



IPEF's OPEC Moment

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Introduction

With the generational investments of the Infrastructure Investment and Jobs Act (IIJA), the chips for America Act (chips), and the Inflation Reduction Act (IRA), demand for commodities critical to the energy transition will dramatically increase in the coming decades. If current production trends continue, these “decarbonization commodities” will be scarce relative to projected demand. Worse, their production, refining, and manufacture will be dominated by at most a few nations, including America’s greatest geopolitical rival, China.

The dominance of energy commodity production is a major source of economic and geopolitical leverage that can be exerted against the United States and its allies. The most salient example is the influence that the major energy producers have exerted on foreign affairs over the past half century. Russia’s invasion of Ukraine demonstrates this challenge clearly—the economic and political costs incurred by Europe in response to military aggression by a major energy provider were substantial. As the United States presses for a clean-energy future, it must take action to avoid a similar “OPEC trap” for decarbonization commodities.

Fortunately, the progress of the Indo-Pacific Economic Framework (IPEF) presents an opportunity to mitigate this risk. Two of its four core pillars—supply chain resilience and decarbonization—necessitate coordinated actions to boost the production of decarbonization commodities. The nations that make up IPEF have the geological resources, financial markets, and the demand necessary to justify investments in new capacity to produce decarbonization commodities. By focusing on coordination and increasing production, IPEF could dramatically alter the markets for these commodities. The United States is well positioned to lead this effort, given the stability and certainty it can provide for producers through its reliable integration with global financial markets and its predictable, rules-driven legal system.

In leading this effort, the United States should learn the lessons of the International Energy Agency (IEA), formed in the wake of the 1973 oil crisis. Members of the IEA have used storage reserves effectively to reduce vulnerabilities to extreme supply disruptions, but they have done little to mitigate the malign influence of major oil producers on global affairs. For decarbonization commodities, the goal should be to boost production by de-risking investment for producers such that they are protected from the harmful dynamics that have afflicted commodity markets over the past few decades. Building market benchmarks for acquisition contracts and hedging instruments like puts or forward contracts will be critical to this effort. New strategic reserves of decarbonization commodities can support these efforts to spur production and limit price volatility.

As the economic and political paradigms that dominated the late twentieth and early twenty-first centuries fall by the wayside, policymakers must think creatively about how best to reduce the economic and national security vulnerabilities that are likely to arise from the clean energy transition. The demand for scarce commodities will likely play a major role in those policy decisions, and now is the time for the United States to lead the effort with IPEF nations to build a new paradigm that supports a more prosperous future.

U.S. Economic and National Security Is Vulnerable to the Energy Commodity Supply Chain

From semiconductors to solar panels, the United States is making a major push to boost its economic and productive capabilities in strategic sectors. Politicians of all stripes are extolling the benefits of onshoring, but aside from an abortive attempt at the end of 2022 to pass permitting reform, little has been done to dramatically alter the dominance of China in the critical commodities necessary for these strategic sectors. Should China continue to dominate the production, processing, and manufacturing of energy-transition commodities, it will have more power to dramatically impact foreign affairs in the coming decades, as major oil-producing nations have over the past half century.

It is impossible to overstate the centrality of petroleum and petroleum products to the economy of the twentieth century. Since the early 1970s, much of that “story” is a tale of one organization—OPEC—and its member nations wielding an outsized influence on global affairs. Even now, despite the emergence of the United States as the world’s number one oil producer, OPEC+ still holds the global economy on a knife-edge when it sets production quotas. It is highly problematic that a cartel run by autocratic rulers can control the supply of a commodity so critical to the global economy, a commodity whose scarcity can open up deep fissures among U.S. allies. This concentration is a major vulnerability for the global economy and American national security.

While “lucky geology” certainly plays a role—OPEC+ holds over 80 percent of the world’s proven reserves—the secret to its power is effective coordination among members in globalized commodity markets. They have leveraged their resource wealth by organizing around their strengths while ensuring that the weaknesses of individual member countries do not become collective vulnerabilities. Much of that coordination is driven by the relative power of Saudi Arabia, which controls a disproportionate share of production and holds reserves sufficient to weather short-term volatility.

