Testimony by Robert McNally at the House Energy and Commerce Committee hearing on Tuesday, January 31, 2023, entitled "American Energy Expansion: Strengthening Economic, Environmental, and National Security."

Summary

Outlook for oil prices:

Since 2008, the oil market has not had an effective, consistent supply manager and therefore extreme oil price volatility has returned. Oil prices have fluctuated between highs that hammer consumers and impede economic growth and lows that force producers to shut in wells. The world is back to riding "Space Mountain" oil prices for the first time since the interwar period.

Where are we now amidst these alternating booms and bust phases? In late 2021 we began transitioning from a bust phase to a boom one. *Consequently, expect structurally higher prices as recovering demand slams into inadequate supply*.

The shale oil boom is a huge blessing but will not insulate us from price volatility

The shale boom confers huge economic and security benefits but won't insulate us from global crude oil price volatility. Therefore, we must continue working with allies to support domestic energy production and infrastructure, bolster free trade in energy, maintain ample emergency stockpiles, and prevent adversaries from holding the world hostage to economy-wrecking supply disruptions in key regions around the world.

Resisting or correcting policy mistakes

Successful management of looming challenges includes resisting or reversing erroneous policy trends and proposals that have unfortunately cropped up recently. They include reviving 1970s-era mistakes such as windfall profits taxes and restricting or banning energy exports.

Newer errors to resist or correct include an overall policy paradigm shift from "all of the above" to "keep it in the ground," draining the Strategic Petroleum Reserve, and closing the gap between wildly unrealistic transition targets on the one hand and objective data and analyses of their real-world impacts on the other.

The geopolitical outlook features important risks.

Near term, potential supply losses from Russia, Iran, and Libya would far exceed OPEC+ spare production capacity. Foreign and domestic actors have begun to attack our vital domestic energy infrastructure.

Longer term, China is striving to secure oil, gas, and critical minerals supply around the world while defending its dominance of renewable energy supply chains.

FAL policy papers

Given the breadth of the topic and space restrictions, the author would request submitting six detailed policy papers recently published by the Forum for American Leadership, whose energy security working group he chairs. They cover subjects ranging from climate policy, confronting China, and making the US an arsenal of energy.

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Chair Rodgers, Ranking Member Pallone, distinguished Members of the House Energy and Commerce Committee, my name is Robert (Bob) McNally, and I am founder and president of Rapidan Energy Group, an independent Washington, DC-based energy advisory firm. I am honored that you have invited me to contribute to your important hearing today. This testimony reflects my views and not those of Rapidan Energy Group.

I have worked for 32 years at the intersection of energy markets, policy, and international politics. Except for service in the Peace Corps and as President George W. Bush's energy advisor from 2021-2003, my professional responsibilities entail providing clients with analysis and forecasts of energy market, policy, and geopolitical trends and events. Neither Rapidan nor I represent or lobby for any person, group, or company.

I would like to review the main market, policy, and geopolitical energy terrain you will encounter as you formulate and implement energy policies to bolster our economy, national security, and environment. I will focus mainly on the oil market, which has been my principal area of professional activity, and respectfully suggest some policies for your consideration.

I would also like to request to submit six energy policy papers appended at the end of this note and published by the Forum for American Leadership, a non-profit foreign policy and national security advisory group whose Energy Security working group I chair. These papers include specific recommendations to improve energy security by making the US an arsenal of energy, counter China's attempt to dominate critical minerals and renewable energy supply chains, and set a course for a sound and serious climate policy.

"Space Mountain" oil prices – Buckle up for a multi-year boom

I need not explain to Members of Congress or any elected officials that gasoline and diesel pump prices matter for our fellow citizens' sense of happiness and well-being, as well as for economic growth.

Last year's sudden spike in gasoline prices to record highs around $5 per gallon and then abrupt reversal were largely caused by shifting perceptions of crude and product supply losses due to Russia's invasion of Ukraine. Looking ahead to this spring, oil prices are in a tug of war between bullish factors such as EU sanctions on Russia's exports and China's economic emergence from COVID and bearish drivers such as inflation and central bank tightening.

While I am happy to discuss during the hearing the drivers for recent and near-term oil price volatility, please allow me to step back and make a broader point about where oil prices are headed in the coming years as your Committee conducts its work. To cut to the chase, members should anticipate steady and sharp increases in oil prices this decade, particularly if the US and global economies recover from COVID and inflationary risks to resume a healthy growth trajectory. This section explains why.

