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U.S. Strategy: Rebalancing Global Energy between Europe, Russia, and Asia and U.S. Security Policy in the Middle East and the Gulf

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Anthony H. Cordesman

The war in Ukraine has already shown how dangerous it is for the U.S. to assume that it can rebalance its forces to one region and count on a lasting peace or detente in others. It now is all too clear that U.S. strategy must continue to focus on Europe as well as China. What is less clear is the extent to which the Ukraine War is an equal warning that the U.S. must have a truly global strategy – and one that continues to focus on other critical regions like the Middle East.

The sudden escalation of the Ukraine crisis into a major regional conflict and the need for political and diplomatic support in the UN as well as for sanctions are warnings that much of the U.S. success in deterrence and defense lies in creating long-term global diplomatic and political support as well as true and lasting strategic partnerships.

Ideally, that support will prevent or limit a conflict as well as decrease the risks of any confrontation with a major power like Russia or China. It will also create strategic partners in every region that can limit the need for the U.S. to deploy its own forces or support them if a conflict does occur, even though this inevitably means that U.S. strategy must be to find the best way to share the burden rather than shift it to other states.

At the same time, the sudden shifts in U.S. power projection, the need to send billions in aid and arms transfers, and a “rebalancing to Europe” are all warnings that the U.S. strategy cannot focus simply on China and rebalancing to Asia or on reducing its own military commitments by shifting the burden to NATO European states. The war is a strategic surprise that has shown that U.S. strategy must be truly global, be prepared for sudden and unexpected crises in unforeseen areas, and be focused as much on peacetime political and economic interests as on military relations with strategic partners and other states throughout the world.

Military competition with Russia and China cannot be separated from political and economic competition. The immediate need to help Europe eliminate its oil and gas imports from Russia is a critical case in point. In the short term, the need to create the alternative oil and gas supplies has made America’s strategic partners in Europe and Asia dependent on U.S. strategic success in dealing with its partners in other exporting states like the Middle East and the Arab/Persian Gulf states – and it provides a clear demonstration that virtually every aspect of America’s economic security is now dependent on global supply lines and communication.

Limited U.S. intervention in Ukraine has also shown that the immediate need to create the alternative oil and gas supplies for America’s strategic partners in Europe and Asia is dependent on U.S. strategic success in the Middle East and the Arab/Persian Gulf. Creating some form of longer-term European independence from Russian oil and gas exports will be far more demanding. It must create a new structure for energy supply, energy transport and infrastructure, and for energy security.

If the U.S. and its European strategic partners decide to establish a stable level of deterrence and defense against Russia, this will require them to establish lasting alternatives to oil and gas imports

from Russia, particularly as the latest international analyses by the U.S. Department of Energy (DOE) indicate the demand will increase through 2050 in spite of major increases in renewables and alternative fuels.

At the same time, the moment one looks beyond the risk of near-term conflicts with China over Taiwan and the islands in the Pacific, these same studies warn that U.S. strategic partnerships in the MENA region and Arab/Persian Gulf will play a critical role in competing with China; securing the energy needs of America's strategic partners in Asia; ensuring the stability of the global economy; exerting strategic influence over China; and providing the energy needed by key trading partners like Japan, Australia, and other developed Asian states. In practice, these flows of oil and gas exports to our major trading partner already leave the U.S. economy as dependent on the steady flow of MENA and Gulf oil and gas exports as it was on direct oil and gas imports in the past.

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The Strategic Value of MENA and Gulf Oil and Gas Resources

The Ukraine War has shown that the U.S. needs to reshape its national strategy in ways that fully recognize that it has four major reasons to focus on the strategic value of MENA and Arab/Persian Gulf oil and gas resources and exports:

- The need to ensure sufficient world supplies until (and if) the U.S. and the rest of the world can find real-world environmentally safe alternatives to fossil fuels.
- The probable need to provide Europe and other strategic partners with near- and mid-term alternative sources of oil and gas imports from Russia.
- The need to exert enough influence and control over global energy exports to provide a source of strategic leverage over China and to ensure adequate supplies to U.S. partners in Asia as well as stabilize a developing global economy.
- The need to protect America's strategic partners in the MENA region and the Gulf and to offer a stable path of political, economic, and national security development.

All four of these reasons have several critical factors in common: They all call for the U.S. to think in global terms. They call for a strategy that combines political, economic, and security needs. And they call for a strategy that recognizes just how uncertain the future now is and the need for a U.S. response that can evolve to meet it.

Ensure Sufficient World Supplies Until (and If) the U.S. and the Rest of the World Can Find Real-World Alternatives to Fossil Fuels

Figure One puts world's current levels of gas and oil production in terms of exports and imports in a global perspective. It shows that Europe was a comparatively small producer of gas and oil before the Ukraine War and that Norway was the only producer and exporter that ranked in the top ten of both world oil and gas producers. European countries played a larger role as importers, but Asia had already emerged as the region with largest importers, and China was by far the largest single national importer.

These numbers also help put the challenge of finding lasting alternatives to European oil and gas imports from Russia in the same global perspective. They show the importance of remembering that any major shift to European import demand has a major global strategic impact that goes far beyond the U.S., Canada, Europe, and Russia. Moving massive amounts of oil and gas out of Russia, the Middle East, Africa, Canada, and Mexico not only is critical to the stability of the global economy, but – as the Ukraine War has shown – is a critical factor in determining national military vulnerabilities.

Figure One: Putting the World's Current Leading National Producers, Exporters, and Importers in a Global Context

Crude Oil in 2020 in Metric Tons and Percentage of World in 2020

Producers	Mt	% of world total
United States	706	17.0
Russian Federation	512	12.4
Saudi Arabia	511	12.3
Canada	255	6.2
Iraq	201	4.9
People's Rep. of China	195	4.7
United Arab Emirates	174	4.2
Brazil	153	3.7
Kuwait	131	3.2
Islamic Rep. of Iran	130	3.1
Rest of the world	1 173	28.3
World	4 141	100.0

2020 provisional data

Net exporters	Mt
Saudi Arabia	352
Russian Federation	269
Iraq	195
Canada	154
United Arab Emirates	148
Kuwait	102
Nigeria	99
Kazakhstan	70
Angola	63
Mexico	59
Others	531
Total	2 042

2019 data

Net importers	Mt
People's Rep. of China	505
India	227
United States	202
Japan	149
Korea	145
Germany	86
Spain	66
Italy	65
Netherlands	62
Singapore	53
Others	509
Total	2 069

2019 data

Natural Gas in Billions of Cubic Meters and Percentage of World in 2020

Producers	bcm	% of world total
United States	949	23.6
Russian Federation	722	18.0
Islamic Rep. of Iran	235	5.9
People's Rep. of China	191	4.8
Canada	184	4.6
Qatar	167	4.2
Australia	148	3.7
Norway	116	2.9
Saudi Arabia	99	2.5
Algeria	92	2.3
Rest of the world	1 111	27.5
World	4 014	100.0

2020 provisional data

Net exporters	bcm
Russian Federation	230
Qatar	127
Norway	111
Australia	103
United States	77
Turkmenistan	56
Canada	47
Algeria	41
Nigeria	27
Malaysia	22
Others	176
Total	1 017

2020 provisional data

Net importers	bcm
People's Rep. of China	125
Japan	105
Germany	83
Italy	66
Mexico	64
Korea	54
Turkey	47
France	37
United Kingdom	34
India	34
Others	324
Total	973

2020 provisional data

1. Includes production of crude oil, NGL, feedstocks, additives, and other hydrocarbons. Excludes liquids from other fuel sources (renewables, coal, and natural gas).
2. Net exports and net imports include pipeline gas and LNG.

Sources: Adapted from IEA, World Energy Statistics, 2021, pp. 13 and 15.

At the same time, there are many uncertainties involved in making such shifts. Achieving immediate European energy independence from Russia is one case in point, but there are far greater challenges and uncertainties involved in creating an efficient and lower cost set of long-term sources of gas and oil that could give Europe “lasting independence.” One key uncertainty is that no one now knows how the Ukraine War will end – although it does seem likely to create a prolonged level of confrontation with Russia – or how long Europe will want or need energy independence. Another is that the scale and length of European requirements for energy independence from Russia becomes progressively more uncertain with time.

The Impact of Global Climate Change and the Growing Environmental Crisis

There are other key uncertainties that affect any effort to analyze the options for long-term European energy independence from Russia. Key uncertainties include the actual outcome of the war; European, Russian, Chinese, and other regional and national politics; technological change; the real-world future cost and availability of new solutions to energy supply and use; and national capability and willingness to make cost-effective substitutions and changes.

Moreover, any analysis of how Europe can achieve lasting energy independence from Russia that is based on the current trends in energy supply and consumption must, however, be prefaced by addressing a different kind of uncertainty that affects any projection of the future of global energy balances and that could radically change Europe’s future energy goals. The need to reshape global and European energy use in ways that limit or reverse the pace of climate change affects every aspect of energy planning, but it currently involves levels of uncertainty that are so high that they make it almost impossible to analyze and plan.

At the same time, there is steadily growing political support to make massive new efforts to halt or reverse climate change, and political goals are being set on the basis of the need to halt global warming rather than the real-world capability and willingness to meet such goals. As a result, an analysis of strategies for reshaping the global patterns in oil and gas exports for strategic and military reasons must at least flag the debate over the dangers inherent to the more orthodox projections of the future use of oil and gas which pose a risk to the environment, global economy, and human health.

These affect even medium-term planning and implementation of an end to Russian oil and gas exports to Europe. While there is little that can be done to affect climate change in the immediate future, a crash program might well make major reductions in the global need for oil and gas as early as the period from 2025 to 2030.

A recent study by the IEO’s International Energy Agency (IEA) – which avoids any basis toward ideological or market driven extremes – warns that,¹

“... the rapid but uneven economic recovery from last year’s Covid-induced recession is putting major strains on parts of today’s energy system, sparking sharp price rises in natural gas, coal and electricity markets. For all the advances being made by renewables and electric mobility, 2021 is seeing a large rebound in coal and oil use. Largely for this reason, it is also seeing the second-largest annual increase in CO2 emissions in history. Public spending on sustainable energy in economic recovery packages has only mobilized around one-third of the investment required to jolt the energy system onto a new set of rails, with the largest shortfall in developing economies that continue to face a pressing public health crisis. Progress towards universal energy access has stalled, especially in sub-Saharan Africa.”

The IEA also has made some illustrative projections of possible climate and pollution-related changes in global oil and gas demand that illustrate potential changes in longer-term oil and gas demand, responding to different estimates of the urgency in addressing climate change and the potential ability to act, and one that also provides suitable caveats and warnings about the level of uncertainty in virtually every aspect of the resulting analysis.

The IEA has developed three different estimates of possible energy futures to limit or reverse the process of climate change that are summarized in **Figure Two**. The text of the IEA study from which **Figure Two** is adapted make it clear that all three futures would have a massive impact on global demand for oil and gas although it warns that all of these estimates are presently optimistic to the point of being unrealistic to some degree and that each estimate involves major uncertainties.

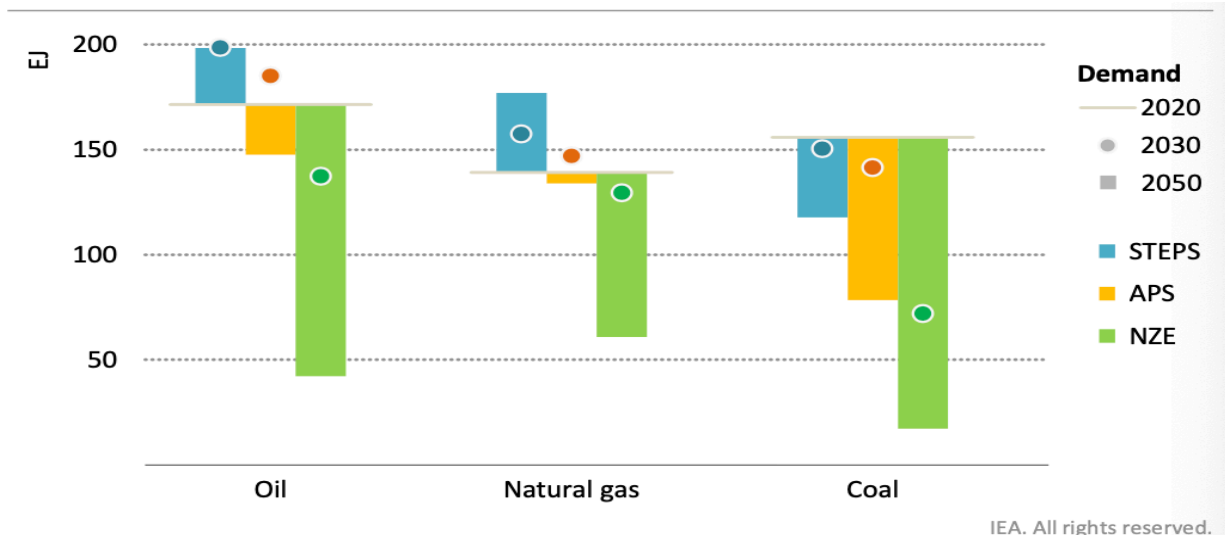
These three futures are defined as follows,

- **Stated Policies Scenario (STEPS)**. This scenario also sees an accelerating pace of change in the power sector, sufficient to realize a gradual decline in the sector's emissions even as global electricity demand nearly doubles to 2050. However, this is offset by continued growth in emissions from industry, such as the production of cement and steel, and heavy-duty transport, such as freight trucks. This growth largely comes from emerging market and developing economies as they build up their nationwide infrastructure. In the STEPS, almost all of the net growth in energy demand to 2050 is met by low emissions sources, but that leaves annual emissions at around current levels. As a result, global average temperatures are still rising when they hit 2.6 °C above pre-industrial levels in 2100.
- **Net Zero Emissions by 2050 Scenario (NZE)**, IEA's landmark **Net Zero Emissions by 2050 Scenario (NZE)**, published in May 2021, which charts a narrow but achievable roadmap to a 1.5 °C stabilization in rising global temperatures and the achievement of other energy-related sustainable development goals.
- **Announced Pledges Scenario (APS)**, they start to bend the global emissions curve down. Over the period to 2030, low emissions sources of power generation account for the vast majority of capacity additions in this scenario, with annual additions of solar PV and wind approaching 500 gigawatts (GW) by 2030. As a result, coal consumption in the power sector in 2030 is 20% below recent highs. Rapid growth in electric vehicle sales and continued improvements in fuel efficiency lead to a peak in oil demand around 2025. Efficiency gains mean that global energy demand plateaus post-2030. The successful pursuit of all announced pledges means that global energy-related CO₂ emissions fall by 40% over the period to 2050. All sectors see a decline, with the electricity sector delivering by far the largest. The global average temperature rise in 2100 is held to around 2.1 °C above pre-industrial levels, although this scenario does not hit net zero emissions, so the temperature trend has still not stabilized.