Historically, oil-producing nations have used their power to harm other nations or to insulate member countries from criticism and sanctions over domestic and security policies. The clearest and most pernicious example was the 1973 oil embargo pursued by the Organization of Arab Petroleum Exporting Countries (opec). As the IEA has noted:

the political impact of the changes in market conditions was seen most vividly in the Arab producers’ use of the “oil weapon” in an embargo intended to induce policy changes in the target countries with respect to Israel. The embargo was established by the selective delivery of available oil and by the deliberate production cuts. So-called “friendly countries” would continue to receive their previous levels of supply without disturbance. Although the embargo was not uniformly applied, Saudi Arabia and Libya cut off virtually all supplies to the United States, which they viewed as the principal adversary. Denmark, The Netherlands, Portugal, Rhodesia and South Africa were also embargo targets.

Regardless of intention, OPEC+ members can undertake coordinated actions that run counter to the economic and national security interests of America and its allies.

Prior to the formation of OPEC (and its more recent incarnation, OPEC+), the major industrial countries of the world enjoyed a period of low prices and could rely on sufficient U.S. capacity to “provide a comfortable sense of oil security to industrialized countries in Europe and the Far East as well as in the United States,” according to the same IEA report. Unfortunately, the low prices contributed to a reduction in investment and a decline in production capacity in the United States. As Daniel Yergin observed in *The Prize* (1990), “the number of drilling rigs had declined steadily since 1955, hitting their lowest levels in 1970–71—little more than a third the level of the mid-1950s.” Declining U.S. capacity coupled with nationalization in supply-rich Arab nations created a major vulnerability for industrialized nations that relied heavily on crude oil imports. The 1973 Oil Embargo and production cuts by the Arab nations of OPEC drove prices up to historical peaks. The use of oil supply as a “weapon” to achieve political aims, in this case to punish “unfriendly” nations for supporting Israel during the Yom

Kippur War, necessitated a response. The oil embargo created major pressures and cleavages among traditionally allied industrialized nations. Japan, which relied on Arab nations for nearly half of its petroleum, was forced to act quickly to maintain a steady supply. Saudi oil minister Ahmed Yamani offered the choice, as reported by Yergin, “If you are hostile to us you get no oil. If you are neutral you get oil but not as much as before. If you are friendly you get the same as before.” Japan ultimately endorsed the Arab nations’ position in the Yom Kippur War.

European nations were also faced with difficult choices, including one that tore at the core of the European Community (EC) itself: the free flow of commodities within EC borders. While most European nations found themselves on the “friendly” list, the Netherlands did not. EC members were forced to decide whether to restrict transshipments to the Netherlands, or risk the wrath of the Arab OPEC nations by upholding a principal EC value. While they considered blocking transshipments, the Netherlands “reminded them, forcefully, that it was the major source of natural gas for Europe, including 40 percent of France’s total supply and most of the gas used for heating and cooking in Paris.” Though they reached a compromise, political and economic pressure mounted for nations to insulate themselves from similar choices in the future.

To help non-OPEC nations deal with the consequences of the oil cartel’s decisions, the United States led the formation of the IEA in 1974. Its charter was structured around commitments to build up crude oil reserves, coordinate policy among member nations, and share data and best practices to enhance energy security. While these efforts have reduced vulnerability to a supply crisis, they have done little to blunt the malign influence that OPEC exerts over the global oil market. Even the U.S. shale revolution remained vulnerable to coordinated price wars, including one led by Saudi Arabia in 2014. Only now, after years as the world’s leading oil producer, and thanks to a recent groundbreaking regulatory change from the Biden administration, can the United States begin to use its assets and capabilities to blunt the impact of OPEC+ on the global market.

Although petroleum is unique in many ways—few upstream commodities have the ability to directly and simultaneously impact businesses and consumers through relatively small price movements—the dynamics underlying cartelization are not. Shortages of decarbonization commodities may not be felt as suddenly as gas price swings by American voters, but given the overall economic importance of the energy sector, commodity market vulnerabilities associated with the green energy transition are liable to create decades of similar pain points unless proactive steps are taken.

Energy-Transition Commodity Production Is Highly Concentrated

Last year, the United States passed its largest-ever investment in green energy. Much of this spending has been framed as a “supply-side” response to make green energy more affordable and abundant. Yet interventions on the supply side are simultaneously interventions one step upstream on the demand side. We see this across a range of industries: increasing the number of factories increases the demand for factory-building supplies, increasing housing supply drives lumber demand, and investments in food security push up demand for fertilizer. Energy is no different, as production relies on a steady, abundant stream of commodities ranging from copper (for electrification), to lithium and cobalt (for batteries), to rare metal production by-products like vanadium (for precision industrial machinery). For the generational investments of the Biden administration to be successful, the American economy will require unprecedented expansions in capital expenditure for commodities.

