



# OVERCOMING AMERICA'S ENERGY SECURITY MIRAGE

## EXECUTIVE SUMMARY

- The mirage of American energy dominance, which was promoted based on increases in domestic oil production, has allowed us to forget the energy security challenges that we have faced over the last 50 years and distracted the country and policymakers from advancing progress toward ending oil dependence through fuel diversification. At the same time, the mirage has stalled progress in addressing the growing threat China presents to our transportation sector and our industrial base.
- National security and energy security remain inextricably intertwined, even if we sometimes forget that fundamental truth. The United States must move smartly to mitigate our energy security challenges, and those of our allies, that continue to exist today.
- The recent war in Ukraine has once again reminded us of the risks of being overly reliant on a single fuel source for transportation and being dependent for energy (and by extension more traditional supply chains) on adversaries or countries that do not share our values or strategic interests.
- As we look to the future, we must ensure that we do not trade reliance on the global oil market for dependence on China-sourced electric vehicle inputs. We are still in the relatively early stages of the transition to electrification. We can promote the development of secure supply chains by managing the emerging risks early in the process.
- With the right portfolio of policies, the United States can address real-time energy and geopolitical challenges, catch up to dominate the transportation technologies of the future, ensure the automotive and transportation sectors remain the core of our industrial base, and continue to drive innovation.

- We are at war, and this must be acknowledged by the President and our allies. This war is funded by the energy we use, and our dependence on Russia and other authoritarian regimes gives them leverage over our actions. To win World War II, the American people mobilized the nation's energy and industrial might—its so-called Arsenal of Democracy. We now need an Arsenal of Energy—a focused allied effort—to address the challenges we face today as well as those that will undoubtedly occur in the future.

## INTRODUCTION

America has been searching for “energy independence” since the 1973 Arab Oil Embargo. In recent years, as the United States became the largest oil producer and a net exporter of crude oil and petroleum products, a narrative developed that it has achieved “energy dominance”—a narrative elevated when President Trump proclaimed in his 2020 State of the Union address that “[w]ith the tremendous progress we have made over the past three years, America is now energy independent.”<sup>1</sup> Some stakeholders have proclaimed that this dominance has enabled the United States to secure the position of swing producer that can control the global oil market.<sup>2</sup> Increased domestic oil production has undoubtedly generated tremendous benefits for the economy and provided U.S. policymakers with some geopolitical leverage, such as the ability to impose embargoes on Iran and Venezuela.<sup>3</sup>

However, the notion that we have meaningfully strengthened our economic and national security by achieving energy independence is a mirage—a fact that became clear once again,

- 1 New York Times, “Full Transcript: Trump’s 2020 State of the Union Address,” February 5, 2020.
- 2 Dan Eberhart, “U.S. Producers Prove Better Swing Supplier Than Previously Thought,” *Forbes*, June 1, 2020; and Bill Arnold, “Don’t Crown the US the New ‘Swing Producer’ in Oil Just Yet,” *The Hill*, March 12, 2018.
- 3 See, e.g., Timothy Gardner, “Russia ‘Fearful’ of America’s Rising Energy Exports: U.S. Envoy,” *Reuters*, June 7, 2019; and Fareed Rahman, “Higher US Oil Production Gives Washington More Leverage, Top Official Says,” *The National*, November 11, 2020.

following Russia's invasion of Ukraine: U.S. oil prices surpassed \$120 a barrel for the first time since 2008, and the rising tensions between Russia and the West have threatened Europe's natural gas supplies.<sup>4</sup> The United States could not force domestic oil producers to pump more oil—as a true swing producer might—and was left with the option of begging OPEC to produce more, which they have declined to do and have instead stuck with their OPEC+ agreement with Russia. Pioneer's CEO Scott Sheffield, one of the largest oil producers in the U.S., recently told investors "There's no change for us... \$100 oil, \$150 oil, we're not going to change our growth rate."<sup>5</sup>

The mirage of American energy dominance has not only led us to forget the challenges that we have faced over the last 50 years, but also distracted the country and policymakers from recognizing the growing threat China presents to our transportation sector and our industrial base. China has spent the last decade aggressively building and securing electric vehicle (EV) and battery supply chains, and developing other next-generation transportation technologies including 5G, autonomy, and artificial intelligence.

***The energy crisis we face because of the ongoing war in Ukraine not only reminds us of the challenges and opportunities of today's energy reality, but also serves as a lesson as we chart our course through the energy landscape of the future.***

The United States must return to basic principles that offer a clear pathway to true energy security, which include bolstering production of our domestic energy resources with strengthened environmental standards, reducing the energy intensity of our economy, accelerating the transition to using diverse, cleaner, domestic electricity for transportation, and ensuring a reliable, constantly cleaner, and resilient electricity grid. Then, as we facilitate the transition to new energy technologies, the United States should compete for leadership in future transportation and energy technologies and their supply chains. The United States should not exchange dependence on a volatile oil market with reliance on a single source for critical materials.