Domestic pump prices are driven mainly by global crude oil prices. Crude oil is largely fungible, widely traded, and globally priced. While countries and states may impose taxes or subsidies on refined products such gasoline or diesel fuel, they all face the same price for the basic input – crude oil.

Crude oil prices have always been volatile, but volatility has been unusually high over the last 20 years compared with the previous 90. From 1932 through the early 2000s oil prices usually spiked only during Middle East wars and crashed during recessions. Otherwise, they tended to be relatively stable.

But over the last two decades, oil prices have soared without wars in the Arabian Gulf and crashed without recessions. It is important to understand why extreme oil price volatility has returned, how long it will last, and what we can expect later this decade.[1]

Since the beginning of the modern oil market in 1859, oil prices naturally tended toward *extremely high* volatility. Oil's unusual volatility stems from the fact that both demand and supply are insensitive or inelastic to price changes. In a bust supply exceeds demand, the resulting surpluses push oil prices down to levels that force drillers to stop drilling. In a boom demand exceeds supply, forcing prices up to levels that force consumers to reduce demand, usually triggering or causing a recession.

Everyone is hurt by continual boom and bust price cycles. The resulting uncertainty discourages investment both in the oil industry and broader industrial sectors, hammers consumption, and complicates policymaking from the Federal Reserve to the Environmental Protection Agency.

Therefore, oil policy from the earliest days can be described as a quest for price stability. The only proven cure to ruinous oil price volatility is having some producers act as swing producers, sometimes also called supply managers. Supply managers attempted to tame oil's natural price volatility by adjusting supply to prevent large inventory imbalances and thus the need for huge price swings.

There have been three successful long term supply managers throughout history: John D. Rockefeller's Standard Oil in the late 1880s, the Texas Railroad Commission from 1932-1972, and OPEC which reigned from 1973 until 2008.

Since 2008, the oil market has not had an effective, consistent supply manager and therefore extreme oil price volatility has returned. Oil prices have fluctuated between highs that hammer consumers and impede economic growth and lows that force producers to shut in wells. The world is back to riding "Space Mountain" oil prices for the first time since the interwar period.

Where are we now amidst these alternating booms and bust phases? In late 2021 we began transitioning from a bust phase to a boom one. *Consequently, expect structurally higher prices in coming years as recovering demand slams into inadequate supply*.

I wish I had better news on that front.

<u>Isn't OPEC+ the new supply manager that will prevent a ruinous oil price spike this decade</u>?

Yes and no. Throughout history, whenever extreme oil price volatility erupts, oil producers attempt to cooperate to tame it. Sometimes they succeed, often they fail. Since 2016, a new group of oil producers including all 13 OPEC countries and ten producers outside OPEC have attempted to play the role of the supply manager. Called "OPEC+" and led by Saudi Arabia and Russia, this group has enjoyed both success and setbacks at stabilizing oil prices.[2]

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[1] For historical and economic background on crude oil price volatility, see McNally, Robert. Crude Volatility: The History and the Future of Boom-Bust Oil Prices. Columbia University Press, 2017. See also 2012 testimony by Robert McNally before the House Committee on Small Business entitled "'Space Mountain' Pump Prices." https://smallbusiness.house.gov/uploadedfiles/mcnally_testimony.pdf

[2] As a historical matter, it is too soon to say whether OPEC+ will join the ranks of Standard Oil, the Texas Railroad Commission, and OPEC as successful *multi-decade* supply managers. Russia's refusal in November 2014 to contribute to supply management inaugurated the bust phase. After enduring sharp crude price drops in 2015, Moscow agreed to become a supply manager. OPEC+ has operated since 2016 mostly with success, excepting March and April of 2020, when Russia's refusal to support supply control triggered another oil price crash. With the urging of President Trump, OPEC+ resumed supply management and has operated successfully since the summer of 2020.

But looking forward, OPEC+ will be unable to prevent soaring oil prices later this decade as global demand outstrips supply outside OPEC+ because its members do not hold enough spare production capacity. OPEC+ is likely to lose control the same way its predecessors the Texas Railroad Commission and OPEC did – by running out of producible oil supply in a boom cycle amidst rising prices.