Today, the majority of these commodities are primarily produced outside of the United States. According to the [U.S. Geological Survey](#), South Africa accounted for 72 percent of platinum production in 2019 (and holds over 90 percent of platinum group metal reserves), and Congo was responsible for approximately 70 percent of cobalt production between 2020 and 2021 (despite having less than half of the world’s reserves). America’s chief geopolitical competitor, China, dominates many of these supply chains—increasing our vulnerability. In 2020 and 2021, China accounted for nearly 60 percent of rare earth mineral production. And whether produced within its borders or outside, China also leads the refining and manufacture of several decarbonization commodities.

Expansion to the scale of petroleum—which has now been produced for nearly two centuries—is a mammoth task. Few of these commodities have well-formed input and labor supply chains for mining and production, and delays are common. Take lithium: a recent industry report noted that the industry has a “poor track record” of delivering projects on time. The average delay to production was 2.5 years—driven by a host of factors like project permitting, technical challenges, and labor supply. As a result of these and other realities, capital intensities are also rising dramatically, growing by an average of approximately 50 percent since 2018. These and other factors have led to dramatic (and unsustainable) price volatility—lithium hydroxide moved from \$6,875 per ton to \$81,750 per ton, and lithium carbonate moved from \$5,427 per ton to \$83,250 per ton.

Even though investment should increase given demand expectations, for producers, the risks of “overinvesting” often drive decisions. Accordingly, the investment response may not reduce volatility, because absent a coherent industrial strategy, marginal changes in supply and timing can quickly drive surges

and crashes in prices.

Commodity Producers Face a Difficult Environment

Investing to “just meet” demand is a near-impossible endeavor for commodity producers. Long lags and irreducible uncertainties between investment decisions and the beginning of production dramatically increase the risk of these investments. Since even small imbalances in supply and demand can spark substantial price hikes or drops, the practical impossibility of an optimal output plan drives producer behavior that restricts investment below socially optimal levels.

We have seen this dynamic over the past few decades in the case of crude oil. Though the market for crude oil is approximately 100 million barrels on a given day, a deficit of just one or two million barrels can be the difference between windfall profits at \$120 and near-term breakeven at half that. The same dynamics hold for other commodities, including those with substantial projected demand increases.

Although firms tend to make investment decisions partially based on expected future demand, this does not mean that high demand today or in the future will guarantee a sufficient supply response. Producers and investors alike know that high demand does not always mean high prices: if supply comes online faster than demand ramps up, prices may even fall. This pattern has been well understood in less capital-intensive industries—like agriculture—for over a century. Policies that address this dynamic and shift risk in a manner to boost agricultural production date back to the beginnings of civilization.

In highly capital-intensive industries, price volatility places considerable risk on a given investment in additional production. Since no business wants to be the one left with excess inventory in an oversupplied market, producers are more likely to collectively hold back on investment, setting the stage for a super-cycle. This dynamic can be even more extreme in the case of mining, since junior companies are often the ones tasked with exploring and developing new projects, but face much tighter financing constraints (particularly in a high-interest environment). Furthermore, in an international context where countries act in their own self-interest, seemingly domestic policy choices can reverberate in harmful and consequential ways throughout the global commodities market.

This has played out in the lithium market over the past decade. Following the Thirteenth Five-Year Plan, the Chinese government implemented a massive set of subsidies to spur lithium production as part of an effort to drive more electric vehicle production. An investment boom followed, bringing in miners from across the world to take advantage. By 2019, however, the Chinese government

dramatically scaled back these subsidies. Canadian and Australian miners suddenly found themselves with no ready market for their products when Chinese counterparties reneged on bilateral contracts signed with the expectation of continued subsidies. Without financial market participants to take positions on the price of lithium, revenues fell, and producers defaulted with mines only partially built or put on “care and maintenance.” The excess supply led to a 60 percent price decrease and helped drive the bankruptcies of companies like Alita and Nemaska, two producers from Australia and Canada, respectively.

Lithium is not the only example of commodity price gyrations brought about by changes in Chinese policy. The seemingly insatiable thirst for commodities arising from China’s infrastructure boom in the late 1990s and early 2000s drove major increases in investment—only to run into a generational financial crisis that killed near-term demand for building supplies. Prices collapsed, setting up a wave of bankruptcies.