## **THE WAR IN UKRAINE AND THE ENERGY DILEMMA**

Russia's invasion of Ukraine has once again put the energy security challenge to the forefront. In the weeks prior to the invasion, Russia amassed troops along the Ukrainian border,

threatening a potential invasion unless it received security guarantees that the North Atlantic Treaty Organization (NATO) will not expand to include Ukraine.<sup>6</sup> European countries, reliant on Russian natural gas imports to keep factories running and to heat homes, struggled initially to present a united front to deter Putin.

Russia's natural gas exports to Europe, which account for 40 percent of the European Union's (EU) imports, provide Moscow with significant geopolitical leverage.<sup>7</sup> Germany has been phasing out nuclear and coal plants in favor of renewables and today Russia accounts for more than 50 percent of Germany's natural gas imports.<sup>8</sup> Additionally, Europe was already facing an energy supply crunch leading up to the invasion. Prices rose by up to fivefold in late 2021 as Gazprom declined to increase natural gas shipments to Germany.<sup>9</sup> Given its energy dependence, Germany could not afford to anger Moscow and risk disruptions to its gas supply.

***In short, the energy security challenge made it harder for the U.S. and its allies to present a united front to deter a potential Russian invasion.***

Energy dependence has not only limited the EU's response to a belligerent Russia, but also initially limited U.S. action. The United States and its allies unleashed a barrage of stringent sanctions on Russia after the onset of the war against the Ukraine.<sup>10</sup> However, it took several weeks before the United States implemented a ban on Russian oil imports, and the EU has thus far declined to follow suit.<sup>11</sup> This is despite the fact that oil and gas revenues account for more than 40 percent of Russia's federal budget, and sanctions on the energy sector would be the most crippling for the Russian government.<sup>12</sup> Every day, EU countries continue to pay for the war in Ukraine by purchasing oil and gas, which will amount to an estimated \$90 billion in 2022.<sup>13</sup>

6 John Hudson, et al., "U.S. and Russian Officials Clash Over Status of Troops Near Ukraine," *Washington Post*, February 16, 2022.

7 Nicolas Poitiers, Simone Tagliapietra, Cuntram Wolff and Georg Zachmann, "The Kremlin's Gas Wars," *Bruegel*, February 28, 2022.

8 Energy Information Administration (EIA), "Today in Energy: Germany Announces Proposal to Phase Out Coal by 2038, Further Changing its Generation Mix," May 29, 2019; and Eurostat, "EU Imports of Energy Products – Recent Developments."

9 See e.g., Pippa Stevens, "Natural Gas Prices Are Skyrocketing Around the World. Here's Why the U.S. May Not Suffer as Much," October 8, 2021; and Sam Meredith, "Russia Chooses Not to Raise Natural Gas Supplies to Europe Despite Putin's Pledge to Help," *CNBC*, October 19, 2021.

10 Ed Wong, et al., "Biden Hits Russia With Broad Sanctions for Putin's War in Ukraine," *New York Times*, February 24, 2022.

11 See, e.g., Francesco Guarascio, "EU to Tighten Sanctions on Russian Oil Companies, But Stops Short of Import Ban," *Reuters*, March 14, 2022.

12 Josh Boak, "Biden's Russia Sanctions May Let Moscow Profit From Oil, Gas," *Associated Press*, February 27, 2022.

13 *Transport & Environment*, "End Imports of Russian Oil to Stop Financing Putin's war," March 3, 2022.

4 See e.g., David Yaffe-Bellany, "Oil Prices Jump as U.S. Discusses Russian Import Ban," *The New York Times*, March 6, 2022; and Joe Wallace, "Russia Attack on Ukraine Threatens European Gas Supplies," *The Wall Street Journal*, February 24, 2022.

5 See, e.g., Glenn Kessler, "The Truth About Gas Prices and Oil Production," *The Washington Post*, March 15, 2022.

## AMERICA'S TRANSPORTATION IS HOSTAGE TO ONE FUEL SOURCE

The United States has the world's largest appetite for oil, consuming more than 19 million barrels per day.<sup>14</sup> However, it is neither the volume of oil we consume nor the volume that we import that makes us vulnerable. It is the transportation sector's complete dependence on oil and the strategic economic importance of transportation in a mobile economy that is the biggest threat. Oil powers 90 percent of our nation's cars, trucks, planes, and ships.<sup>15</sup> It is truly the lifeblood of every advanced economy, especially one as mobile as the United States.