The APS sees a doubling of clean energy investment and financing over the next decade, but this acceleration is not sufficient to overcome the inertia of today's energy system. In particular, over the crucial period to 2030, the actions in this scenario fall well short of the emissions reductions that would be required to keep the door open to a Net Zero Emissions by 2050 trajectory. One of the key reasons for this shortfall is that today's climate commitments, as reflected in the APS, reveal sharp divergences between countries in the pledged speeds of their energy transitions.

These uncertainties do not affect the near-term strategic conclusions in this analysis, but they illustrate the fact that any serious planning issue must address the interaction between European energy independence and climate change in detail – and with as little ideological bias as possible. While the Ukraine War represents the world's most serious present crisis, no one can afford to ignore the potential need to alter the entire structure of future energy supply and use.

Figure Two: IEA Estimate of Required Reductions in Use of Fossil Fuels to Meet Goals for Reducing Global Climate Change (Fuel Use by Scenario)



Oil demand peaks in each scenario, but the level and timing vary; natural gas increases to 2025 with sharp divergences thereafter; coal falls in all scenarios

Note: 1 EJ is around 0.5 mb/d of oil, 29 bcm of natural gas or 34 Mtce of coal.

- Oil demand...** shows an eventual decline in all scenarios in this *Outlook*, although the timing and sharpness of the drop vary widely. In the STEPS, demand levels off at 104 mb/d in the mid-2030s and then declines very slightly to 2050. Oil use in road transport increases by around 6 mb/d through to 2030, with a particularly sharp rise in 2021, and it increases by close to 8 mb/d in aviation, shipping and petrochemicals. In the APS, global oil demand peaks soon after 2025 at 97 mb/d and declines to 77 mb/d in 2050. Oil use falls by around 4 mb/d in countries with net zero pledges between 2020 and 2030, but that is offset by an 8 mb/d increase in the rest of the world. In the NZE, oil demand falls to 72 mb/d in 2030 and to 24 mb/d by 2050. By 2030, 60% of all passenger cars sold globally are electric, and no new ICE passenger cars are sold anywhere after 2035. Oil use as a petrochemical feedstock is the only area to see an increase in demand; in 2050, 55% of all oil consumed globally is for petrochemicals.
- Natural gas demand** increases in all scenarios over the next five years, with sharp divergences afterwards. Many factors affect to what extent, and for how long, natural gas can retain a place in the energy mix when clean energy transitions accelerate, and the outlook is far from uniform across different countries and regions. In the STEPS, natural gas demand grows to around 4 500 bcm in 2030 (15% higher than in 2020) and to 5 100 bcm in 2050. Use in industry and in the power sector increases to 2050, and natural gas remains the default option for space heating. In the APS, demand reaches its maximum level soon after 2025 and then declines to 3 850 bcm in 2050: countries with net zero pledges move away from the use of gas in buildings, and see a near 25% decrease in consumption in the power sector to 2030. In the NZE, demand drops sharply from 2025 onwards and falls to 1 750 bcm in 2050. By 2050, more than 50% of natural gas consumed is used to produce low-carbon hydrogen, and 70% of gas use is in facilities equipped with CCUS.

Source: Adapted and excerpted from International Energy Agency, *World Energy Outlook 2021*, October 2021, pp.16-18 and 73-74.

Rising Global Demand for Gas Through 2050

Figure Five indicates that the patterns in natural gas production, exports, and imports will be a different story, although it must be stressed that the IEO projections were made before the Ukraine War began and before Europe actively sought to end oil and gas imports from Russia. When it comes to exports, Russia was still expected to dominate supply to Europe, and both Russia and the U.S. were expected to make major increases in production,²

In the Reference case, global natural gas production steadily increases, growing by approximately 30% between 2020 and 2050. Before that, natural gas production grew by 25% between 2010 and 2020, with the aid of new recovery techniques and expanded infrastructure. Projected growth in global natural gas demand and the expansion of processing and transportation infrastructure around the world drives growth in natural gas production to 2050.

In addition, demand from the industrial sector—for both natural gas and NGPLs—supports growth in natural gas production, while growth is more limited in the electric power, transportation, and residential and commercial sectors. Although use of natural gas for electric power generation increased by almost 30% from 2010 to 2020, this growth will likely plateau in 2030. The role of natural gas in the electric power sector has become increasingly complex because of economic and policy trends that favor renewable energy.

In the Reference case, Russia, the United States, and the Middle East will all grow as net exporters throughout the projection period to provide natural gas to European and Asian markets. Russia, in particular, shows the most growth in net exports, more than doubling over the projection period to remain the largest net exporter of natural gas through 2050 at more than 14 Tcf.

Because it is near Europe, China, and the rest of non-OECD Asia, Russia's net natural gas exports will grow through established pipeline infrastructure, potential future pipeline additions, and liquefied natural gas exports. The United States also shows rapid growth in net exports over the next 10 years, as it continues to expand its LNG infrastructure and produce natural gas at high volumes. LNG terminals and transportation vessels facilitate the overseas transport of natural gas between regions that are not connected by pipeline, creating an outlet for natural gas produced in the United States and the Middle East to reach overseas markets where it is in the highest demand.

Europe now produces only about 20% of the natural gas it needs, and its gas production is steadily dropping. As a result, the pre-war EIA projections also indicated that Europe would steadily increase its imports of Russian gas,³

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...In 2020, OECD Europe was the largest importer of natural gas, followed by Japan, South Korea, and non-OECD Asia. All of these regions are net importers due to their limited domestic supply of natural gas relative to their growing demand. These regions remain the largest natural gas export destinations through the projection period.

In the Reference case, both non-OECD Asia and OECD Europe increase their use of imported natural gas, and non-OECD Asia grows to become the largest net importer of natural gas by 2050—driven by continued economic growth in China and India. Net imports of natural gas into China, India, and other non-OECD Asian nations more than triple by 2050. Supply of natural gas in these markets arrives both via pipeline and

as LNG exports from Russia. The regions also receive LNG exports from regions such as the United States, the Middle East, Australia, and Africa.

The United States, Russia, and the Middle East are currently the largest producers of natural gas. In the Reference case, all three will continue to expand production throughout the projection period, and the United States will remain the largest producer worldwide, producing almost 43 trillion cubic feet (Tcf) in 2050.

The United States, Russia, and the Middle East all have large proven reserves of both natural gas and oil, along with the accompanying processing and transportation infrastructure to support steady production levels. In addition to meeting domestic demand, growing production in these regions serves growing demand for natural gas in the global market. The three largest producing regions all export more natural gas than they import; their exports go to key regions in Europe and Asia, where demand is greater than domestic supply. We project that the demand for natural gas from these regions grows further. The United States' and Russia's natural gas production grows by about 10 Tcf between 2020 and 2050 in the Reference case. Middle East natural gas production grows by about 5 Tcf over the same period.

Alternative Sources of Oil and Gas: The United States

Figure Five flags the fact that the U.S. is expected to lead in increasing natural gas production, but much of this increase is expected to be consumed in the United States. A report in the *New York Times* also indicates there are important near-term limits to what the U.S. can do – particularly given the uncertainties over the U.S. response to climate change:⁴

European countries have expressed an intention to phase out their dependence on over 150 billion cubic meters of annual imported Russian gas, partly by importing an additional 50 billion cubic meters of L.N.G., roughly 50 percent more than they currently import.

That will not be easy, since the global L.N.G. market is only 523 billion cubic meters a year, nearly 20 percent of which already goes to Europe. New L.N.G. export terminals are coming online in the United States and Qatar, but demand is increasing even faster, especially in Asian countries trying to ease air pollution from coal burning.

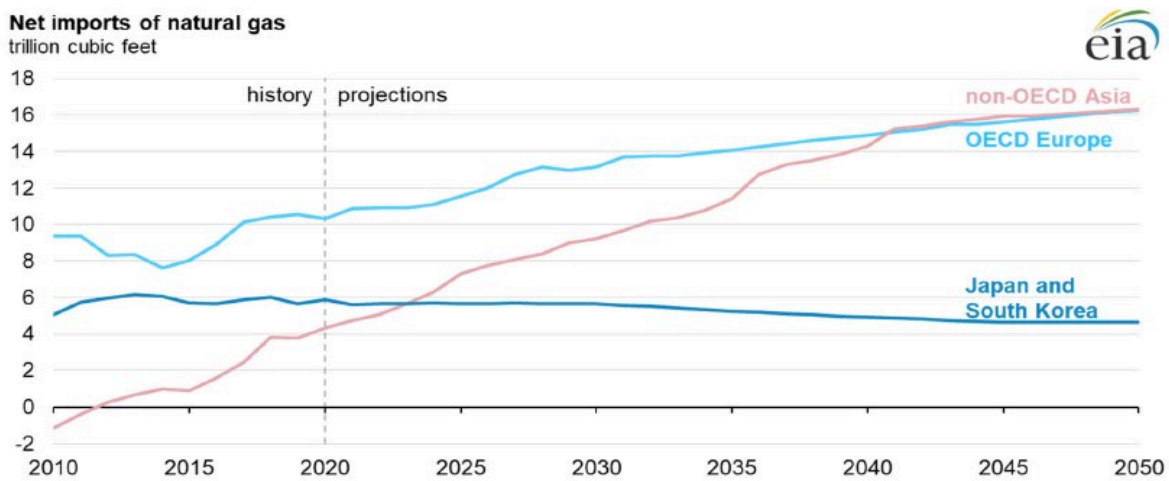
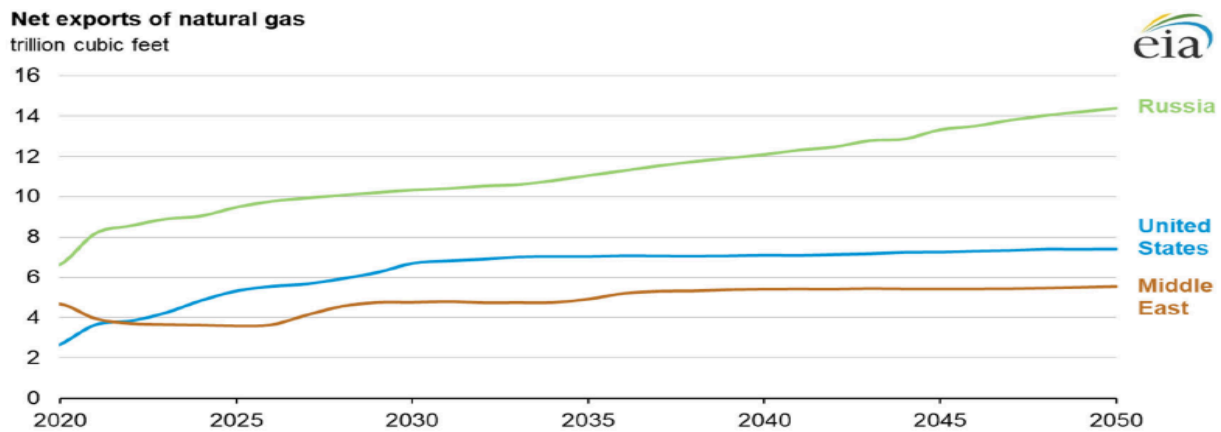
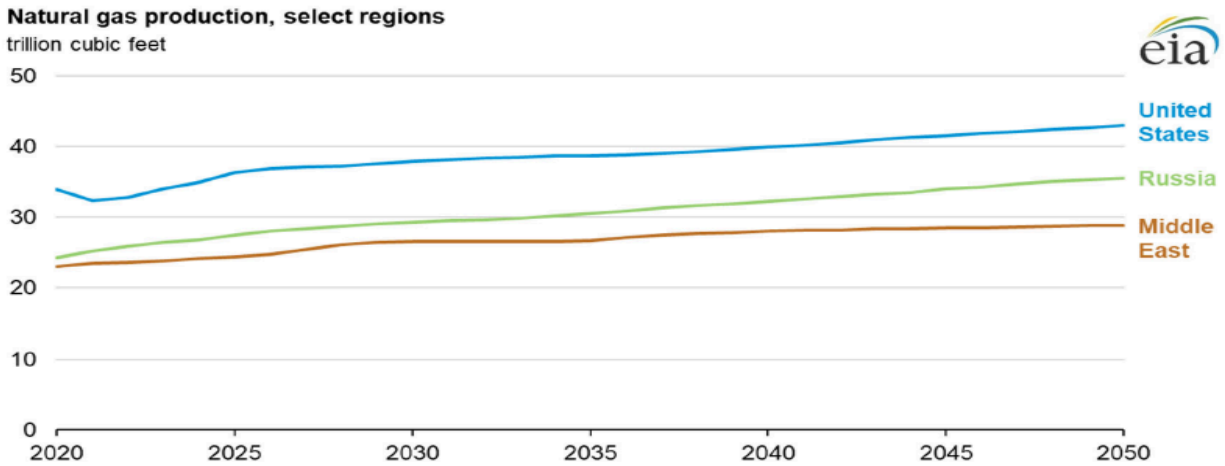
That leaves the United States, even though several of its gas fields have insufficient pipeline capacity and have attracted few major drillers because prices have been so low until recently.

Since the Russian invasion, the Biden administration has pledged to increase L.N.G. exports to the European Union by 15 billion cubic meters, or roughly 40 percent. That is only about one-tenth of Russian shipments to Europe, but American energy experts say American companies could produce and ship much more gas with more pipelines and export terminals.

Export operations are being expanded in the United States, with three new terminals expected to be completed by 2026. Another 10 await permits, long-term buyers and investors. EQT, a leading gas producer, has called for the country to quadruple L.N.G. capacity by 2030, a proposal that has received broad industry support. “We have the resources in the ground,” said David Brazier, chief executive of RBN Energy, an analytics firm. “And we could develop them if you had an indication from the administration that they want to develop natural-gas resources.”