The shale oil boom is a huge blessing but won't insulate us from price volatility

The shale boom confers huge economic and security benefits but won't insulate us from global crude oil price volatility. The shale oil boom emerged around 2010 and has turned the US into the world's largest oil producer and, starting in 2020, a net oil exporter for the first time in 70 years. It's important to understand that while we are a net oil exporter, we still rely heavily on imports of crude and products. Our refiners, for example, import large amounts of foreign crude due to crude quality and refinery configurations. And the east coast relies heavily on gasoline and diesel imports.

The economic and national security benefits of being a net oil exporter are clear as they are massive, including employment and international competitiveness gains and acting as an arsenal of energy for our allies facing energy supply interruptions. But as we have seen many times in the past few years, the fact that we export more oil than we import doesn't protect our economy from price shocks caused by turbulence in the global oil market. A disruption anywhere causes a price shock everywhere, including here.

Finally, the outlook for future shale oil production growth is challenging due to price collapses during the bust phase, preference by investors for cash instead of new investment, and high costs for material inputs like steel and labor. Moreover, to the degree governments adhere to a "keep it in the ground" policy stance it will dampen enthusiasm by investors and shale executives to ramp up activity.

Therefore, despite being a net oil exporter, we must continue working with allies to support domestic energy production and infrastructure, bolster free trade in energy, maintain ample emergency stockpiles, and prevent adversaries from holding the world hostage to economy-wrecking supply disruptions in key regions around the world.

Energy policy – old and new risks to economic growth, national security, and the environment

The looming shift from structurally loose to tight oil markets will pose economic and national security challenges in the coming years. Being a net oil exporter confers some resilience to our economy as a whole when oil prices rise. But our consumers and businesses will suffer. Meanwhile, our principal geopolitical adversaries like Russia and Iran will reap a windfall from higher revenues from their oil exports.

Successful management of looming challenges includes resisting or reversing erroneous policy trends and proposals that have unfortunately cropped up recently.

They include reviving 1970s-era mistakes such as windfall profits taxes and restricting or banning energy exports.

In boom-bust eras oil industry profits will rise and fall with prices. During the recent bust phase, profits fell. As prices start to boom, they will rise. Government seizure of oil industry profits will only exacerbate underinvestment and prolong and worsen the boom.

Restricting oil exports will not lower domestic pump prices for very long, if at all, and in the longer term will raise them. Export restrictions would quickly lead to less investment and therefore higher prices. Moreover, banning or restricting energy exports would hurt our allies and help our adversaries like Russia and Iran. Maintaining the bipartisan consensus to support energy exports, exemplified in the bipartisan

decision in 2015 to end the crude oil export ban, is therefore essential for our economy and national security.

Newer errors to resist or correct include an overall policy paradigm shift from "all of the above" to "keep it in the ground," draining the Strategic Petroleum Reserve, and tolerating an absence of timely and objective analyses from taxpayer financed forecasting agencies that you and your colleagues require to evaluate policy options.

As signaled by President Biden's deeply unfortunate decision to cancel the Keystone XL pipeline project, federal energy policy has shifted from years of bipartisan, balanced agreement to support all energy sources and technologies to an across-the-board, immediate attack on fossil fuel exploration, production, and development. Examples include proposed ban on drilling on federal lands and waters and moving to use National Energy Policy Act, Securities and Exchange Commission, and other permitting authorities to block, delay, and raise the cost of capital for energy infrastructure projects.

As we enter a boom cycle, it's critical that capital flows back to fossil fuel production, refining and infrastructure. Fossil fuels supply 82% of global primary energy and oil alone 31%. Renewables supply 7%.[3] Shifting from the latter to the former at large scale will take many decades. Therefore we literally cannot afford to artificially ration or restrict investment in fossil energy this decade. Policies that ban or delay the needed capital expenditure will only tighten supply-demand balances further and punish consumers with even higher energy prices.

Alarmed by rising energy prices starting in late 2021, the Biden administration has tentatively begun to walk back, at least verbally, its across-the-board anti-oil and gas stance. Congress can encourage the White House to return to a more balanced and realistic approach to energy policy that will support both fossil and non-fossil fuels and technologies.

Nowhere does federal policy require immediate course reversal than with the Strategic Petroleum Reserve (SPR). At 372 million barrels (mb), the reserve is at the lowest level in 40 years. The reduction is due primarily to the emergency sale of 180 mb since last March. However, non-emergency sales such as congressionally mandated drawdowns since 2017 and the November 2021 non-emergency exchange have contributed to this record low level of protection against severe supply interruption.