The importance of oil and the risks of this overwhelming oil dependence in transportation have been evident since the 1973 Oil Crisis. However, increased domestic production of oil and gas, coupled with the early days of alternative fuel vehicle deployment, has lulled us into a false sense of energy security. We ignored the fact that the global oil market remains highly volatile, that the U.S. and global transportation systems and economies are highly dependent on oil, and that price spikes have preceded or occurred concurrently with nearly every major recession.

***The Ukraine crisis has reminded us, once again, that the oil and energy world order and its associated energy security challenges remain intact.***

## VOLATILITY, THE BROKEN OIL SYSTEM, AND THE FREE MARKET

More oil is traded and consumed each day than any other commodity, and because it is traded in a global market, a disruption in supply or demand anywhere in the world affects prices everywhere. And, as we have known for decades and rediscovered in recent months, there is no refuge from global events that impact the oil market, or the effect of oil prices on our economy. Oil price volatility stresses the economy on both the high and low ends; consumers and businesses struggle if prices are too high, and domestic oil producers are impacted when prices are low. Fluctuations in oil prices also affect key U.S. industries that base long-term investment decisions on oil price expectations. American automakers, airlines, and oil producers can all operate when oil is at \$30 per barrel or even \$100 per barrel, but the products and decisions they make would be very different.

The biggest driver of oil price volatility in the last decade has been due to The Organization of the Petroleum Exporting Countries (OPEC), or more specifically Saudi Arabia. OPEC's manipulation

of the oil market is well known, but in 2014 the kingdom broke from a history of claiming to be a responsible market manager and reversed course entirely to flood an oversupplied market with additional crude in order to harm U.S. producers.<sup>16</sup> Saudi's actions crashed the price from \$110 per barrel in June 2014 to just \$26 by February 2016.<sup>17</sup> More than 200 U.S. energy sector bankruptcies followed.<sup>18</sup> In 2016, having seen that the U.S. oil industry was more resilient than the Saudis expected, and because of their need for greater revenue to plug the government's budget, OPEC reversed course.<sup>19</sup> In doing so, the Saudis demonstrated that the worst market manager may be one that is inconsistent or incapable.

Unlike OPEC members, the U.S. domestic supply is not determined by the government, so it is incapable of being the market manager. It is oil companies, or more precisely Wall Street, which determines the level of oil output in the United States. Low prices in the last decade resulted in low levels of investment in drilling.<sup>20</sup> This year, oil prices reached their highest point since 2014.<sup>21</sup> The surging oil prices are ramping up investments in drilling, but investors are often slower to reinvest as opposed to pull out of an investment. Therefore, while U.S. production is generally up over the past year, there remains a substantial inventory of drilled but uncompleted wells whose owners could compete relatively quickly if they chose to do so.<sup>22</sup>

Seventeen of the 20 largest oil companies in the world by proven reserves are national oil companies, which often function as revenue-generating arms of their governments, and which frequently prioritize non-market factors such as raising revenue for government programs or manipulating production and prices in pursuit of non-economic political goals.<sup>23</sup> Until the oil market operates based on free-market principles, we are going to need government policies that reflect that reality, while seeking solutions to mitigate the effects of our dependence on this volatile commodity.

16 Cyrus Sanati, "Saudi Arabia Hangs Tough on Oil in Fight for Its Future," *Fortune*, December 4, 2015.

17 Samantha Gross, "Is the United States the New Saudi Arabia?," *Brookings Institute*, January 26, 2018; and EIA, "Petroleum and Other Liquids: Spot Prices."

18 Gregg Gelzini, Michael Madowitz and Divya Vijay, *The Fed's Oil and Gas Bailout Is a Mistake*, Center for American Progress, July 31, 2020, at page 5.

19 Stanley Reed, "Russia and Others Join OPEC in Rare, Coordinated Push to Cut Oil Output," *New York Times*, December 10, 2016.

20 Michael Dekker, "Outlook: Oil and Gas Recovering After Dark 2020, But It Will Take Time," *Tulsa World*, March 14, 2021.