It is clear from **Figure Five**, and from many of the other figures in this analysis, that the U.S. does need to rethink its natural gas development and export strategy in light of any longer-term effort to end European dependence on Russia or other unstable or insecure sources of exports, but other work by the EIA indicates that the MENA region and the Gulf may be key areas of supply.

Figure Five: Gas Exports and Imports: 2010-2050



Source: Energy Information Administration, *International Energy Outlook 2021, Narrative*, Department of Energy, October 2021.

Alternative Sources of Oil and Gas: The MENA Region and the Arab/Persian Gulf

At the same time, **Figure Four** and **Figure Five** indicate that the most logical alternative source of European oil and gas imports may be the Middle East, and particularly the oil exporting states in the Arab/Persian Gulf region. At the same time any reliance on this region poses security problems of its own.

Anyone familiar with the current level of crises, military build-ups, and civil wars in the MENA region and the Gulf realizes that even if one ignores all of the technological and economic uncertainties involved, including the political and strategic uncertainties outside the region, there is no reliable way to model how the MENA region and the Gulf will adapt to meet European demand if Europe fully commits to cutting off Russian oil and Gas exports.

The same *New York Times* article referred to earlier points out that in the short term,⁵

Aside from Russia, the Mediterranean region has become a leading gas source for much of Europe. But even as Mediterranean gas exploration has advanced, particularly in deeper waters, sales to Europe have run into nettlesome problems. Italy has long depended on Libya for energy, even when Col. Muammar el-Qaddafi ruled with ruthlessness and anti-Western rhetoric. But today oil and gas fields and export terminals are often blocked by competing armed groups, including one aided by Russia. Spain receives much of its gas by pipeline from Algeria, and Algeria would be happy to pump more gas to Spain and Portugal with a pipeline through Morocco, but a payments issue between Algeria and Morocco and worsening relations in general led to a stalemate in contract renewal talks in October.

In the longer-term, later sections of this analysis point out that the region has become steadily more unstable over the last decade, and it is already all too clear that America's strategic partners may not support such efforts. So far, most such MENA exporters have been cautious in condemning the Russian invasion of Ukraine, partly because of the growing ties between the MENA Organization for Petroleum Exporting Countries (OPEC) states and Russia in seeking to manage oil exports, their concern over alienating a major power and Russia's role in creating new regional threats, and their growing distrust of the United States as a reliable regional strategic partner and tensions over human rights issues.

Planning for Longer-Term European Oil and Gas Supplies

It is clear from the preliminary efforts of the EU, NATO, and individual countries that there are a number of short-term solutions to moving oil and gas imports, but cost-effective long-term solutions will require new and sometimes specialized port capacity for both importing countries and exporters outside Europe, as well as secure trade routes and export paths out of the U.S., the MENA and Gulf region, and within Europe.

Figure Six draws upon work by the IEA to show the pre-war global patterns of the top ten oil and gas producers, exporters, and importers on a global basis. It highlights the role of China as a leading importer – as well as Japan, Korea, and India.

It is clear from **Figure Six** – as well as from the more detailed European import data in **Figure Eight** and **Figure Ten** that are provided later in this analysis – that meeting future European demand for oil and gas and creating a new energy infrastructure varies sharply by importing country, and that any lasting European shift away from dependence on Russia will be driven at least as much by country-by-country needs and politics as by regional considerations. In fact, the

internal debates in Europe over making immediate reductions in imports from Russia in response to its invasion of Ukraine have already made it clear that European states will have major differences over which necessary investments – if any – should be made (and, how they should be paid for). It is equally clear from the pipeline maps in **Figure Seven** that any major shifts in the patterns in oil and gas trade can only have limited reliance on existing pipelines in meeting the needs of most European sites. This kind of investment in new and modified pipeline facilities will also require hard and costly decisions about the level and length of lasting confrontation with Russia, and it will mean major shifts in the overall pattern of global exports and imports.

Much will depend on European ability to agree on how to create new oil and gas ports and pipelines to replace dependence on Europe as well as on estimates of future energy demand by individual European country.

There are options for European and broader cooperation. The EU and the Organization for Economic Cooperation and Development (OECD) are potential centers for cooperative planning, but even if one ignores the European political differences over dealing with the impact of global climate change, there is the fact that the EU would exclude some European states and the OECD would be too large. While NATO could tie European planning together with U.S. and Canada planning, it has no prior experience in this area. As a result, any cooperative European efforts at planning and spending may well have to occur at a far more limited level, and decisions will often be made on a country-by-country basis.

It is also again clear that an immense amount will depend on just how real the politics of renewable and alternative fuels become. While this paper focuses on the moderate levels of progress called for the U.S. reference case projections, a successful rush to zero emissions and other climate friendly sources of energy – which some studies could begin to have a major impact as soon as 2030 – would also potentially solve the problem of European dependence on Russia.

Figure Six: Russian Oil and Gas Imports by the Largest European Importers

Gas		Oil	
Country^a	Billions of Cubic Meters Per Day	Country^b	Barrels Per Day
Germany	42.6	Netherlands	549,400
Italy	29.2	Germany	526,400
Turkey	16.2	Poland	328,400
Netherlands	15.7	Finland	184,199
Hungary	11.6	Slovakia	111,000
Poland	10.2	Italy	103,000
Sub-Total	113.8	Lithuania	100,200
Japan	8.8	Hungary	76,700
Belarus	18.8	Other OECD Europe ^c	399,700
Kazakhstan	10.2	Total	2,378,999
China	9.2		

^a 2019 Russia accounted for 41% of the EU's natural gas imports.

^b Slovakia and Hungary - received 96% and 58% of their oil imports respectively from Russia in 2021. Russia accounted for just 8% of British oil imports in 2020 and 3% of US oil imports in 2021

^c Includes some non-OED Countries

Source: EIA and adapted from Jake Horton, Daniele Palumbo & Tim Bowler, "How reliant is the world on Russia for oil and gas?," BBC News, May 4, 2022, <https://www.bbc.com/news/58888451>.

Figure Seven: Current Major oil and Gas Pipelines Affecting European Imports

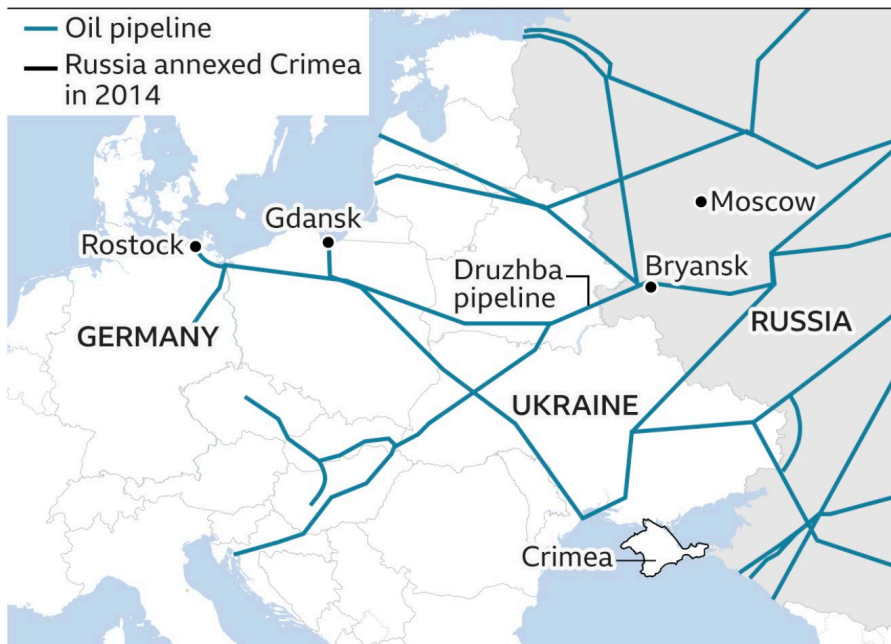
Key Gas Pipelines



Source: European Network of Transmission System Operators for Gas



Key Oil Pipelines



Source: S&P Global Platts



Source: Adapted from Horton, Palumbo & Bowler, “How reliant is the world on Russia for oil and gas?,” BBC News, May 4, 2022, <https://www.bbc.com/news/58888451>.

The Impact on Competition with Russia

There are other reasons that a decision to eliminate future dependence on imports from Russia would pose serious issues. Putting the climate change issue aside, a successful effort to end European dependence on Russian gas and oil exports will have two major strategic benefits. First, it will remove a key form of Russian political and economic leverage that has led some European states to be reluctant to fully support Ukraine and major sanctions against Russia. Second, it will directly reduce Russia's revenues from one of its few major sources of foreign trade income – a key factor for a major power whose economy is now far smaller and weaker than its claims to military power.

At the same time, ending European dependence on Russian exports will have some negative security impacts. First, it will harden Russian attitudes towards NATO, most of Europe, and the United States and reduce Russia's economic incentives to cooperate and compromise – potentially increasing the risk of serious confrontations and future clashes and conflicts. Second, it will probably produce a Russian shift its oil and gas exports to China and other major consumers outside Europe like India – potentially creating new pipelines and energy ports and an increased Russian presence in the progress.

Russian Oil Exports

There is no question, however, that deciding to eliminate European import dependence would have a major impact on Russia. Until the beginning of the Ukraine War and European energy sanctions, Russia had adopted energy strategies that called for a major increase in its gas exports to Europe. An April 2022 report by the EIA noted that,⁶

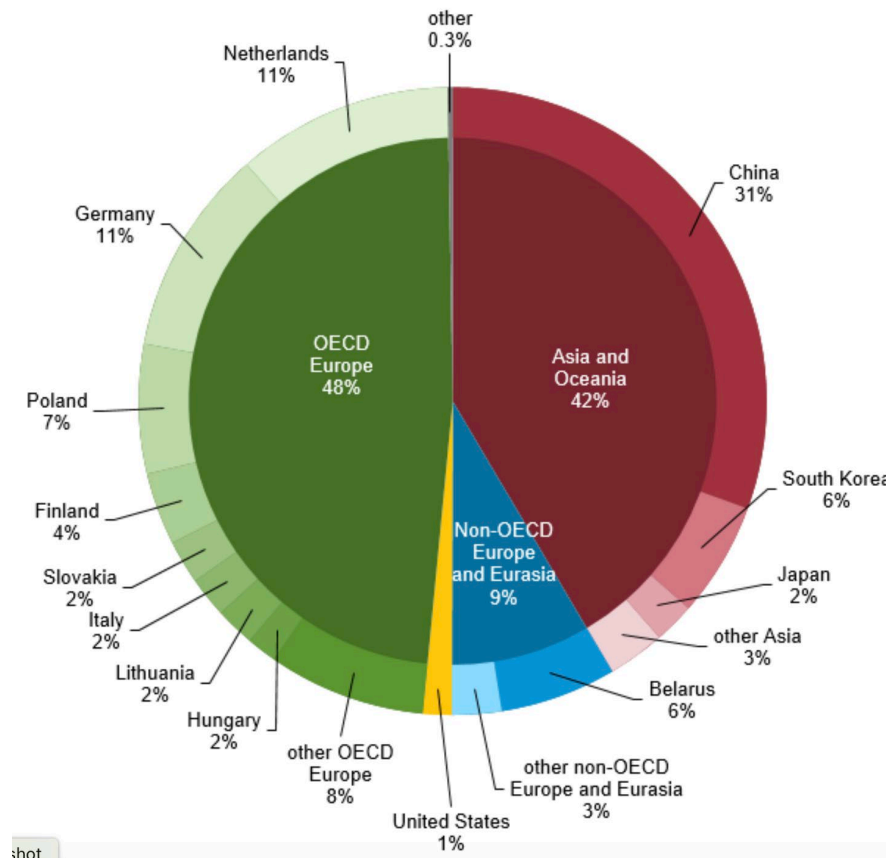
In June 2020, the Russian government approved its *Energy Strategy to 2035*, which seeks to diversify energy exports, modernize the country's energy infrastructure, increase national competitiveness, and develop greater technological innovation and digitalization within its energy system...The *Energy Strategy to 2035* prioritizes the increase in energy exports and revenue and the expansion of natural gas infrastructure, particularly midstream in eastern Siberia and the far eastern regions, to ensure the resilience of the country's energy system. The prioritization of exports and revenue is indicative of the central role hydrocarbons play for the Russian government. Crude oil and natural gas revenue comprised approximately 43%, on average, of the government's total annual revenue between 2011 and 2020...This includes export and tax revenue that the government collected from oil and gas production and sales.

The report provided the updated estimates of Russian oil export data, shown in **Figure Eight**, and noted that,⁷

Russia exported almost 5 million b/d of crude oil and condensate in 2020. Most of Russia's crude oil and condensate exports in 2020 went to European countries (48%), particularly Germany, the Netherlands, and Poland. Asia and Oceania accounted for 42% of Russia's total crude oil and condensate exports, and China was the largest importing country of Russia's crude oil and condensate, at 31%. About 1% of Russia's total crude exports in 2020 went to the United States.

It also reported that Russia was making increases in its output of hydrocarbon gas liquids, petrochemicals, and polymer plants. It implied that oil exports to Europe remained Russia's main focus in increasing production, but it did note that over 40% of these exports now went to Asia and Oceania and 31% of such exports went to China. This was a major shift in the strategic focus of Russian exports since 2000.

Figure Eight: Russian Crude Oil and Condensate Exports by Destination: 2020



Source: EIA, *Russia*, April 18, 2022, p. 9, <https://www.eia.gov/international/analysis/country/RUS>.