In markets where marginal differences in supply and demand can have major price impacts, it is incredibly difficult for commodity producers to plan and invest “the right” amount in capacity. The situation is only more challenging in markets dominated by self-interested international actors with conflicting or disjointed timelines and objectives. In order to ensure profitability, producers often respond with insufficient investment, slowing the achievement of higher standards of living and global economic growth. It is critical for nations to step in and offer de-risking interventions that shift production from an environment of scarcity to one of abundance.

An American-Led, International Coalition to Support Decarbonization Commodity Production

The United States can lead an international coalition to boost production and secure its energy supply against its major geopolitical rival. The nations of the IPEF coalition have substantial production capabilities for a host of decarbonization commodities. With America’s deeply integrated financial markets, IPEF presents an opportunity to build strategic reserves so that our governments have the powers and mechanisms necessary to de-risk investment for producers and reverse the dominant role that China currently plays.

The IPEF coalition is well equipped to act collectively to manage volatility and ensure a steady expansion of energy-transition commodity production. Though no country has all the components necessary to support decarbonization commodity abundance, the members have individual strengths that in the aggregate can support this goal. With appropriate coordination and integration, they can achieve sufficiency.

Although entirely comprised of nations from North America, Asia, and Oceania, the IPEF group has an important set of advantages: (1) significant reserves across key transition metals; (2) member nations with existing financial markets that can enable productive and useful de-risking schemes; and (3) geopolitical incentives to limit commodity producers' dependence on China. It also has extensive logistics and power networks, critical for delivering upstream mined products to midstream processing and distribution.

The nations that make up IPEF do not have to worry about poor “geological luck.” The members have substantial reserves of copper (Australia, United States, Indonesia), nickel (Australia, Indonesia, Philippines), lithium (Australia and United States are growing fast), and rare earth metals (Australia, United States). What producers in these nations have lacked is financing and the capacity to move downstream into products that can be sold to customers outside of the largest buyer, China. Given the lack of outside purchasers, the costs of moving downstream are prohibitively high, especially for more specialized metals like lithium. Though government agencies have been trying to improve the situation (particularly the Department of Energy and Australia's Clean Energy Finance Corporation), it is still a work in progress.

IPEF member nations also benefit from some of the most integrated financial systems and the most liquid commodity derivative markets (for example, the Chicago Mercantile Exchange). Singapore is a top-ranked market along with London and Geneva for commodity contract arbitration as well as a major financing center. Australia and the United States are major markets, and India has a significant domestic commodities and financing market.

Further coordination to develop opportunities for producers to hedge and for customers to strategically manage inventories would build resilience for the decarbonization-commodity supply chain. Currently, the contracts and derivatives markets for decarbonization commodities are underdeveloped. With lithium, although some pricing authorities exist, most prices are referenced to China-delivered prices and do not have derivative markets. This forces producers to absorb China's counterparty risk and offers limited scope for successful enforcement.

Without transparent financial markets, it is difficult to establish benchmark prices that market participants can use to inform future pricing. Commodities are delivered at a certain grade, with a specific set of attributes or qualities, and to a predetermined place. Individual deals are highly bespoke, and the arm's-length market is negligible, due in part to the fact that the nearest-to-benchmark prices are formulated in opaque ways, through which material is delivered to China on Chinese terms. This provides a means for China to maintain supply chain dominance—if everything is related to Chinese benchmarks, then at least implicitly,

buyers and sellers are still impacted by the Chinese market. The first step to a smoothly governed, more secure market is the creation of more reliable and informative benchmark prices, around which participants in IPEF nations can organize, and depots where inventory can be stored outside China.

To see this dynamic in action, consider Piedmont Lithium, a major lithium producer headquartered in North Carolina, which has been supported by the U.S. Department of Energy in the past. They recently amended an offtake contract to provide Tesla with up to 125,000 tons of spodumene concentrate (a lithium precursor). The prices will be determined based on average market prices for lithium hydroxide monohydrate.

Unfortunately, these market prices are mostly in China, and there are no existing ways to hedge the market risk, opening up substantial basis risk for Piedmont. Though this forward fixed-price contract may seem to add certainty, producers like Piedmont face a considerable and uninsurable risk if China's local market becomes oversupplied or otherwise disconnected from U.S. prices. Without a counterbalance, network effects are likely to drive more and more of the market to China, increasing the cost and likelihood of these types of scenarios. The IPEF nations have strong incentives to change the status quo. They have at various times faced security of trade threats from China, and have no illusions about China's capricious use of supply-chain choke points to achieve security or diplomatic objectives. While all endeavor to preserve good relations with China, they each have enough experience to avoid being naïve about how China behaves.