21 SAFE analysis based on data from EIA.

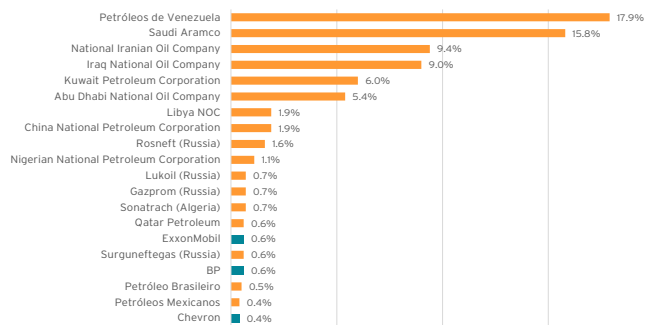
22 EIA, "Petroleum and Other Liquids: Drilled But Uncompleted Wells by Region," February 14, 2022.

23 PIW, "Top 50: How They Stack Up," (Nov. 20 2017); EIA, "International Statistics: Reserves."

14 EIA, *Short-Term Energy Outlook*, Table 4a, February 8, 2022.

15 SAFE analysis based on data from EIA.

20 Largest Oil Companies as a Percentage of Global Proven Reserves 2017

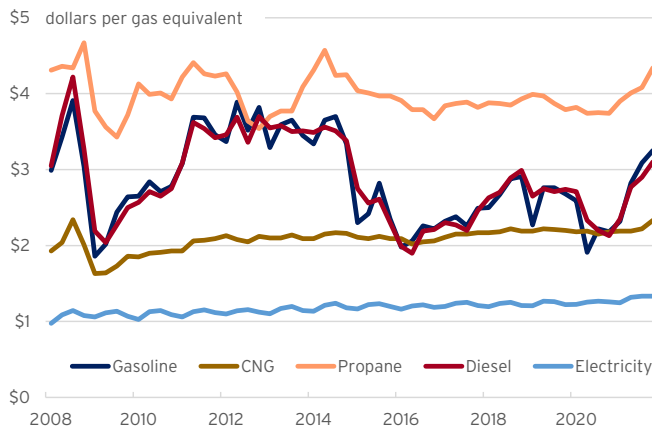


Note: Depending on the country, the data is for either December 31, 2016 or January 1, 2017. Source: PIW, "Top 50: How They Stack Up," Nov. 20, 2017; and EIA, "International Statistics: Crude Oil and Lease Condensate Reserves."

### SECURITY LIES IN DIVERSITY

The United States can enhance its energy security by ensuring that it does not rely on oil alone. We have a rich and diverse set of resources and can generate power from the wind, sun, water, natural gas, and nuclear fuel that can power electric, natural gas, or hydrogen fuel cell vehicles. These fuels are domestic, are priced in regional markets generally isolated from foreign influence, and have relatively stable retail prices.<sup>24</sup> Using these fuels allows us to spend our energy dollars here at home, employing American workers and relying on American businesses. Growing their use in transportation would also allow us to export more oil, improving our balance payments.

Average Retail Fuel Prices, 2008-2021



Source: SAFE analysis based on data from Clean Cities Alternative Fuel Price Reports and EIA Real Prices Viewer.

Most analysts agree now that the future of the transportation sector will be electrified in the coming decades. Automakers worldwide have invested billions of dollars in anticipation of this

transition, with more than \$500 billion in spending planned for EV and battery technology.<sup>25</sup> Moreover, environmental goals in Europe and in some U.S. states—coupled with strategic concerns over China—mean that EV deployment is being prioritized at the policy level. European cities are seeking to phase out sales of internal combustion engine (ICE) cars and California has prohibited state agencies from buying ICE sedans.

The question is not if transportation will be electrified but when, and which countries will benefit or be disadvantaged.

### CHINA SEES THE FUTURE

The supply chains for alternative fuel and renewable energy technologies come with their own set of challenges—ones we are just beginning to appreciate. The United States risks—without taking the long delayed but necessary steps—shifting from a dependence on global oil markets to a dependence on the markets of critical minerals, the processes to transform raw materials into materials that will be incorporated into vehicles, and on the manufacturing process itself.

As the world's largest oil importer, China is very sensitive to oil price volatility as well as the dependence on oil transiting a chokepoint like the Malacca Straits which can be patrolled by the U.S. Navy. In addition, China saw an opportunity to not only bolster its energy security but also compete with the West by growing its EV industry, a critical sector for an industrial economy.<sup>26</sup> This set in motion China's drive to own the electric vehicle market and supply chain as well as complementary technologies like autonomous transportation, artificial intelligence, and vehicle connectivity.