Russian Gas Exports

Russia's main focus in expanding its energy production, however, was to increase its gas exports, and Russia again planned on European markets. The same EIA report on Russia noted that,⁸

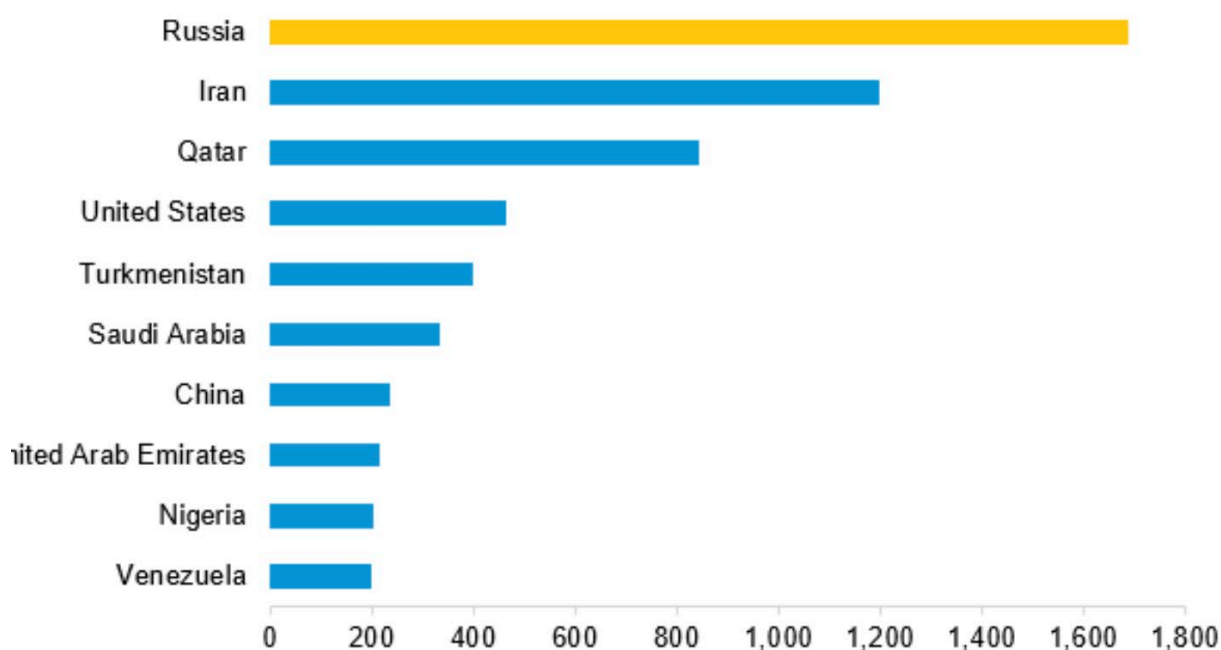
The Russian government aims to become a global supplier of natural gas; in 2020, the Russian government approved its latest energy policy plan, *Energy Strategy to 2035*, which prioritizes the development and diversification of energy exports and seeks to significantly increase investment in liquefied natural gas (LNG), particularly in the Arctic region. Specifically for natural gas, the strategy aims to increase LNG exports to approximately 4.5-4.9 Tcf per year by 2024 and to about 8.3-9.6 Tcf per year by 2035... Increasing LNG export capacity would enable Russia to compete for export markets beyond Europe. Russia has traditionally been the chief supplier of natural gas to Europe via its pipeline network.

According to the *Oil & Gas Journal*, Russia held the world's largest natural gas reserves at 1,688 trillion cubic feet (Tcf), as of January 1, 2021... Russia produced approximately 22.5 Tcf of dry natural gas in 2020. Russia consumed 16.9 Tcf of dry natural gas in 2019... According to the U.S. National Oceanic and Atmospheric Administration's (NOAA) Earth Observation Group, Russia flared an estimated 849 Bcf of natural gas in 2020, the most of any country, accounting for about 17% of the total volume of natural gas flared globally in 2020.

A string of recent natural gas discoveries in Russia's Arctic region, particularly in the Yamal Peninsula and Ob Bay, may increase natural gas production over the next decade and lead to the region becoming a natural gas hub that would complement West Siberia, where most of Russia's natural gas has been historically produced. In 2018, Novatek announced the discovery of the North Obskoye field located in Ob Bay and estimated that it held over 11.3 Tcf of natural gas reserves. In May 2020, Gazprom estimated that its 75 Let Pobedy (75 Years of Victory) field, which is located in the Yamal Peninsula, held more than 7.1 Tcf of total recoverable reserves. Both discoveries, if fully realized, would significantly increase Russia's natural gas production

The report also issued the updated estimate of Russian and major global natural gas reserves shown in **Figure Nine**. While such estimates are always somewhat uncertain, they indicate that estimates of Russian reserves continue to rise, and that Russia is now clearly a nation with the largest reserves in the world.

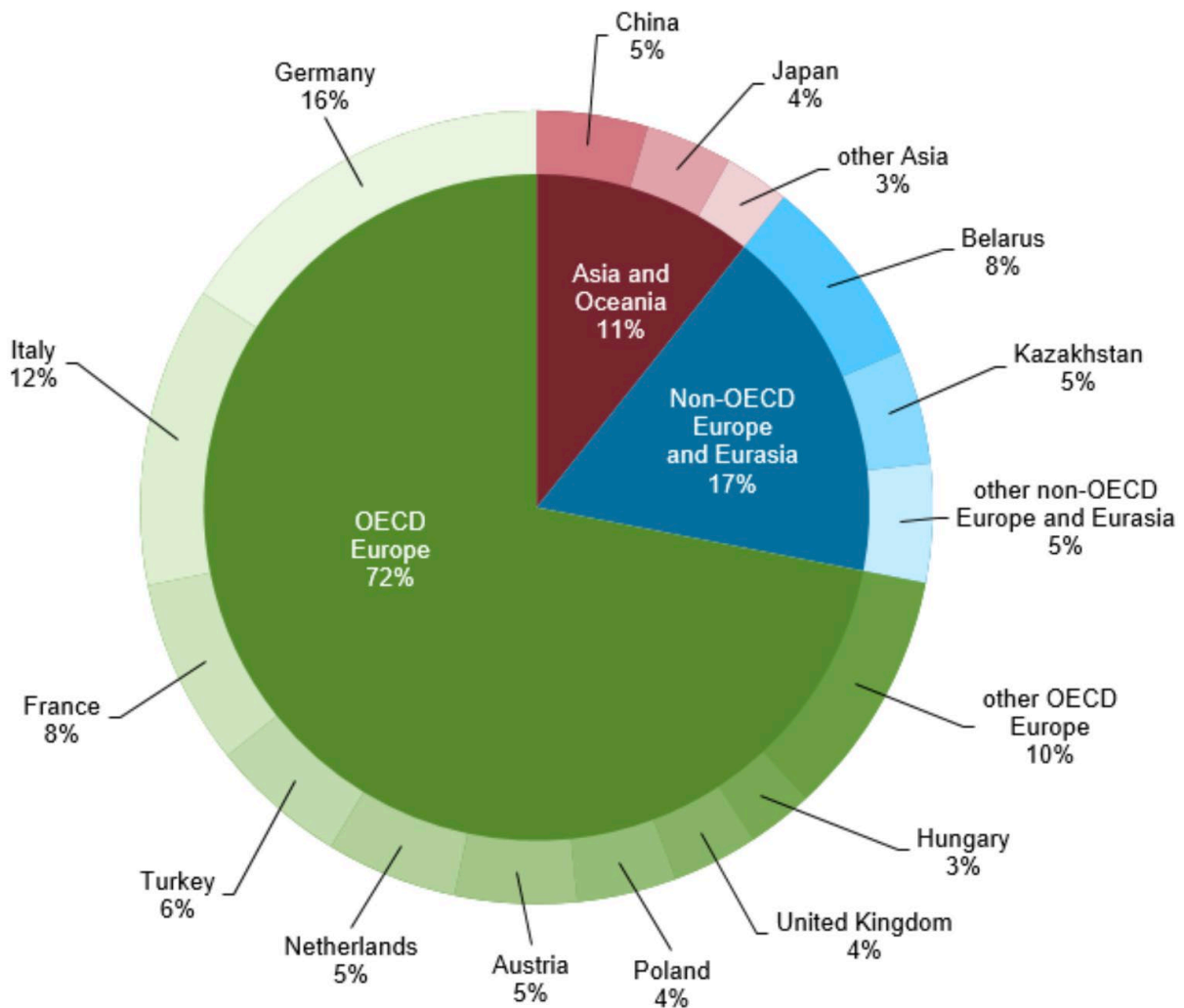
*Figure Nine: Estimates of Proved Gas Reserves as of January 1, 2021
(in Trillion Cubic Feet (tcf))*



Sources: Graph by the U.S. Energy Information Administration, based on EIA's U.S. reserve values as of December 31, 2019, and other values from the Oil & Gas Journal's Worldwide Look at Reserves and Production, January 1, 2021.

The report also provided the more detailed break-out of Russian gas exports by country in 2020 shown in **Figure Ten**, and it noted that "customers in Europe and Eurasia received approximately 89% of Russia's 8.5 Tcf of natural gas exports; Germany, Italy, France, and Belarus received almost half of the volumes exported to Europe and Eurasia."

The data in **Figure Ten** indicate that 72% of Russia's gas exports went to OECD Europe in 2000, which is a much higher share than the 41% the EIA quoted earlier. Only 11% went to Asia and Oceania, of which only 5% went to China. In contrast, 17% went to non-OECD Europe, 8% went to Belarus, 5% to Kazakhstan, and 5% to non-OECD Eurasia.⁹

Figure Ten: Russian Natural Gas Exports by Destination: 2020

 Source: Graph by the U.S. Energy Information Administration, based on Russian export statistics and partner country import statistics from Global Trade Tracker and on delivery statistics from Gazprom

Source: EIA, *Russia*, April 18, 2022, p. 18, <https://www.eia.gov/international/analysis/country/RUS>.

At the same time, the EIA report provided an updated description of Russia's expanding pipeline effort. While it did focus on Nord Stream 2, it also listed pre-Ukraine War pipeline changes that were focused more on Asia and non-European export destinations. These pipeline changes indicated that Russia might well react to any major European effort to restructure its energy export facilities to permanently reduce or eliminate its dependence on Europe by strengthening its ties to China and increasing gas exports to the rest of Asia.¹⁰

- In September 2021, Gazprom completed construction of the Nord Stream 2 (NS2) natural gas pipeline, which is an offshore pipeline that runs across the Baltic Sea from the Russian port of Ust-Luga to Greifswald in Germany... NS2 is expected to have a capacity of about 1.9 Bcf per year, identical to the capacity of NS1, and is estimated to have cost around \$10 billion. The pipeline is entirely owned by Gazprom via a Swiss-based special purpose entity, but reportedly it received financing for about half of the cost from Engie, OMV,

Shell, Uniper, and Wintershall for its construction. Gazprom has not yet announced the start date for commercial operations...

- In May 2021, the U.S. government waived sanctions imposed on the project company, its CEO, and corporate officers involved in constructing the NS2 pipeline, which cleared the way for Gazprom to finish constructing the pipeline and begin delivering natural gas to Germany...A State Department report sent to Congress asserted that the project company Nord Stream 2 AG, its CEO Matthias Warnig, four Russian ships, and four other entities engaged in sanctionable activity, but the Secretary of State waived sanctions for Nord Stream 2 AG, its CEO, and staff on the grounds of national interest... Completion of the pipeline enabled Russia to increase its piped natural gas exports to Germany and other EU member states and bypass Ukraine, and so denying Ukraine potential revenue gained from transit fees.
- The TurkStream natural gas pipeline began operations in January 2020. The natural gas export pipeline connects Russia's largest natural gas reserves to Turkey's natural gas transport system and enables Turkey to provide an alternative route for Russia's piped natural gas to southern Europe. The TurkStream system consists of two parallel pipelines that each have a capacity of about 556 Bcf per year and stretch 580 miles across the Black Sea from the Russian coast at Anapa to the Turkish border. The first pipeline supplies natural gas for Turkey's domestic consumption, while the second pipeline (also referred to as TurkStream 2) extends further onshore for about 550 miles to deliver natural gas to Hungary, Serbia, and Bulgaria...
- The natural gas pipeline called the Power of Siberia began transporting natural gas in December 2019, providing an initial capacity of about 177 Bcf per year. The pipeline is the first natural gas pipeline to deliver Russia's natural gas exports to China; the 1,400-mile long pipeline is connected to the Chayandinskoye field and crosses China's border at the Heilongjiang province. The pipeline is expected to reach full capacity of about 1.3 Tcf per year by 2025, providing a substantial amount of natural gas supply and an attractive alternative fuel source for power generation to a region in China that uses high levels of coal...
- Gazprom approved a feasibility study on the construction of a natural gas pipeline that could deliver natural gas to China via Mongolia. The resulting Soyuz Vostok pipeline has a planned export capacity of up to about 1.7 Tcf per year and, if completed, would become an extension of the Power of Siberia natural gas pipeline and provide an alternative route for Russia's natural gas into China...
- Novatek's Yamal LNG project began commercial operations at its fourth train in the first half of 2021 and, by June, reportedly reached full production capacity. The Yamal LNG project is Novatek's first liquefaction project and second large-scale project in Russia. Novatek reached its final investment decision in 2013 to initially build three LNG trains with a total capacity of 792 Bcf per year, but in 2017, it approved the construction of an additional train with a capacity of approximately 43 Bcf per year. The fourth train's initial start-up date was as early as 2019, but it had been delayed to 2021, reportedly as a result of technical issues with some components.
- The Arctic LNG-2 project reached its final investment decision in September 2019 and is currently under construction. The Arctic LNG-2 project is located in the Gydan Peninsula in the northern part of Siberia and is a \$21 billion project that will involve constructing three liquefaction trains, each with a production capacity of about 317 Bcf per year for a total of 951 Bcf per year. Novatek expects the first train to be completed in 2023 and the second and third trains in 2024 and 2025, respectively. The project is owned by a consortium that includes:
 - —Novatek (which will operate the facility)
 - TotalEnergies
 - China National Petroleum Corporation (CNPC)
 - China National Offshore Oil Corporation
 - Japan Arctic LNG (which is itself a consortium that consists of Mitsui & Co. and the Japan Oil, Gas and Metals National Corporation [JOGMEC])
- Gazprom's second large-scale LNG export facility, Baltic LNG, is reportedly under development and has an expected start date of 2023 for commercial operations. Baltic LNG is a two-train LNG export facility with a total capacity of 624 Bcf per year. Baltic LNG is located near the Baltic Sea port of Ust-Luga near the

Estonian border, and the LNG facility is part of a larger complex that includes other natural gas processing plants that will produce ethane and LPG...

The Impact on Competition with China

Several of these pipeline developments are a warning that one key strategic impact of eliminating Russia's exports to Europe may be an eventual shift of Russian exports to China, India, and Asia. A closer and more dependent Russian relationship with China could be a significant strategic liability for the U.S. and its strategic partners, and it could significantly reduce the Chinese dependence on Gulf oil and gas exports discussed in the next section.