IPEF countries face growing demands for critical materials and an imperative to improve their energy security and reduce their emissions. IPEF member states also have sufficient infrastructure to act relatively quickly in mining terms. To do so, they can look to the model of another international organization, the International Energy Agency.

The Strengths and Weaknesses of the IEA Model

The IEA arose out of the fundamental changes in the international oil market that occurred in the late 1960s and early 1970s. During the Cold War, the United States recognized the threat that the "oil weapon" represented for the Western alliance and led an effort to develop a coordinated policy response. In February 1974, nations met to support a "comprehensive action program to deal with all facets of the world energy situation by cooperative measures." Ultimately, the IEA arose out of the Washington Energy Conference, the result of concerted international cooperation to "accelerate an improvement in the supply and demand situation, ameliorate the adverse economic consequences of the existing situation and lay the groundwork for a more equitable and stable international

energy relationship.”

The IEA agreement ushered in an era of energy policy cooperation. IEA members are required to hold reserves to reduce their vulnerability, coordinate responses to an international crisis, and conduct and share research and data.

The organization has undoubtedly achieved the goal of reducing vulnerability to severe supply shocks—one need only look at the coordinated (and historic) response to the Russian invasion of Ukraine. Member nations released over 200 million barrels of oil into the global market and successfully reversed the potential supply shock and its substantial accompanying price increases. On the metric of coordinating action to minimize vulnerability to an international crisis threatening supply, the IEA has been successful.

Critically, the success of the IEA does not rest on a consolidation of power comparable to that undertaken by OPEC. Take the case of stockpiling for a crisis: each country is required to hold at least ninety days of net oil imports while maintaining a demand restraint program to reduce national oil consumption by 10 percent. IEA, however, offers member nations enough flexibility to meet these requirements in a manner consistent with their idiosyncratic political, economic, or infrastructure challenges. For example, the United States does not meet the demand restraint requirement, but it carries excess crude oil in reserves to overcome that. Australia does not store its own crude reserves, but contracts with the United States for storage to meet the requirement. This flexibility allows nations to support the spirit of the IEA’s mission within their own constraints—particularly important in a coalition of nations with markedly diverse cultures and political systems.

Where the IEA has fallen short is in the coordination of policy to boost production by member states. This may be a somewhat unfair criticism—the IEA did not explicitly intend to reduce vulnerability by boosting production. In retrospect, however, the IEA could have agreed to shared commitments to boost investments for additional production among its member nations. As it stands, IEA members do not have the tools or frameworks to fundamentally change the oil market in a manner that keeps investment in production rising amid a volatile price environment. An arrangement whereby member nations pool resources and responsibilities (and risk) to respond to price volatility in a manner that brings additional production online would be preferable. Another organization, the Financial Support Fund (FSF), may offer a model.

In 1974, after a fivefold increase in crude oil prices that dramatically altered balances of payments for industrialized nations, the Organisation for Economic Co-operation and Development (OECD) attempted to create the FSF. The FSF would have established a “safety net” to support members facing difficulties

associated with energy dependence. Member nations to support objectives including “international economic policies” to “promote increased production” of energy.

As U.S. Treasury Secretary William Simon stated upon signing the OECD agreement, “the arrangement is designed to encourage members to cooperate in energy policy by giving them confidence that needed financing will be available if it cannot be obtained from other sources on reasonable terms. The facility is intended to be an insurance mechanism. . . .” Though the FSF was ultimately not ratified, its “insurance” model is useful for building resilience in the decarbonization supply chain. Through acquisition and stockpiling, under a variety of contractual forms, IPEF can insure producers against the risks of excess production, and dramatically alter the decarbonization-commodity paradigm.

IPEF Can Succeed by Building on the IEA Model

Following their initial agreement, the member nations stated that the formation of IPEF was a recognition that “our economic policy interests in the region are intertwined,” and that “deepening economic engagement among partners is crucial for continued growth, peace, and prosperity.” Of course, IPEF can reasonably be seen as an effort to blunt China’s growing strength in the region.

IPEF has been both celebrated and criticized. Proponents argue that it is an important shift in how these international economic agreements are typically arranged, decentering “market access” and the reduction in tariffs, and placing more emphasis on “friend-shoring.” Critics cited that very shift as a reason why the agreement would be “unlikely to affect trade flows between the United States and the other 13 participants.”