Already, China exerts vast control over almost every aspect of the EV supply chain. An overwhelming majority of the strategic minerals critical to the EV industry—100 percent of the world's graphite, 72 percent the world's cobalt, 65 percent and 61 percent of the world's nickel, and lithium, respectively—are processed in China or by Chinese companies.<sup>27</sup> Chinese companies also produce 41 percent of the world's cathodes and 71 percent of its anodes—vital battery components—and have wasted no time in accelerating their EV supply chain ambitions.<sup>28</sup> In 2021, 156 of the 211 globally planned lithium-ion gigafactories were being built in China.<sup>29</sup> Furthermore, more than 45 percent of EVs across the

25 Paul Lienert and Tina Bellon, "Exclusive: Global Carmakers Now Target \$515 Billion for EVs, Batteries," Reuters, November 10, 2021.

26 EIA, "Today in Energy: China's Crude Oil Imports Surpassed 10 Million Barrels Per Day in 2019," March 23, 2020.

27 SAFE and Roland Berger analysis.

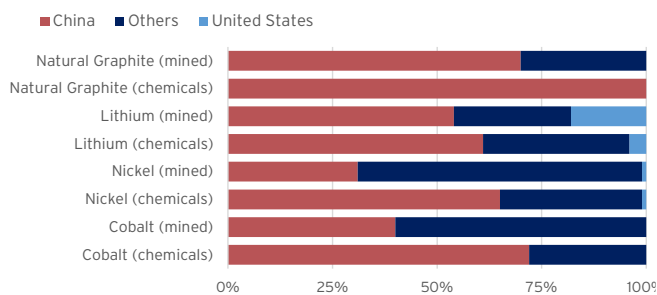
28 Ibid.

29 Benchmark Mineral Intelligence, "President Biden Issues Rallying Call for More EV Battery Gigafactories," May 19, 2021.

globe are sold in China.<sup>30</sup> As a strategic minerals analyst told the U.S. Senate in 2019, “We are in the midst of a global battery arms race in which the United States is presently a bystander.”<sup>31</sup>

#### Chinese and U.S. Influence on Battery Materials

based on production location and country of origin of controlling entities, 2020



Source: SAFE and Roland Berger analysis.

***While the United States was focused on domestic oil production, China has focused on owning the global supply chains for future transportation technologies, creating a profound threat to the U.S. economy and industrial base.***

China is entirely committed to the electric future for strategic and economic reasons. China appreciates that the automotive manufacturing sector can form the base of its manufacturing sector, generating substantial national income, providing millions of jobs, and stoking innovation throughout the economy. But China’s success in the automotive sector, especially as EVs gain greater market share, could come at the United States’ expense. China’s increasing influence throughout the global automotive manufacturing sector threatens the United States. The U.S. automotive industry plays a critical role in the economic health and prosperity of our country. Thirteen automakers operate 44 assembly plants across 14 states.<sup>32</sup> There are nearly one million people directly employed in vehicle and parts manufacturing and at an average hourly wage of over \$25, earn more than most other manufacturing jobs.<sup>33</sup> China’s success in EVs puts all of this at risk.

#### AMERICA'S OPPORTUNITY TO REASSERT LEADERSHIP

We are behind, but not out of the race. Just like the Straits of Hormuz or Malacca are choke points in the crude oil supply chain, the concentration of minerals processing in China is a choke point in the global production of EVs. We must address the situation while we are still in the earlier stages of transportation electrification to ensure that we do not trade dependence on oil with reliance on China for key EV components.

The United States has a century of global leadership in technological innovations, and vast resources to continue innovating at our research institutions, national laboratories, and throughout our private sector. The country also has an advanced technological, manufacturing, and customer base to build upon. Bringing this experience, capital, and expertise to bear, and leading the next phase of development and deployment of transportation technology can transform the U.S. economy.

The United States also has significant deposits of some of the critical minerals required for the development of its own EV supply chain. The U.S. Geological Survey (USGS) estimates that the United States is home to the fifth largest lithium reserve base.<sup>34</sup> U.S. allies, including Canada and Australia, are well endowed in critical minerals for which there are either no or limited domestic reserves.<sup>35</sup> The federal government should encourage domestic manufacturers to enter into commercial agreements to secure access to raw materials from allied nations, and encourage commercial efforts while discouraging allied countries from selling their resources to China. Even when domestic mining is not possible, there is no more important step than investing in mineral processing capacity at home so that China does not retain its position as a singular choke point in the minerals supply chain.

Beyond minerals and processing, there is a need to focus on downstream aspects of the U.S. EV supply chain. The U.S. has some incentives for EV manufacturing and the government has undertaken efforts to build an EV market. Similar attention can be given to the production of anodes and cathodes used to manufacture cells, permanent magnets, and batteries. These products can be manufactured domestically using technology developed in our national laboratories or in partnership with companies from allied countries like South Korea and Japan who must also be aware of the risks of depending on China for the processing of their materials. Production tax credits and other policies can make domestic manufacturing a more attractive option.