If Russia's invasion of Ukraine has a positive aspect, it has alerted officials to the folly of frittering away our emergency energy supplies. To their credit, late last year President Biden and the Congress agreed to cancel 140 mb of planned mandatory sales and signaled an interest in refilling the reserve.

The House under Chair Rodgers' leadership recently passed a bill restricting future non-emergency sales.

Reasonable minds can disagree on the size and composition of the SPR. The subject deserves careful study and debate. But meanwhile, Congress and the President should resist non-emergency sales to raise revenue or in a fruitless attempt to control oil prices. I would respectfully suggest Congress cancel the remaining 125.6 mb of planned mandatory, non-emergency sales.

Space does not permit the appropriate elaboration that these and other policy questions deserve. The appended FAL papers address many topics, from climate to China. However, I would like to highlight for the Committee's attention an overlooked but crucial area for improvement. A large gap has opened between increasingly ambitious climate policy proposals and objective analyses required to assess their costs and likelihood of success. *It is critical that Congress close this gap and insist on receiving expert and unbiased information and analyses from public agencies responsible for producing them.*

[3] BP, World Energy Outlook, 2022

The United States leads the world in providing comprehensive, timely, and accurate data on our energy markets. Ably led astute new Administrator Joseph DeCarolis, EIA's data are critical for industry, consumers, policymakers, and analysts and it deserves full funding and support.

However, as described below in this citation from FAL Paper "Congress is Key to Restoring Realism in U.S. Energy Policy," the EIA is being underutilized while its influential international counterpart, the International Energy Agency, has allowed its forecasting to become politicized. Timely, sound and objective data and analysis are foundational for policy evaluation and therefore I urge the Committee to insist it receive the support it requires and deserves from these tax-payer financed agencies.

> Those advocating for unrealistic energy transitions have so far not been held accountable by having official energy agencies analyze their unrealistic, extreme proposals. Specifically, the International Energy Agency (IEA) has recently skewed its forecasts to please climate extremists while depriving policy makers of the ability to evaluate costs and benefits of energy and climate proposals. And the U.S. Energy Information Agency (EIA) has failed to provide Congress with feasibility and cost-benefit analyses of President Biden's executive orders and legislative proposals that would mandate abrupt, massive bans on hydrocarbon energy.
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> To help right the ship and avoid costly and dangerous policy errors, Congress should reassert its role in setting U.S. energy policy. As a starting point, Congress should insist that taxpayer-funded agencies provide unbiased forecasts of energy markets, as well as objective evaluations of proposed energy and climate policies. Toward this end, the Forum for American Leadership Energy Working Group calls for more congressional oversight of the International Energy Agency (IEA) and U.S. Energy Information Administration (EIA) and recommends the establishment of a National Commission on Energy Transition Realism, an expert, non-partisan commission of renowned energy experts to advise government officials and evaluate policy options for energy transitions.
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> The Paris-based International Energy Agency is composed of 31 member countries (the U.S. and primarily European nations) and nearly a dozen association countries, including China, India, Brazil, and Argentina. Established in the wake of the 1973 oil crisis, IEA is a forum under the Organization for Economic Co-operation and Development with a mandate to respond to disruptions in the global oil supply and provide policy recommendations, as well as data analysis, 2 on global oil and energy supplies to bolster global energy security.
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> In recent years, however, the IEA has strayed from its assigned role as a watchdog for energy security and instead has transformed into a lap dog for climate zealots advocating for unrealistic energy transition targets. Congress should steer U.S. policy to walk IEA back to its security mission. Specifically, in recent years the IEA's analyses have veered from security and unbiased analysis to feeding the newly fashionable myth that the United States, and the world, can afford to immediately ban investment in fuels that compromise over 80% of global energy.
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> Moreover, IEA began skewing its energy forecasts to hide the costs of extreme climate policies while depriving elected officials of the ability to make informed cost-benefit assessments of energy and climate proposals. For example, the IEA 2020 World Energy Outlook abolished its "business-as-usual" (BAU, formally known as Current Policies Scenario) reference case scenario, an unwarranted break with decades of forecasting convention that makes it impossible to evaluate the costs and benefits of climate proposals.
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> Meanwhile, the non-partisan EIA is being underutilized as an agency that was created to deliver accurate energy data and transparent, objective forecasts and analyses to policymakers and the American people. For example, the EIA has so far not provided Congress with analysis of the energy security and economic implications of recent presidential executive orders and legislative climate proposals. The list includes President Biden's executive order calling for the federal government to reduce its emissions by 65% by 2030 and reach net-zero emissions by 2050, as well as a bill (CLEAN Future Act) introduced by Democrats,

mirroring the President's campaign proposal, to ban the use of fossil fuels—which currently account for 60% of U.S. electricity generation—in U.S. power plants by 2035.