Continuing negotiations offer an opportunity for the United States to minimize the threat it faces from China’s control and dominance over the decarbonization-commodity energy supply. With an agreement that supports decarbonization-commodity production among member nations, the United States can secure a more resilient energy transition and fully capitalize on its recent generational investments. But doing so will require a new approach that ensures member nations, and the producers within them, can invest without fear of the price crashes or dishonored contracts that have plagued commodity producers in the past. That will require an approach that capitalizes on the strengths of the IEA model but goes further—by providing the insurance necessary to support growing production. The United States is well positioned to lead that effort.

The United States should center IPEF’s commodity supply chain resilience by supporting joint action that would expand production for decarbonization commodities. A holistic approach would require stockpiling and building

reserves for key commodities, supporting refining capacity for those commodities, and ensuring the existence of sufficiently deep financial markets with affordable means of hedging or insurance to de-risk investment. These elements are all required simultaneously: onshore refining or production is required to determine physical parameters for financial contracts, storage is required to ensure that physical delivery has reference locations for settlement, and risk transfer is required to ensure production can come online.

Lithium, likely to play a central role in decarbonization over the coming decades, offers an example. While refined lithium is highly unstable and accordingly difficult to store, precursors like spodumene can be safely stored. IPEF nations could build reserves of spodumene to serve a similar purpose as strategic petroleum reserves: to be available for downstream actors in the event of a supply disruption. But since spodumene on its own is of little use to battery producers, for example, attendant investments to support processing of the spodumene into refined lithium, as well as support to maintain sufficient capacity during lean and glut times, would also be critical. And finally, since no arm's-length financial market currently exists for lithium precursors in the way it does for nickel or petroleum, government purchasing could make a meaningful difference.

By purchasing large volumes for stockpiles with a variety of government contracts structured as insurance or put options exercisable to warehouse supply in IPEF countries, the United States and its partners could jump-start formalization of these markets. This could look in many ways like the London Metals Exchange (LME) system, whereby IPEF nations would sell puts that could only be delivered to certain locations and on certain benchmarks. At the same time, lending facilities and authorities should be utilized to support refining capacity. These actions in concert would help catalyze investment while reducing our vulnerability to commodity price volatility and preventing capacity losses during downturns.

While the success of the IEA demonstrates the necessity of requiring each nation to hold a minimum level of reserves, the comparative diversity of the IPEF coalition may warrant a different approach. For one, the nations with considerable demand, like the United States and India, could be responsible for supporting relatively more purchasing, while the nations with deeper financial markets or stronger financial expertise in their state governments, like the United States or Singapore, could be responsible for developing hedging or insurance contracts in their domestic markets. Nations with limited domestic reserves, like Japan, could offer lending and support to de-risk investment.

Much of this activity is occurring, but not in a coordinated manner. For example, consider Japan's role in supporting Australian rare earth minerals production.

China's share of rare earths would be even higher had the Japan Organization for Metals and Energy Security not played a crucial role in financing Australia's Mount Weld rare earths mine and negotiating an offtake contract with Sojitz in 2011. These measures were a response to China's economic coercion against Japan following conflict over the Senkaku Islands and have been largely successful. The owner of the Mount Weld mine, Lynas, is now moving downstream with a processing plant in Texas, secured through funding from the Department of Defense, a compelling case of strategic finance and lending from governments, combined with private capital, providing a more secure supply chain. With U.S. leadership, IPEF can institutionalize these types of arrangements and build a more secure energy future.

A More Resilient Energy Future

The global effort to decarbonize will likely drive economic development more than any other factor in the coming decades. At the center of that effort will be sustained pressure for the supply of traditionally scarce commodities. That pressure will only intensify as nations compete to gain an edge in innovation as well as in the deployment and production of clean energy.

As we've seen in just the past year, commodity supply dominance empowers nations to pursue malign objectives, and the accompanying threats to energy supply often engender difficult political and economic tradeoffs. It is a national security imperative that the United States limit the ability of China and other nations to wield influence in similar ways through their control of critical commodities.

IPEF presents an opportunity to do so. By coordinating with other nations to create stockpiles, and offering forms of acquisitions like put options that allow producers to invest without worry that a sudden price crash will leave them bankrupt, the United States can lead an effort to bring more production online, outside the borders of its greatest geopolitical rival. Following the models of other successful international coalitions, the United States can lead and secure a more resilient energy future.

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