<sup>30</sup> SAFE analysis based on data from International Energy Agency (IEA).

<sup>31</sup> Simon Moores, “Written Testimony of Simon Moores, Managing Director, Benchmark Mineral Intelligence For: US Senate Committee on Energy and Natural Resources Committee,” Benchmark Mineral Intelligence, February 5, 2019.

<sup>32</sup> Auto Alliance, *Cars Move America: State of the Auto Industry*, 2016, at page 7.

<sup>33</sup> U.S. Bureau of Labor Statistics, “Automotive Industry: Employment, Earnings, and Hours,” February 11, 2020.

<sup>34</sup> U.S. Geological Survey, *Mineral Commodity Summaries*, January 2022, at page 101.

<sup>35</sup> See, e.g., U.S. Department of Commerce, *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*, June 4, 2019.

Promoting transparency along the supply chain, from minerals to EV components to vehicles will also be a useful lever. Today, the extraction and processing of minerals for EV batteries is dominated by China and typically occurs in places with lax pollution standards and negligible workers protections. The opacity of supply chains gives human rights and environmental abusers a competitive advantage. In this context, transparency can be used to the advantage of responsible suppliers and supply chains.

A transparency and assurance framework would identify the actors that disregard the environmental and human costs of their activities and make it possible to track the material they produce along the supply chain. When combined with standards upheld by commercial arrangements or border adjustments, transparent supply chains would not only promote a ‘race to the top,’ but would also help safeguard, and at times enhance, the competitiveness of domestic industries.

Our concerns extend beyond EVs to other critical parts of our economy. We have all seen and recognized the challenges posed by the global chip shortage. Congress has begun to address this by passing the CHIPS Act but must remain committed to fully funding it. We also need to be aware of supply chain issues for other critical inputs into our economy and think about how we are going to address them going forward.

### **THE BEST OF BOTH WORLDS: HOW TO BOLSTER DOMESTIC PRODUCTION AND BECOME ENERGY DOMINANT**

For the time being, domestic oil and natural gas production will remain a crucial pillar of U.S. energy security—and of our allies who need to wean themselves off Russian natural gas and oil. However, true and lasting energy security requires diverse transportation fuels and the country must accelerate this transition. Greater consumer fuel choice through the electrification of transportation will not only insulate the economy in periods of oil price volatility but will allow the nation to increase oil exports—displacing barrels from unstable parts of the world and improving our balance of payments by exporting the oil we produce. The net result is an outcome that will benefit all parties.

***It is the lack of a free market for oil that necessitates a smart set of stable policies to drive innovation and deployment from minerals to markets.***

In the absence of a free oil market, and to support the United States in its competition against the Chinese government, U.S. government policy must facilitate a transition to a new

transportation ecosystem of connected, autonomous, shared, and electric vehicles supported by 5G networks. However, it should awaken to the risks associated with this transition. Just as Russia may weaponize natural gas exports to Europe, Saudi Arabia and its cartel partners have weaponized oil production to injure the U.S. shale industry. Likewise, China could weaponize our dependence on their supply chain for batteries and other technologies in the future as they have demonstrated against Japan regarding rare earth minerals over a dispute of the Senkaku Islands.

### **A STRATEGY TO ADDRESS THE CURRENT CRISIS AND MITIGATE FUTURE CHALLENGES**

The recent turmoil in the oil market was a wake-up call that our energy dominance was just a mirage. The United States has the resources, technology, manufacturing base, talent, and the allies to not only address energy security challenges associated with reliance on traditional fuel sources for us and our allies, but also to avoid an energy future colored by dependency on China-sourced inputs for its future transportation needs. It is incumbent upon policymakers to take steps to strengthen our industrial base and protect our military and foreign policy posture.

***Great change, however, never comes easy and making this happen will require that we overcome significant incumbent and entrenched interests on Capitol Hill and state houses nationwide.***

We have learned in the past that by the time we are in the middle of an energy crisis, it is generally too late to implement policies that will have a tangible and immediate effect. We should instead use the lessons learned from past and current crises to initiate policies that mitigate future risks. While the government takes advantage of the limited opportunities to address the immediate threat presented by the war in Ukraine, now is the time to recommit ourselves to supporting policies that will make us more secure over the coming decades.

### **POLICY RECOMMENDATIONS**

To win World War II, the American people mobilized the nation’s energy and industrial might—its so-called Arsenal of Democracy. We supplied our allies with the equipment and energy needed to defeat the Nazis and introduce an era of European freedom, peace, and prosperity. We must reconstitute the Arsenal of Democracy and decide to pay the price to win the struggle for our values and way of life. It is time to starve the Russian war machine and fuel the world with energy available today, while transitioning as quickly as possible to the energy landscape of tomorrow with domestic and allied supply chains. We need an Arsenal of Energy. The policies below outline a strategy to harness the power of the

U.S. Arsenal of Energy to both address the challenges we face today as well as those that will undoubtedly occur in the future.