There do not seem to be any reliable, detailed open-source data on the probable time, cost, and risk to Russia of such a shift, which would require creating new oil and gas pipelines to China, new oil and LNG ports and tanker capacity, and possibly creating a reliable Arctic shipping route to Asia. If anything, the speculative data that do exist seem to reflect the fact that it is far easier to create new pipelines and shipping routes on paper than it is to create real-world facts on the ground or at sea.

Nevertheless, the medium- to long-term potential is clearly there, and a major expansion of Russian exports to China does seem to offer major economic and strategic benefit to both Russia and China.

Much depends on China's goals and perceptions and on how much it sees energy links to Russia as a valuable way to secure an alliance with Russia and more secure supplies of energy. China already is one of the world's largest energy importers. **Figure Eleven** shows that the 2021 edition of the *International Energy Outlook* (IEO) described projects that China and India will make some of the world's largest future increases in import of oil and gas.

The IEO report summarizes these trends as follows:¹¹

- Oil: "In the Reference case, liquid fuels consumption grows the most in non-OECD Asia regions, where consumption nearly doubles from 2020 levels. The transportation and industrial sectors account for most of the projected growth. This consumption growth primarily occurs in the rapidly developing economies of China, India, Indonesia, Thailand, and Other non-OECD Asia countries. In contrast, crude oil production is relatively flat in the largest countries of that region—China and India—through 2050, and production declines in Other non-OECD Asia after 2030.

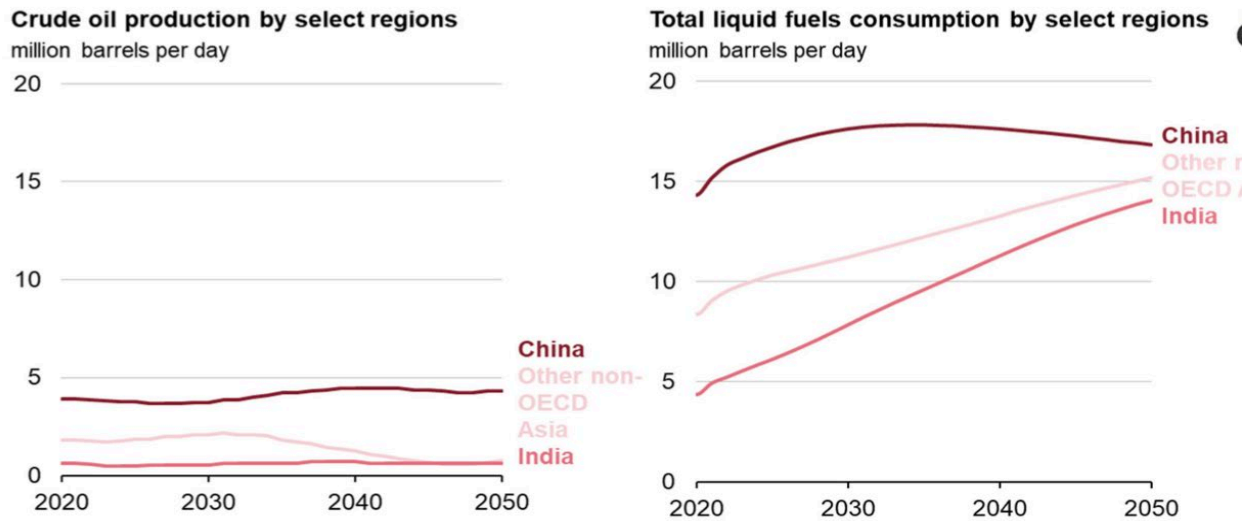
This disconnect between liquid fuels consumption and production is most notable in India, where 2050 consumption will be three times higher than 2020 levels, yet crude oil production will be lower in 2050 than in 2020. Similarly, while China increases crude oil production, this increase will not be sufficient to balance the liquid fuels consumption growth over the projection period. To compensate for this regional imbalance between oil consumption and production in the Reference case, non-OECD Asia supplements its local production with increased imports of crude oil or finished products. Furthermore, these regions might invest in additional infrastructure (such as import terminals or refineries) to continue to support their rapid consumption growth."

- Gas: "In 2020, OECD Europe was the largest importer of natural gas, followed by Japan, South Korea, and non-OECD Asia. All of these regions are net importers due to their limited domestic supply of natural gas relative to their growing demand. These regions remain the largest natural gas export destinations through the projection period. In the Reference case, both non-OECD Asia and OECD Europe increase their use of imported natural gas, and non-OECD Asia grows to become the largest net importer of natural gas by 2050—driven by continued economic growth in China and India. Net imports of natural gas into China, India, and other non-OECD Asian nations more than triple by 2050. Supply of natural gas in these markets arrives both

via pipeline and as LNG exports from Russia. The regions also receive LNG exports from regions such as the United States, the Middle East, Australia, and Africa.”

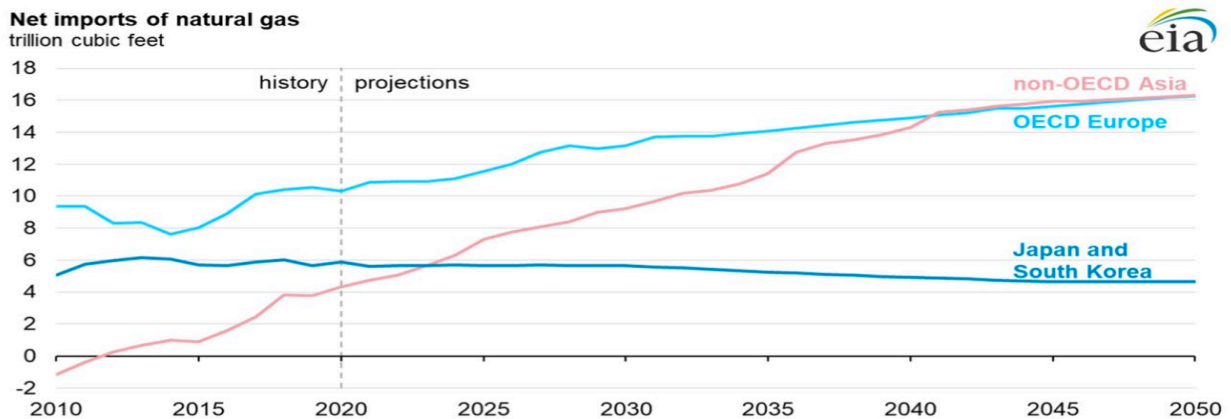
Figure Eleven: Future Asian Imports of Oil and Gas

Oil: Non-OECD Asia leads increased consumption of liquid fuels but has limited increases in regional crude oil production



Source: U.S. Energy Information Administration, *International Energy Outlook 2021* (IEO2021) Reference case

Gas: Key destinations for natural gas exports are Europe and Asia, and non-OECD Asia (Largely China) grows the most



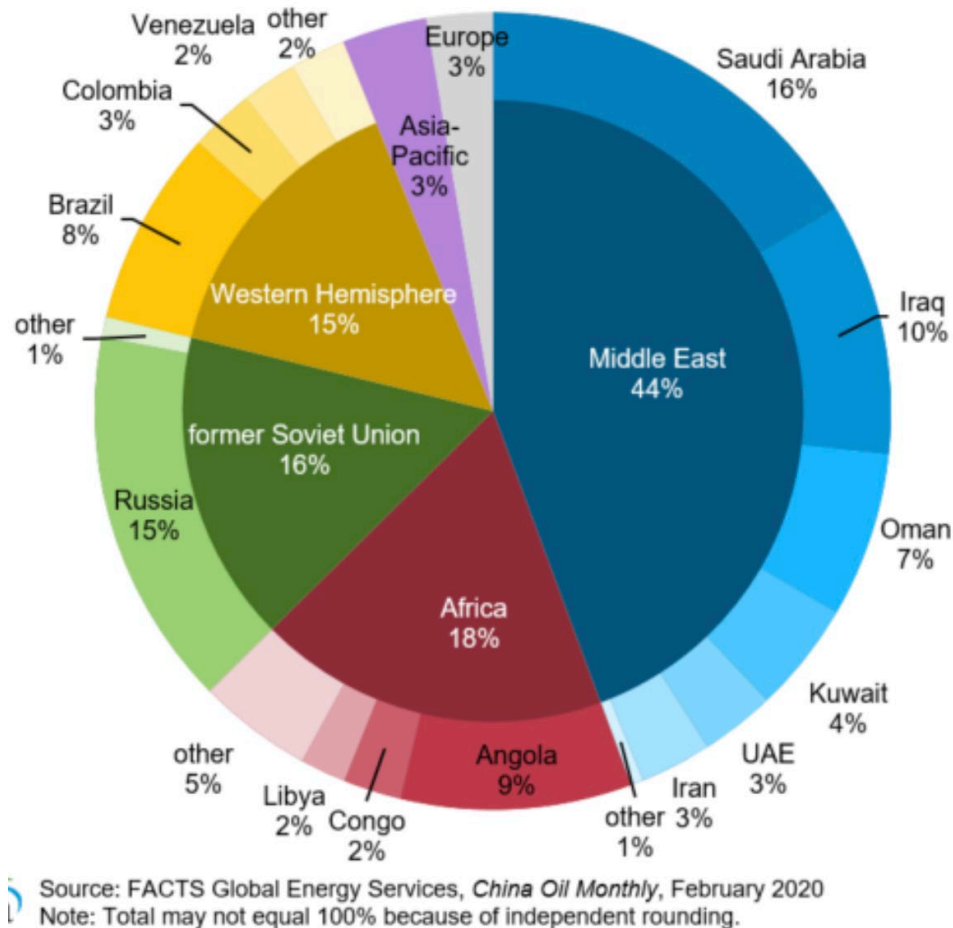
Source: U.S. Energy Information Administration, *International Energy Outlook 2021* (IEO2021) Reference case

Source: Energy Information Administration, *International Energy Outlook 2021, Narrative*, Department of Energy, October 2021, pp. 34, 40.

Trends in Chinese Oil Imports

The EIA country analysis of Chinese energy provides the detailed graphic on Chinese oil imports shown in **Figure Twelve**.

Figure Twelve: Chinese Crude Oil Imports by Source in 2019



Source: Energy Information Administration, China, September 30, 2020, p. 9.

The same document summarizes the trends in Chinese pre-Covid-19 oil imports as follows:¹²

- As China's oil demand continues to outstrip domestic production and the country continues building its strategic petroleum reserves, oil imports have greatly increased during the past decade, reaching record highs in 2019. To ensure adequate oil supply and mitigate geopolitical uncertainties, China has diversified its sources of crude oil imports in recent years. China, which became the world's largest crude oil buyer in 2017, imported 10.1 million b/d of crude oil on average in 2019, rising almost 10% from 9.2 million b/d in 2018.
- Saudi Arabia, which historically has exported a significant portion of China's crude oil, was the largest source of imports in 2019, with a 16% share. Saudi Aramco signed more long-term crude oil supply agreements with Chinese companies in early 2019 as the company focused on supplying China's new refineries and petrochemical plants.
- After being China's top source of crude oil imports for three years, Russia returned to being China's second-largest source of crude oil imports in 2019 (Figure 3). Crude oil exports from Russia to China began to increase following new upstream production from Eastern Siberian fields, construction of pipeline and

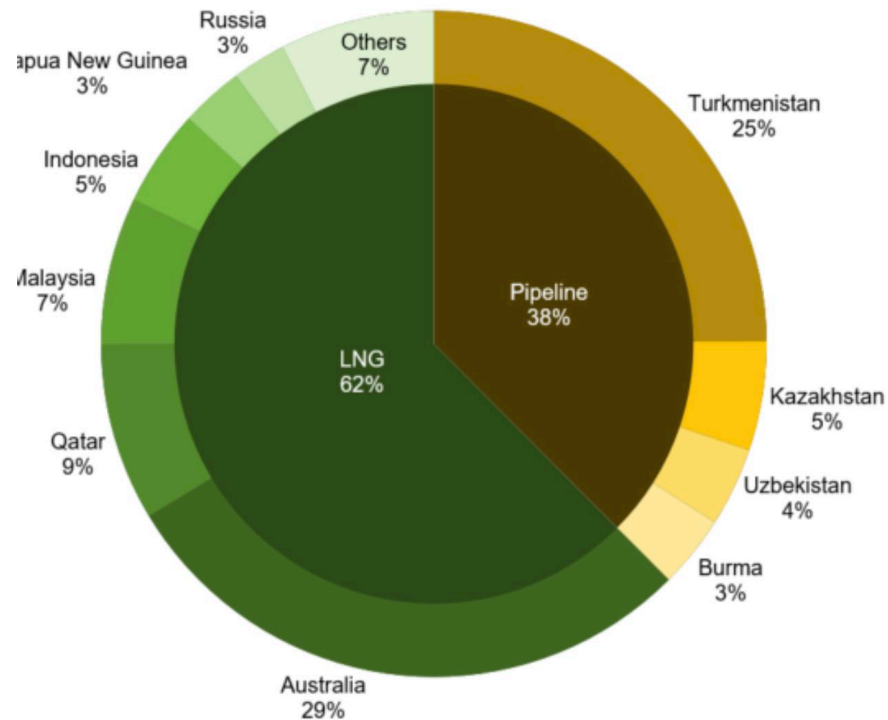
transmission infrastructure between the countries, and China's lifting of a crude oil import ban on its independent oil refineries in the country's northeastern region in 2015.

- China imported greater shares from the United Kingdom, Brazil, and Libya since 2017 as a result of higher production from these countries... Sanctions on Iran's crude oil and condensate exports by the United States have significantly reduced China's intake of oil from Iran, particularly in the latter half of 2018 and in 2019. Oil from Iran fell to 3% of China's imports in 2019 compared with 8% in 2016, according to China's official import data. China reported that oil imports from Iran fell to about 100,000 b/d at the end of 2019, although it may have additional volumes imported as bonded storage that have not yet cleared customs. Saudi Arabia offset most of this loss... China's purchases of crude oil from Venezuela has dropped since 2017 because of U.S. sanctions on Venezuela and the country's economic crisis that has severely hindered its oil production.
- Crude oil imports from the United States declined significantly from the 2018 level of 231,000 b/d China imposed a 5% tariff on U.S. crude oil imports in September 2019, which reduced oil imports from the United States by 48% in 2019. After signing the first phase of a trade deal with the United States in January 2020, China reduced the tariff on U.S. crude oil imports to 2.5% starting in February 2020. China's government also began to offer tariff exemptions on crude oil from the United States so that China can meet its agreement to purchase \$52 billion of additional U.S. energy products through 2021.

