedly, on the demand side conservation and new technologies will help. Alternative energy sources may help somewhat but demand reduction will be limited in many segments, particularly transport, where oil's high energy density is invaluable.

Thus, these policies, if successful, would condemn the world to higher prices for essential energy for many years. To achieve policy goals, the West is willing to damage the well-being of the vast majority of people on the planet and keep billions in poverty.

## Conclusion

Sanctions that were imposed beginning in 2014 and stepped up since the 2022 hot phase of the war began have failed to elicit changes in Russian policies as anticipated. Instead, they have significantly weakened the European economy. The Russian economy has been resilient, returning to growth in 2023 after a less-severe-than-expected contraction in 2022. In other words, sanctions have hurt our allies more than Russia. Going forward, it is unlikely that these policies will achieve any other result.

Attempts to wean the world off Russian energy have had very negative consequences. The loss of three-quarters of Russian pipeline gas has led Europe to buy large quantities of LNG, bidding up prices. As a result, not only has the European economy and quality of life been diminished but also many poor countries have had to ration heat and electricity, leading to unrest. Partially because of this, China, India, and the Global South are aggressively building coal-fired electric capacity, flouting US environmental policy and damaging human health worldwide.

US calls for the Global South to sanction or boycott Russian goods and services have fallen on deaf ears since such actions would hurt the economic well-being of people in those countries and leave billions in poverty. These calls have diminished US influence and standing in these regions and led the Global South to distance itself from US positions and to seek other alliances.

For the United States and Russia to remain in such a venomous relationship is extremely dangerous because of the very real possibility of a global conflict. Even if a direct war is avoided, current policies and conflict in Eastern Europe will cause pain and suffering throughout the globe, without achievement of our stated foreign policy objectives.

It goes without saying that the United States and Russia will always be rivals, but there is no need to be enemies. It is time the United States rethink its overly aggressive foreign policy, including the imposition of sanctions, and steer toward cooperation, not hegemonic domination through confrontation.

Many of our actions have damaged capitalism and free markets, which are a major reason the United States and the West prospered. Such measures hurt our open economy that is built around trade. Moreover, capitalism has been a powerful force lifting people in emerging markets out of poverty. Current policies stifle that force and hamper the betterment of people in developing countries.

The West should seek to restore ex ante energy flows that are necessary to maintain and advance human civilization and work toward restoring economic ties. This would be a good, mutually beneficial first step toward restoring trust, which will be a long and arduous process. Such policies would not only economically benefit the United States and the rest of the world, but would also go a long way toward restoring our claim to global leadership.

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