1. **Communicate to the American People What's at Stake and Mobilize Industry:** In early March, at the energy industry conference CERA Week, Secretary Granholm called on the energy industry to produce more oil, stating that the United States is in a "war footing." The President needs to state these hard realities more clearly to prepare the American people for the possibility of even greater disruptions in the energy markets going forward and the actions and opportunities we can take to strengthen ourselves and our allies to win this war.

In so doing, he can call on the U.S. energy industry—both renewable and fossil—to work more constructively with the government to help meet our nation's and our allies' energy needs. The President should call for an immediate meeting with the National Petroleum Council, a federally chartered advisory committee, established at the direction of President Truman, to advise, inform, and make recommendations to the government regarding matters relating to oil and natural gas or to the oil and gas industries. Once the President has the benefit of the industry's insight and expertise, he can seek to work with the private sector to eliminate impediments to achieving shared energy goals and address the current situation, and if necessary, exercise the government's emergency authorities to direct and assist the private sector to meet the nation's energy needs in a moment of crisis.

2. **SPR Release and Increase Production from DUCs:** The President's immediate priorities should be to bring more oil to market, to convey that sustained government intervention is needed and, to assure the American people that he will do everything possible to bring about short-term relief. The President should take these three steps:

- ◆ **Announce a Substantial Ongoing Release From the Strategic Petroleum Reserve:** The President announced a six month long release of oil from the SPR on March 30th. This public commitment to a sustained release, combined with the steps below, could help calm the market by both increasing actual supplies today and reassuring the market that the commitment was ongoing for the duration of the crisis.
- ◆ **Refill the SPR From Newly Producing Domestic Wells:** There are several thousand drilled but uncompleted oil wells (DUCs) in the five primary shale oil basins in the

United States.<sup>36</sup> The President can use a combination of authorities to direct government purchase of that oil, only purchasing oil that was produced from wells that were *not* completed as of the date of the announcement, to ensure that the replacement oil represents *incremental* production and is not competing with current market demand for current production.

To assuage concerns of producers that the price of oil might collapse leaving them stranded with excess capacity, the government could guarantee that the producers will receive a fair return on their investment. For instance, the government can commit to pay the higher of the market price for the oil, or a price calculated to ensure that the producer receives a minimum average price for a specified volume of oil produced from each well.

- ◆ **Use Defense Production Act (DPA) Authorities to Resolve Logistical Obstacles:** If necessary, President Biden should use the authorities in the DPA, which have been deployed throughout the pandemic, to facilitate manufacture and delivery of equipment that may be in short supply, including, but not limited to sand for hydraulically fracturing wells, pipes, and rig equipment. In addition, the Administration needs to continue to lease wells so that the United States and its allies have the oil and natural gas in the next decade to power a transition to future energy sources.

3. **Accelerate the Electrification of Cars and Trucks to End Oil Dependence:** A nation cannot achieve energy security so long as it is economically beholden to oil as a single fuel source for transportation—even when sourced domestically—because the price of oil is set in a global market. An oil supply interruption *anywhere* will affect oil prices *everywhere*.

Electric vehicles solve this problem by switching from a dependence on one fuel source to domestic, diverse, and stably priced electricity. To accelerate the adoption of electric vehicles, Congress needs to: (1) fund investment and accelerate permitting in next-generation automobile manufacturing and supply chains, (2) expand current federal incentives for electric vehicles of all classes to stimulate adoption and create a market in the United States to attract investment and innovation, and (3) ensure that the government's planned investment in nationwide electric charging infrastructure is optimized to meet the needs of EV owners and fleet users.

<sup>36</sup> EIA, "Drilling Productivity Report," March 14, 2022.



Many of these provisions can be found in the bill previously known as *Build Back Better* or have been introduced by Republican and Democratic members of Congress. It is time to pass a comprehensive electrification package that includes mineral extraction, mineral processing, production of precursor materials, vehicle manufacturing and market incentives, and finally to battery recycling—as once the minerals are out of the ground or imported to America they will be used again. This will be, dollar-for-dollar, the best long-term investment the United States can make to end oil dependence, reduce the military expenditure needed to protect and police oil sea lanes and countries, improve the balance of payments by using materials and electricity produced domestically, create new jobs and ensure a future manufacturing base, protect consumers and business from oil price spikes, and reduce emissions and improve air quality.