Trends in Chinese Gas Imports

The same report provided **Figure Thirteen**, which shows the sources of Chinese gas imports, and only 3% came from Russia. In contrast, 9% came from Qatar, 34% came from the “-Stans” in Central Asia, 15% came from Southeast Asia, 32% came Australia from Papua New Guinea, and 7% came from other sources.

Figure Thirteen: Chinese Gas Imports by Source in 2019



Source: Energy Information Administration, *China*, September 30, 2020, page 14.

This EIA report, however, was a pre-Ukraine War analysis of Chinese trends in imports and pipeline developments, and its key portions only touched briefly on Russia as a major source of imports,¹³

- To fill the widening gap between China's domestic natural gas production and demand, the industry has relied on an increasing amount of pipeline imports and liquefied natural gas (LNG) trade. In 2019, China, the largest natural gas importer in the world, imported 4.6 Tcf, 7% higher than 2018 levels. LNG imports account for 62% of the total, and pipeline imports, mostly from Turkmenistan, account for 38%...
- China surpassed South Korea and became the second-largest LNG importer after Japan in 2017. LNG imports climbed to 2.9 Tcf in 2019, rising 13% from 2018 levels. LNG imports have sharply accelerated each year since 2015 as a result of lower global LNG prices and China's coal-to-gas switching policies. As a result of the economic and energy consumption slowdown in the first few months of 2020 in response to COVID-19 containment efforts, some Chinese NOCs have declared force majeure on some contract cargoes or have delayed receipts because natural gas demand has contracted. The macroeconomic effects from the pandemic response will likely dampen China's LNG growth in 2020.
- China has diversified its LNG suppliers during the past few years, and Australia is now the largest supplier, at 46% in 2019. Purchases from new natural gas liquefaction projects in Australia began in 2016. LNG imports from the United States grew rapidly in 2017 and 2018, reaching an average of 5% of China's total LNG imports. However, U.S. imports slowed significantly after September 2018 when China imposed a 10% tariff on U.S. LNG shipments as part of the trade dispute between the two countries. China raised LNG tariffs on the United States to 25% in June 2019, and LNG imports from the United States dropped to zero by April 2019. After signing the first phase of a trade deal with the United States in January 2020, China's government offered tariff exemptions on LNG from the United States, which could bolster U.S. LNG cargoes to China for the first time in more than a year.
- As of late 2019, China had 21 LNG regasification terminals with a combined capacity of 3.5 Tcf. China is quickly building various terminals along its entire coastline, and another 1.9 Tcf is under construction and slated to come online by 2023.
- China's rapidly growing natural gas demand during the past few years has opened up opportunities for independent or non-NOC Chinese energy companies to operate in the LNG space. Several local state-owned municipalities, natural gas distributors, and power developers own stakes in existing LNG terminals. In 2019, the government renewed an initiative in 2014 to allow access rights to third-party companies for supplying natural gas to LNG terminals, providing more supply opportunities for firms involved along the entire LNG supply chain, from the upstream natural gas procurement to the downstream distribution. CNOOC has signed several LNG third-party access deals with various independent companies since late 2018, and it released third-party access bids on the Shanghai Petroleum and Gas Exchange in early 2019.
- ... Natural gas pipeline imports fell slightly in 2019 to 1.7 Tcf, most of which are from Turkmenistan. In addition to the natural gas pipeline imports from Central Asia and Burma, China began importing natural gas from Russia through the Power of Siberia pipeline in December 2019. China and Russia signed a natural gas deal in 2014 in which China will import an average of 1.3 Tcf per year of natural gas from Gazprom's East Siberian fields during a 30-year period. Russia expects to ramp up supplies during the next few years and send 530 million cubic feet by 2022. Russia's portion of the pipeline project to the Chinese border came online at the end of 2019. China plans to expand its side of the pipeline, which will deliver natural gas to Beijing and other demand centers, in late 2020. This new supply of natural gas from Russia will compete with the LNG imports into northern China and diversify China's natural gas supply.
- LNG will also encounter more competition from Line D, the fourth pipeline of the Central Asia-China Pipeline system, in the next several years. This pipeline is slated to add another 1.1 Tcf of capacity and

increase the amount of natural gas from Turkmenistan to 2.3 trillion cubic feet per year (Tcf/y). Line D is scheduled to come online as early as 2022, but it has encountered several delays in the past few years...

- China extended another contract with Kazakhstan and doubled the amount of imported natural gas to 350 Bcf/y until 2023. China's domestic pipeline infrastructure is undergoing significant development, and the government's goals are to increase the country's natural gas pipeline coverage and to improve market competition along the value chain of natural gas sales. The government created a national oil and natural gas pipeline company, PipeChina, in December 2019. In the next few years, China is set to separate the NOCs' upstream, midstream, and downstream pipeline sectors and allow open access to companies on the national pipeline. In addition, in 2019, China began to allow foreign companies to invest in city natural gas distribution pipelines to facilitate greater investment levels and faster infrastructure development.

Creating a Chinese Energy Belt and Road to Russia?

A CSIS study by Niko Tsfaos, the James R. Schlesinger Chair for Energy and Geopolitics at CSIS, addressed these issues in early May 2022, well after the Ukraine War began. He pointed out that a developing China was paying notably less for gas than a developed Russia, and that these pipeline developments would only have a limited capacity to meet China's needs, possibly to the point where Russia still could only supply 10% of China's projected needs. At the same time, he concluded that,¹⁴

Russia could eventually build a sizable business geared toward Asian markets, but the shift will be neither immediate nor easy, and it will depend critically on foreign partners, including China...In volume terms, Asia could maybe match Europe one day as a market for Russian gas, but as a source of income and geopolitical heft, Asia will be a second-best alternative. Russia was an early player in the European gas industry and its role grew as the market expanded. Russia comes late to Asian gas, and its resources are too far removed from it. Russia can turn to Asia and, over time, sell sizable gas volumes there. But that business cannot replace what Russia had in Europe. The Asian pivot can only deliver so much.

In 2021, Russia sold around 33 billion cubic meters (bcm) of gas to Asia, compared to a European market that typically imports 160 to 200 bcm from Russia. Two-thirds of the gas that Russia sent to Asia came in the form of liquefied natural gas (LNG): 14 bcm from the **Sakhalin-2 project**, going to Japan, Korea, Taiwan, and China, and 8.5 bcm from Yamal LNG, serving mostly China, but also Japan, Korea, Taiwan, and India (smaller volumes went to Bangladesh, Indonesia, and Singapore). Russia also delivered 10 bcm to China through the Power of Siberia pipeline, which was launched in late 2019 and will eventually flow 38 bcm a year.

Once the Power of Siberia pipeline reaches its capacity, Russia could be delivering nearly 60 bcm to China (assuming existing LNG flows to Asia remain). Russia also sells around 20 bcm of LNG to Europe. This LNG comes from projects in the north (Yamal) and west (Vysotsk and Portovaya). For the projects in the west, near Saint Petersburg, Europe is the natural market. For the LNG flowing out of the Yamal Peninsula, Europe is a year-round destination, while Asia receives more gas when the northern sea route is navigable. At an added cost, however, all these volumes could end up in Asia. Together, they could help Russia sell around 80 bcm into Asia—all without new projects.

At the same time, he concluded that “China holds all the cards in the negotiations. And like the first Power of Siberia line, China will drive a hard bargain. What is unknowable at this point is whether China is ready to make a deal. Russia is likely to offer very attractive terms—if nothing else, due to its desperation. But will China accept them? Will they be tempted by the price, or will they think twice about expanding their dependence on Russia at this moment? How the Chinese will answer these questions is hard to know.”

This may be the case, but much depends on the outcome of the Ukraine War, how Europe reacts in seeking long-term energy independence, the cost and time required to shift Russian oil and gas exports, and China's need for more secure access to oil and gas exports. As is the case with Russia,

there do not seem to be any current studies of China's practical pipeline and shipping options in making major cost-effective, near-term increases in its oil and gas imports from Russia. An older map of its energy "belt and road" is shown in **Figure Fourteen**. Although this map dates back to 2017, other data show that China remains focused on the Middle East for all the reasons illustrated in **Figure Four**, **Figure Five**, **Figure Nine**, and **Figure Eleven**.

It is clear from many sources that China is investing heavily in increasing the capacity of its maritime routes to the Arab/Persian Gulf and in its strategic ability to secure its maritime lines of communication through the South China Sea, the Strait of Malacca, and the Indian Ocean. It has projected naval power into the Indian Ocean near Somalia as part of the fight against Somalian piracy, created new maritime routes and potential naval facilities in Pakistan, created a naval base in Djibouti in the Red Sea, and negotiated a major potential strategic trade agreement with Iran.

At the same time, **Figure Fourteen** shows that a Chinese shift to relying on Russia would create the equivalent of a guaranteed market, and China might be willing to pay higher or world market prices in the future. Direct pipelines from Russia, or a "northern maritime belt and road" would greatly reduce China's vulnerability to any U.S. or other effort to reduce or halt Gulf exports to China in a crisis or war. It would reduce Chinese vulnerability to the chronic instability and possibilities of war in the Gulf, and attacks or other efforts to block or limit its oil and gas shipments through the Indian Ocean, Strait of Malacca, and Pacific, as well as link Russia more closely to China in strategic terms. More broadly, it would allow China to focus more on its strategic and economic opportunities in Central Asia and exploit its growing military strengths as a land, air, and missile power.

Moreover, a different U.S. official analysis of China's energy import strategy in the latest 2021 edition of the Department of Defense report on *China Military Power* indicates that China already has a more diversified approach to shaping its future energy imports than the reliance on MENA and the Gulf that the EIA report implies,¹⁵

The PRC has increased activities and engagement in the Arctic region since gaining observer status in the Arctic Council in 2013. In May 2019, the PRC hosted the Arctic Circle China Forum in Shanghai and PRC Officials highlighted Beijing's interest in expanding its partnership with countries along the Polar Silk Road. In January 2018, the PRC published its first Arctic strategy that promoted a "Polar Silk Road" and declared China to be a "near-Arctic State." The strategy identifies Beijing's interests as access to natural resources and sea lines of communication in Arctic affairs. The strategy highlights the PRC's icebreaker vessels and research stations as integral to its implementation.

... The PRC's expanding Arctic engagement has created new opportunities for engagement between China and Russia. In April 2019, China and Russia established the Sino-Russian Arctic Research Center. The PRC and Russia plans to use this center to conduct a joint expedition to research optimal routes of the Northern Sea Route (NSR) and climate change were probably limited due to the COVID-19 pandemic.

Implementing a 2012 Russian federal law, in 2019, Russia passed regulations governing the passage along the Northern Sea Route, which requires foreign warships to give Moscow 45 days' notice of their intention to transit, to have a Russian pilot on board, and reserves Moscow the right to refuse passage. If followed, these regulations would restrict the PLAN's ability to operate independently in vicinity of the Northern Sea Route in the future. Apart from this potential bilateral friction, the PRC and Russia support further cooperation on commercial issues, energy development, and infrastructure projects such as the Yamal LNG project in north-central Siberia and LNG 2, a notional second natural gas plant which Russia and the PRC signed agreements for in 2018.

... The PRC's interest in ensuring reliable, cost-effective, and diverse fuel sources to support and sustain its economic development has led it to import oil and gas from more than 40 countries. In 2020, China imported

10.9 million barrels per day of crude oil, which met approximately 73 percent of its needs. As of late 2019, the PRC held about 80 days' worth of crude oil imports in its strategic petroleum reserves (SPR) and continued to build its reserves in 2020 when global oil demand and prices dropped. Historic import levels in 2020 led China to stockpile crude and work towards its goal of building a 90-day supply in its SPR. The PRC met about 42 percent of its natural gas demand with imports in 2020, and industry analysis estimates the PRC's natural gas imports will increase about 18 percent in 2021. In 2020, most of the PRC's oil and natural gas imports came from the Persian Gulf, Africa, Russia, and Central Asia. The PRC's investments in transport networks for oil and gas could help diversify its supply and reduce dependency on strategic chokepoints such as the Strait of Malacca.

The PRC relies on maritime routes that transit the South China Sea and Strait of Malacca for most of its hydrocarbon deliveries. Approximately 84 percent of the PRC's oil imports and 61 percent of its total natural gas imports transited the South China Sea and Strait of Malacca. Despite the PRC's efforts to diversify energy suppliers, the sheer volume of oil and natural gas imported from the Middle East and Africa will make securing strategic maritime routes a priority for Beijing for at least the next 15 years.

Crude oil pipelines from Russia and Kazakhstan to China demonstrate the PRC's interest in increasing overland fuel supply. In 2019, the PRC imported 600,000 barrels per day of Russian crude oil via the East Siberia-Pacific Ocean pipeline, which has total designed capacity of 1.6 million barrels per day. The PRC also imports crude oil from Middle Eastern—primarily Saudi Arabia—and African suppliers via a crude oil pipeline across Burma. This 440,000-barrels-per-day pipeline bypasses the Strait of Malacca by transporting crude oil from Kyaukpyu, Burma, to Yunnan Province in China and reduces shipping time by more than a third.

In 2020, approximately 20 percent of the PRC's natural gas imports came from Turkmenistan via a pipeline that runs through Kazakhstan and Uzbekistan. This pipeline can transport 55 billion cubic meters per year, with Turkmenistan and the PRC planning to expand it to 80 billion cubic meters per year. A natural gas pipeline connecting the PRC to Burma can deliver 12 billion cubic meters per year, but only 4.1 billion cubic meters of gas were shipped in 2019.

...In December 2019, the north section of the Power of Siberia pipeline came online, delivering nearly 4 billion cubic meters of natural gas from Russia to the PRC in its first year. In early December 2020, the middle section of the China-Russia East natural gas pipeline—which is connected to the Power of Siberia pipeline—began operations, which will increase gas supply to 27 million cubic meters per day. The pipeline is projected to reach an annual capacity of 38 billion cubic meters per year by 2025.