We recommend Congress seize an opportunity to use hearings, letters, legislation, and other oversight tools to restore realism in U.S. energy policy by focusing on U.S. policy at the IEA and the EIA. Furthermore, the creation of an expert, non-partisan National Commission on Energy Transition Realism will further enable Congress to access fact-based data, analysis, and counsel from energy sector experts.

Geopolitical risks abound

The geopolitical outlook features important risks. Near term, potential supply losses from Russia, Iran, and Libya would far exceed OPEC+ spare production capacity. Foreign and domestic actors have begun to attack our vital domestic energy infrastructure. Longer term, China is striving to secure oil, gas, and critical minerals supply around the world while defending its dominance of renewable energy supply chains (please see FAL papers for background and proposals pertaining to China).

The oil market's reaction to Russia's invasion of Ukraine illustrates the fact that prices reflect expectations of the future as well as perceptions of the present. Crude oil prices closed at $96 per barrel the day before the invasion and within 7 trading days it hit almost $140 on an intraday basis. The main reason oil prices soar was widespread expectations and government warnings that sanctions on Russia would immediately disrupt 3 mb/d of oil supply, a large amount and roughly equal to spare capacity held outside of Russia.

Stresses in the refining sector also showed up last year: Refined product prices rose more sharply than crude last spring, because Russia is a major product exporters and China, which has also become a large product exporter, was restricting exports due to COVID restrictions.

Oil prices reversed and collapsed in the summer mainly because the feared loss of Russian supply did not materialize. During the second half of last year, oil prices were generally softer mainly on concerns about overall economic growth, especially due to China's bumpy exit from COVID restrictions and the return of China's product exports.

Looking ahead, geopolitical risk is likely to continue to put upward pressure on oil prices. OPEC+ spare production capacity remains relatively low at around 2.8 mb/d and is concentrated in the Arabian Gulf. As the economy recovers and production growth stagnates, OPEC+ spare capacity will shrink. Geopolitical risks include principally the EU's ban on Russian crude imports that took effect and the ban on refined product imports on February 5. Iran continues to pose a threat to Arabian Gulf oil and gas infrastructure and choke points.

Finally, increasingly brazen and direct attacks on our vital domestic energy infrastructure threaten our energy security. The May 7, 2021, Russian-backed Colonial Pipeline cyberattack resulted in by far the biggest loss of domestic energy supplies due to hostile foreign action against the U.S. homeland.

- The Colonial pipeline supplies 45-50% of East Coast liquid fuel supplies, 90 military bases and installations, and seven major airports.
- The attack also highlighted the importance of engaging in strategic deterrence against future, potentially catastrophic, attacks on our critical energy infrastructure and exposed significant national security gaps that require timely legislative and executive branch remedies.
- Congress must work with the Executive Branch to take robust steps to deter and punish cyberattacks on critical energy infrastructure while preparing the country to manage future attacks better than it did in May 2021.

A spate of recent attacks on electricity infrastructure across the United States has also underscored the importance of improving our grid security.

Conclusion

To conclude on a positive note: Our country is blessed with enormous energy resources. The sweat and smarts exhibited every day by our intrepid energy-sector workers underwrite our high standard of living. Our vibrant, innovating energy sector confers solid benefits for our economy, national security and environment and can do so in the future. Perilous market and geopolitical conditions may loom and policy mistakes certainly abound. But if we leverage realism, pragmatism, and innovation we can protect our economy, security, and environment. I hope you will find these views and suggestions to be helpful and wish your Committee success.

Forum For American Leadership Papers

Eight Necessary Steps to defend U.S. Critical Energy Infrastructure from Cyber Attacks, October 2021
Creating an Arsenal of Energy, April 2022
Blueprint for a Serious and Sound Climate Policy, April 2022
Congress is Key to Restoring Realism in U.S. Energy Policy, September 2022
Setting U.S. Climate Policy Straight: Recommendations for the 118th Congress, December 2022
Restoring U.S. Energy Security: Recommendations for the 118th Congress, December 2022