4. ***Pass No Oil Producing and Exporting Cartels Act (NOPEC):*** By now it is clear that OPEC countries do not have the interest of the United States and our trading partners at heart. Despite the current tight market, the International Energy Agency reports that Saudi Arabia has about 2.1 mb/d of spare capacity that it is withholding, consistent with its agreement with Russia to keep prices high.<sup>37</sup>

The *No Oil Producing and Exporting Cartels Act* would amend the Sherman Antitrust Act to disallow OPEC from using a sovereign immunity defense or the Acts of State doctrine to evade U.S. antitrust law. NOPEC would enable the Department of Justice to crack down on oil market manipulation by allowing the United States to take legal action against any foreign state and/or their state-run oil companies for price fixing and other anti-competitive activities. This would include Russia and members of OPEC.

The mere threat of NOPEC has already been sufficient to modify OPEC's behavior. It has also reportedly discouraged Russia from formalizing coordination of the 10 non-OPEC petrostates. Enacting this legislation would give the government a much-needed 'stick' to help ensure a free, transparent, and stable oil market with substantially reduced risk of sudden swings in supply and price based on the decisions and collusion of the cartel acting together. The passage of NOPEC would demonstrate that the United States is serious about combatting oil market manipulation and will hold malign actors to account.

5. ***Increase Natural Gas Exports and Deploy the Arsenal of Energy:*** Europe needs to reduce, and then eliminate, its use of Russian gas. Increased LNG imports from the United States and other reliable sources can mitigate the supply shortage. In January 2022, European LNG imports were nearly triple their level from one year ago. As of mid-February, the Department of Energy reported that 60 cargoes of U.S. LNG had reached Europe so far this year or were on the way, making up about half of the extra LNG supplied to Europe during this crisis.

The United States has about 100 million tons of LNG export capacity, with another 20 million tons under construction. A dozen other projects with 50 million tons of export capacity are approved but lack financing.<sup>38</sup> European customers were among the earliest buyers of LNG, and they could contract for more supply, unlocking financing for new export capacity.

A primary concern is that LNG terminals are typically financed over 20 years, a period longer than the Europeans hope to need U.S. gas. Congress should pass legislation allowing the Department of Energy to provide loan guarantees for the construction of LNG export terminals, as the current programs are available only to innovative carbon-reducing technology or advanced automotive technology. In the event that the terminals remain profitable over the term of their financing, the loans will be repaid without cost to the taxpayer. If the export market for U.S. gas shrinks, and these terminals become unprofitable and their owners fail financially, the U.S. government will incur the cost of having excess unused capacity. In that sense, this scenario is similar to maintaining spare oil capacity in the SPR – something America does for strategic and national security reasons.

6. ***Maintain Access to Critical Materials Produced in Russia:*** Russia and Ukraine are important suppliers of several materials critical to the U.S. economy. Russia supplies nearly one-third of the global supply of palladium, a material used in the manufacture of catalytic converters.<sup>39</sup> Russia supplies about 20 percent of the global supply of high-grade nickel used in the manufacture of batteries, including those for electric cars. Nickel prices doubled in the past two years, before concern about the reliability of Russian exports threw the market into turmoil.<sup>40</sup> Russia is also a major supplier of aluminum—second only to China in

38 Nikos Tsafos, "How U.S. LNG Could Help Europe and Climate," Center for Strategic and International Studies, March 4, 2022.

39 Peter Hobson, "Palladium Propelled to Record Highs by Russia Supply Concerns" Reuters, March 7, 2022; and Mining.com, "Palladium Price Hits Record on Concerns Over Russian Supply Risks," March 6, 2022.

40 Allysia Finley, "Russia Can Hold Nickel Hostage," Wall Street Journal, March 14, 2022.

37 IEA, "Oil Market Report," March 2022.



global production.<sup>41</sup> Ukraine supplies about half of the global supply of neon used in the manufacture of computer chips.<sup>42</sup> Congress should provide loan guarantees, direct financial assistance, tax credits, regulatory relief, and other policies as appropriate for the domestic manufacture of these materials to ensure the development of the robust and secure supplies necessary outside of Russia.

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41 Alexandra Alper, "Exclusive: Russia's Attack on Ukraine Halts Half of World's Neon Output for Chips," Reuters, March 11, 2022; and Max Cherney, "Two Vital Sources of Neon for Chipmaking Just Shut Down in Ukraine," Protocol, March 11, 2022.

42 Government of Canada, "Aluminum Facts."; and Melissa Pistilli, "Top Aluminum-Producing Countries," Aluminum Investing News, April 29, 2021.