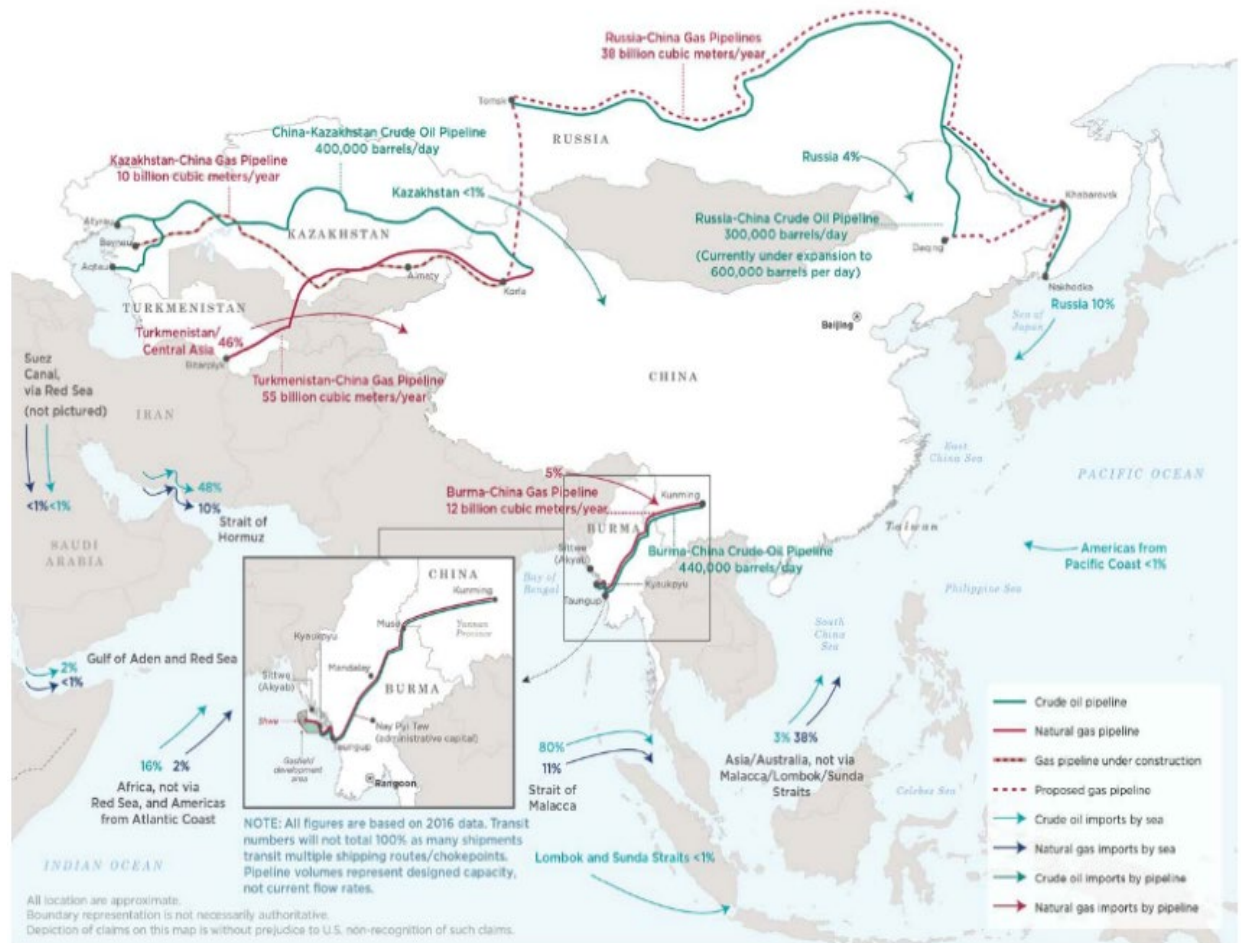
Some aspects of any Chinese shift to more oil and gas imports from Russia will have a limited strategic effect. China almost certainly continues to build-up its blue water capabilities in the Pacific and Indian Ocean, and it is seeking to expand its strategic ties to the Arab/Persian Gulf exporting states and Red Sea states at the expense of the U.S and its European and Asian strategic partners. Its existing port and pipeline plans mean that China does not have many marginal political and economic reasons to make hard choices between one source of imports and the other, and good reasons to both seek to expand its strategic and economic ties to both as well as to exploit any cost advantages that may result from shifting from one supplier to another.

If anything, China sees the benefits of developing the naval, air, and missile forces necessary to compete with the U.S. in the Pacific and Indian Ocean area as a vital aspect of its overall national strategy and as a way to increase its power and influence in Southeast Asia, its leverage in competing with India, and the value of its strategic partnership with Pakistan.

It also costs China very little to play a “spoiler” role in competing with the U.S. for strategic influence in the Gulf and the region even if it does develop a secure alternative source of exports from Russia. Moreover, any disruption of supply from the Gulf to Asia would greatly increase Chinese strategic leverage over India as well as key U.S. strategic partners like Japan and South Korea. These are non-military issues the U.S. tends to downplay, but energy is a key part of the

three (or four) dimensional chess game that defines global power, and of a game that a nation with the heritage of Sun Tzu inevitably understands better than Western states with a heritage of Clausewitz.

Figure Fourteen: China’s Energy and Maritime “Belt and Road”



Source: Brian Wang, MERICS China Monitor, January 20, 2017, <https://www.nextbigfuture.com/2017/01/philippines-will-attend-chinas-one-belt.html>; and Office of the Secretary of Defense, *Annual Report to Congress Military and Security Developments Involving the People’s Republic of China 2017*, p. 44, May 15, 2018, https://www.defense.gov/Portals/1/Documents/pubs/2017_China_Military_Power_Report.PDF.

A Clear Strategic Message for the United States and the West

Uncertain as all these developments are, they do send some clear strategic messages to the United States and its strategic partners in Europe. One is the need to carefully analyze the cost-benefits and risks of any lasting effort to end Russian oil and gas shipments to Europe. In balance, the benefits do seem likely to sharply outweigh the costs and risks, *but* only if Europe has secure alternatives. Much also depends on the speed with which European states can make major real-world reductions in their need for oil and gas for climate and environmental reasons –reductions that currently seem unlikely to begin before 2030, if then.

Moreover, Europe probably cannot establish secure alternative routes of oil and gas imports unless the United States restores and strengthens its strategic partnership with the Arab Gulf states, limits the rise of Iranian and Syrian influence, and gives stability of MENA and Gulf oil and gas ports the strategic priority they deserve. While several European countries play an important security assistance role in North Africa, the Levant, and the Gulf, the U.S. is the only power that can maintain a major military presence in the region, help fully develop modern and interoperable local forces, and provide global power projection capabilities large enough to rapidly shift the balance in any future military confrontations or war.

This requires the U.S. to look beyond its own self sufficiency in oil and gas, and to pay far closer attention to the overall impact of the MENA region and Arab/Persian Gulf to its own strategic interests and those of its allies – something it has failed to do since at least the second administration of President George W. Bush.

Dependence of Oil and Gas Imports Is Not the Proper Measure of Strategic Value

It is true that the U.S. has no direct dependence on oil and gas and is not currently forecasted to have any such dependence before 2050. The U.S. has no current dependence on imports of natural gas. **Figure Fifteen** shows that while the U.S. still imports oil, it does so largely because of refinery constraints and is a net exporter.

The EIA reported in March 2021 that “crude oil imports of about 6.11 million b/d accounted for about 72% of U.S. total gross petroleum imports in 2021, and non-crude oil petroleum accounted for about 28% of U.S. total gross petroleum imports. In 2021, the United States exported about 8.63 million b/d of petroleum to 176 countries and four U.S. territories.”¹⁶ It also reported in its Annual Energy Outlook for 2022 that even a Reference Case – that did not call for massive new action to reduce U.S. use of oil and gas deal with global warming – did not call for oil and gas imports through at least 2050,¹⁷

We project U.S. consumption and production of petroleum and other liquids to grow through 2050. Domestic consumption and production levels of petroleum and other liquids remain relatively close to one another through most of the projection period in the Reference case. Consumption increases by 15%, and production increases by 17% from 2021 to 2050. However, consumption and production of specific petroleum products vary. We also project consumption and production of natural gas to grow through 2050. During the projection period, natural gas production grows by almost 24%, approximately twice as fast as consumption. Much of this growth in natural gas production is exported as liquefied natural gas (LNG). By 2050, we project that approximately 25% more natural gas will be produced than consumed in the United States. Together, these Reference case trends highlight the continued growth in demand for U.S. natural gas and petroleum products.

Other Forms of Dependence on Secure and Stable Oil and Gas Exports and Imports Are, However, of Vital Strategic Importance to the United States

Direct U.S. dependence on oil imports, however, is only part of the story. U.S. strategic interests are driven by three other two key realities of real-world U.S. import dependence.

- First, the U.S. makes major indirect imports of petroleum in the form of heavy manufactured goods that are made using petroleum as a product and as a fuel.
- Second, the U.S. economy is dependent on the global economy where many of our trading partners are more dependent on oil imports than we are.
- Third, the security of key U.S. strategic partners and sources of U.S. imports are dependent on oil and gas imports from the MENA region and the Gulf.

U.S. dependence on the stability of energy exports from the MENA region and Arab/Persian Gulf goes far beyond direct U.S. imports of oil and gas. It is a function of the stability and efficient function of global trade and investment, and particularly of indirect imports of MENA and Gulf oil and gas through U.S. imports of manufactured goods and services from important dependent trading partners in Asia – imports that U.S. official trading data indicate may now make up a higher percentage of U.S. imports and the U.S. GNP than direct oil imports did in the past.

In 2021, America's Asian strategic partners and sources of critical imports dependent on the stable flow of MENA/Gulf and other oil and gas exports included Japan (\$163.1 billion and 6.1% of imports), South Korea (\$80.9 billion and 3% of imports), India (\$71.8 billion and 2.7% of imports), Taiwan (\$47 billion and 1.7% of imports), Vietnam (\$43.3 billion and 1.6% of imports), Thailand (\$32.8 billion and 1.2% of imports), Singapore (\$25.1 billion and 0.9% of imports), Indonesia (\$20.1.1 billion and 0.7% of imports), Australia (\$16.8 billion and 0.6% of imports), and the Philippines (\$16.2 billion and 0.6%% of imports).¹⁸

They also included a major Asian competitor like China (\$478.8 billion and 17.8%% of imports).¹⁹ These dollar figures and percentages of trade data also grossly understate the real level of U.S. dependence, since many of these exporters trade in critical goods and technologies for which there are no ready alternatives in the global supply chain.

Making Europe far more dependent on MENA and Gulf oil and gas would add many other major trading partners to this list. Equally important, it would add nations that – like many of the Asian states listed earlier – are current or potential strategic partners of the U.S. and could substantially raise the economic risk to global supply chains and of creating a new pattern of inflation.

Energy Vulnerability and Faltering History of U.S. Strategy in the MENA Region

It has been a long time, however, since the U.S. focused on oil and gas imports from the MENA region and the Gulf as a critical aspect of its strategy. Moreover, the U.S. has recently paid steadily less attention to the need to maintain permanent and adequate partnerships with its strategic partners in the Gulf.

The days in which the Nixon Administration actually examined plans to invade the Gulf oil states in the face of another oil embargo and when the Carter Administration focused on creating a

strategic oil reserve and international agreement to share oil exports in crisis have virtually faded into the haze of history.

As **Figure Fifteen** shows, shale and tight oil and gas fracking have made the U.S. far more independent of exports, while America's strategic efforts in the MENA region have acquired very different goals and had mixed results at best. The first major set of changes came when the fall of the Shah in 1979, the Iran-Iraq War in 1980-1988, and a series of Israeli-Palestinian clashes came to dominate U.S. strategy in dealing with the Middle East.

Another set of changes occurred when the Iraqi invasion of Kuwait in 1990 fully shifted the Arab Gulf states from potential threats posing an oil embargo in some future conflict with Israel to America's partners and allies in the battle to liberate Kuwait from Saddam Hussein's Iraq in the first Gulf War. Al Qaeda's 9/11 attacks on the U.S. in 2001 then shifted America's strategic focus on the Middle East and the Gulf to terrorism.

These U.S. efforts were at least initial successes, but they were then followed by a poorly planned U.S. invasion of Iraq in 2003 and by the long war that followed, and now by a U.S. intervention in Eastern Syria that still leaves U.S. forces in Iraq and Syria fighting the remnants of ISIS. Moreover, the U.S. failed to help reshape the MENA region as the popular uprisings that created the "Arab Spring" in 2011 turned into a wave of new authoritarian regimes and civil wars.

The U.S. only played a limited and brief role in the Libyan civil conflicts that began in 2011. It never played a major role in the Syria civil war or seriously attempted to block the Russian intervention in Syria that began in September 2015. It made one last attempt to deal with the Israeli-Palestinian issue under President Obama and then settled for the Abraham Accords under President Trump. The nuclear arms agreement the Obama administration signed with Iran in July 2015 became the core of U.S. policy for dealing with Iran under the Obama Administration, was cancelled under the Trump Administration, and then has lived in a strange kind of limbo as the Biden Administration has sought to revive it.

The U.S. played an ambiguous role at best in the Yemeni civil war that began in 2014, and that is now one of the world's great humanitarian crisis. The U.S. initially supported a Saudi and UAE backed regime of questionable legitimacy at best and then turned aside in the face of rising human rights issues. It failed to block the creation of a Chinese military base in Djibouti in 2016 that is almost in shouting range of the U.S. base in that country, and it never came to grips with the risk that a full Assad victory in Syria could mean in the creation of a Syrian-Iranian power block that includes the Hezbollah in Lebanon, Syria, Iraq, Iraq, and Yemen.

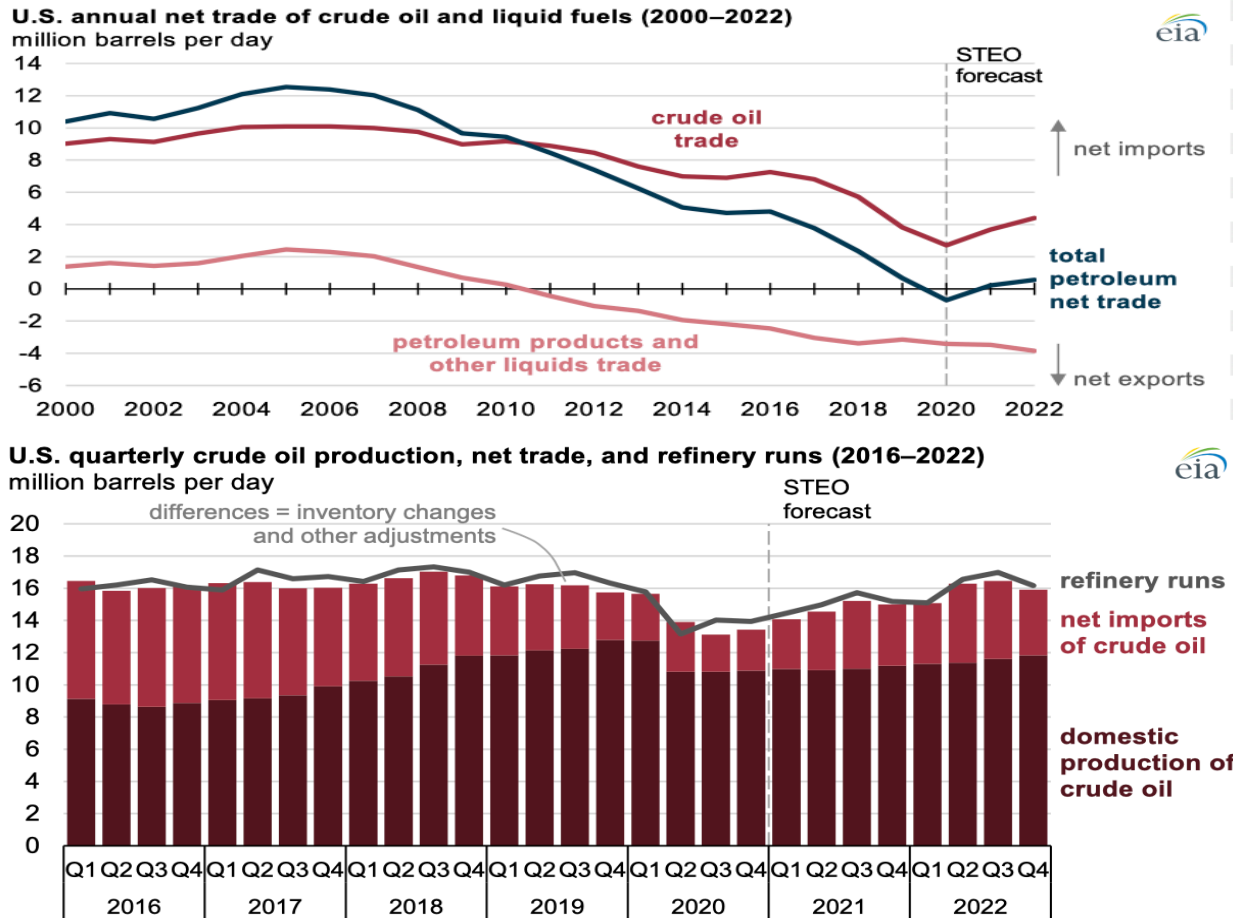
From 1991 onwards, the U.S. did far too little, and did it far too slowly, in trying to make the Gulf Cooperation Council an effective local center of security forces in the Gulf. It was slow to react to the crisis that divided Qatar from Saudi Arabia and the UAE in 2017. The defeat of the ISIS "caliphate" in 2017-2019 then allowed the U.S. to withdraw most of its active combat troops from the region, and the Taliban victory in Afghanistan ended the need for a massive U.S. combat support effort in the Gulf to help fight that war.

After President Trump's inauguration in January 2017, the U.S. downplayed human rights issues. It since has dabbled awkwardly in supporting human rights issues under the Biden administration in ways that weakened its security ties to Egypt and the Arab Gulf states. As for energy, from the 1990s onwards, the U.S. increasingly assumed that America's lack of direct dependence on Middle

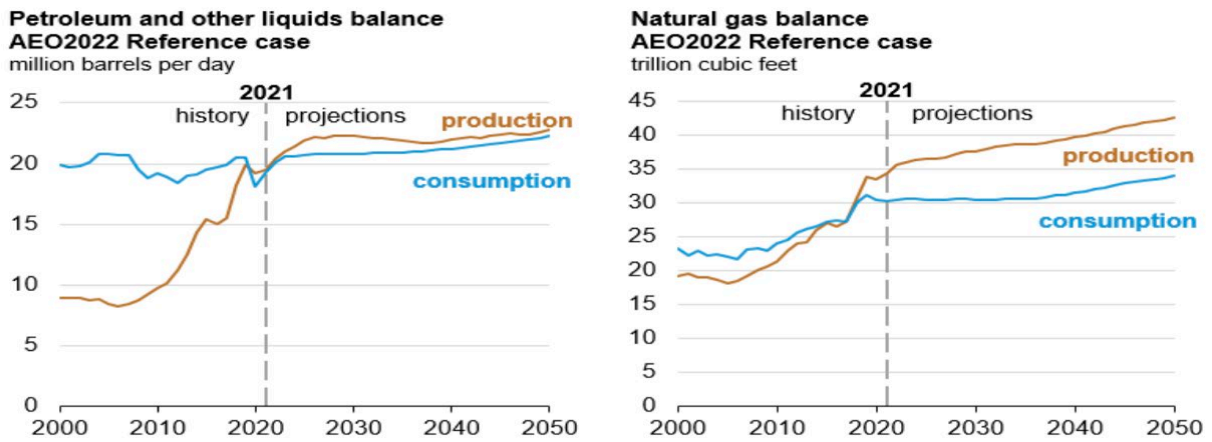
Eastern oil exports were giving it the equivalent of strategic energy independence from the MENA region and the Gulf. If anything, its strategy came to place steadily increasing emphasis on climate change and on the need for massive reductions in the global use of fossil fuels at rates that owe far more to hope than reality

The practical bureaucratic results have been that the Department of Energy's Information Administration has cut back its international energy reporting by country and issue to nearly zero. It has not updated its public strategic analyses of U.S. security for years, and the White House and Department of Defense have issued national strategy documents under both the Trump and Biden administrations that may mention Iran in passing, but that focus almost exclusively on direct competition or conflict with China and Russia and have an increasing emphasis on "rebalancing to Asia" and a possible conflict over Taiwan.

Figure Fifteen: U.S. Oil Import Dependence



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook* (STEO), February 2021



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2022* (AEO2022) Reference case

Source: MacIntyre & French, “EIA forecasts the U.S. will import more petroleum than it exports in 2021 and 2022,” *Today in Energy*, DOE/EIA, February 17, 2021, <https://www.eia.gov/todayinenergy/detail.php?id=46776>; DOE/EIA Annual Energy Outlook 23022, March 3, 2022, <https://www.eia.gov/outlooks/aeo/narrative/production/sub-topic-01.php>.

MENA and Gulf Energy Stability and U.S. Diplomacy, Power Projection and Security Assistance

Regardless of whether Europe decides to seek lasting independence from oil and gas imports from Russia, the U.S. needs to refocus on its regional strategic partnerships and show it is firmly committed to supporting its partners in the face of threats from nations like Syria and Iran regardless of whether Europe commits to long-term independence from Russia oil and gas.

At the same time, any long-term European rejection of Russian oil and gas exports will require as much stability from North African exporters like Algeria and Libya, emerging gas exporters in the Mediterranean, and exporters in the Gulf as possible. At the same time, it will make the security and strategic stability of MENA and Gulf oil and gas exports even more critical to the U.S. – which is a major trading partner of Europe – as well as make MENA security and stability far more critical to many European states than in the past.

The U.S. also needs to be far more careful in setting its political, human rights, and economic priorities. It should not give up its values, but it does need to be more sensitive to the regional political and security realities that have created broad humanitarian crises in many MENA states. If those states are ones where human rights are a valid major concern, the U.S. needs to set the right overall priorities rather than focus on worst case incidents and move at a pace that produces results rather than confrontation. The MENA region and the Gulf are too unstable for any other courses of action to work, and security and stability of the population of each state is more important than fighting narrow and largely ideological battles.

The U.S. does need to recognize that political upheavals, civil wars, and other conflicts in the MENA since the so-called “Arab Spring” have produced an almost universally negative effect. Only a few of the wealthiest Arab Gulf exporting states – and exceptions like Morocco, Jordan and Kuwait – have had truly positive levels of development and most of the oil exporting states have lived on oil, gas, and product exports for this growth without adequately diversifying their economy or creating the full number of real jobs they need. Political upheavals have largely led to civil wars, more authoritarianism, or both. The World Bank’s governance ratings are generally low, and Transparency International rates corruption as high.

Morocco and Algeria continue to feud over the former Spanish Sahara and the Polisario. Libya has gone from Qaddafi to something worse. Tunisia is a fragile and unstable success at best. Egypt is making progress, but its progress has disturbing authoritarian overtones.

Israel’s progress is largely progress for its Jewish population, and violent clashes with Palestine continue in spite of any Abraham accords. Lebanon has gone from a corrupt failed government to virtually no government at all, and a Hezbollah armed with thousands of missiles. The Syria civil war has turned Assad in an authoritarian butcher and led to major Russian and Iranian intervention that has given Russia bases in Syria and the Mediterranean and Iran an axis of influence that presents a significant regional threat.

Iraq has defeated the ISIS “caliphate” but has not eliminated ISIS or Iranian intervention, or as yet, created a stable and effective central government. Iran is coming steadily closer to acquiring nuclear weapons, built up major missile forces, and maintains massive hybrid warfare forces in the Gulf. The Arab Gulf states have made some real progress towards reform, but like Egypt, several states have disturbing authoritarian tendencies and have spent far more on arms and

military forces than the end result can justify. As for Yemen, its civil war continues and has turned one of the poorest states in the world into a humanitarian disaster.

Dealing with these crises requires more careful and continuing professional diplomacy for both energy reason and to serve America's broader strategic interests. It requires the U.S. to look beyond China and Russia or simply focusing on Iran. It means that the U.S. must provide the kind of U.S. continuing military presence and power projection capabilities that show the U.S. has a real commitment to giving its friends and partners adequate deterrent and defense capabilities, and a recognition that most already are spending far more of their GDP on national security forces than the 2% goal the U.S. set for NATO.

It requires a clear recognition that the Russian and Chinese threat extends far beyond Europe or Asia. It also extends to the MENA and the Gulf. Russia has already reentered the region, has used arms sales to begin to successfully exploit the tensions between the U.S. and Egypt, has established ties to the Arab Gulf states through its link to OPEC, and has made major arms sales to Iran and Iraq. China now has a base on the Red Sea, is seeking to become a major arms seller to the region, establish low level strategic agreements with a number of Arab states, and is attempting to negotiate a major – if still tentative – 25-year cooperation agreement with Iran in March 2021.

The U.S. must also recognize that Russia and China have only the most minimal human rights constraints or reluctance to play a spoiler role because of their concern with democracy and human rights. It also requires closer cooperation with European partners that have influence in North Africa, the Middle East, the Gulf, and the Red Sea region.

If the U.S. is to react effectively to its own real-world energy dependence and secure the energy imports its European and Asian allies need, it also needs to respond by recognizing that successful diplomacy – and every other aspect of strategic partnerships – are shaped by the art of the possible. In far too many cases in the MENA region, the U.S. needs to focus on what diplomacy can quietly accomplish rather than make impractical demands. It also needs to realize that strategic partnerships are based on sharing the burden rather than trying to shift or impose it.

Fortunately, the core of successful U.S. efforts in the MENA region still exists. U.S. military efforts in the field and the professional regional and country officers in the U.S. State Department large continue to pursue such goals. It is far less clear, however, that a similar focus exists at the higher policy levels in Washington, in the White House, and in Congress. There, failure has been something of a bipartisan norm.

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- ¹ International Energy Agency, *World Energy Outlook 2021*, October 2021, pp.16-18.
- ² Energy Information Administration, *International Energy Outlook 2021, Narrative*, Department of Energy, October 2021, pp 37-38.
- ³ Energy Information Administration, *International Energy Outlook 2021, Narrative*, Department of Energy, October 2021, pp 39-40.
- ⁴ Clifford Krauss, “Europe’s Quest to Replace Russian Gas Faces Plenty of Hurdles,” *New York Times*, May 6, 2022, <https://www.nytimes.com/2022/05/05/business/energy-environment/natural-gas-europe-russia-ukraine.html>.
- ⁵ Clifford Krauss, “Europe’s Quest to Replace Russian Gas Faces Plenty of Hurdles,” *New York Times*, May 6, 2022, <https://www.nytimes.com/2022/05/05/business/energy-environment/natural-gas-europe-russia-ukraine.html>.
- ⁶ EIA, *Russia*, April 18, 2022, p. 4, <https://www.eia.gov/international/analysis/country/RUS>.
- ⁷ EIA, *Russia*, April 18, 2022, p. 8, <https://www.eia.gov/international/analysis/country/RUS>.
- ⁸ EIA, *Russia*, April 18, 2022, pp. 9-11, <https://www.eia.gov/international/analysis/country/RUS>.
- ⁹ EIA, *Russia*, April 18, 2022, p. 17, <https://www.eia.gov/international/analysis/country/RUS>.
- ¹⁰ EIA, *Russia*, April 18, 2022, pp. 15-17, <https://www.eia.gov/international/analysis/country/RUS>.
- ¹¹ Energy Information Administration, *International Energy Outlook 2021, Narrative*, Department of Energy, October 2021, pp. 34, 40.
- ¹² Energy Information Administration, *China*, September 30, 2020, p. 8, 10.
- ¹³ Excerpted from Energy Information Administration, *China*, September 30, 2020, p. 13, 15.
- ¹⁴ Nikos Tsafos, *Can Russia Execute a Gas Pivot to Asia?*, CSIS, May 4, 2022, <https://www.csis.org/analysis/can-russia-execute-gas-pivot-asia>.
- ¹⁵ Office of the Secretary of Defense, *China Military Power: Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China*, Department of Defense, 2021, pp.136-137, <https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF>.
- ¹⁶ Energy Information Administration, “How much petroleum does the United States import and export?” March 9, 2022, <https://www.eia.gov/tools/faqs/faq.php?id=727&t=6>.
- ¹⁷ Energy Information Administration, *Annual Energy Outlook 2022*, March 3, 2022, <https://www.eia.gov/outlooks/aeo/narrative/production/sub-topic-01.php>.
- ¹⁸ Petroff, Sherman, and Yellin, “These are America’s Top Trading Partners,” CNN, <https://money.cnn.com/interactive/news/economy/how-us-trade-stacks-up/index.html>.
- ¹⁹ Petroff, Sherman, and Yellin, “These are America’s Top Trading Partners,” CNN, <https://money.cnn.com/interactive/news/economy/how-us-trade-stacks-up/index.html>.