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Achieving Energy Security for the United States and Its Allies

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Russia's ongoing invasion of Ukraine forced countries to abruptly reduce their reliance on Russian oil and gas, leaving a conspicuous void in their fuel supplies. In pursuit of energy security, nations will look to enhance the reliability of infrastructure, improve supply chain security, implement robust regulations, and diversify suppliers. Meanwhile, China continues to invest in energy processing and infrastructure projects throughout the Indo-Pacific. If the United States fails to invest in regional energy infrastructure and offer alternatives, China will continue to capture this growing demand.

To remain competitive in global energy markets and safeguard the energy security of its allies, the United States will need to invest heavily in supply chain security for critical minerals, technology innovation for carbon capture, utilization, and storage (CCUS) and hydrogen, and improvements to natural gas infrastructure in the region.

Priorities

Supply chains. As global trade routes adapt to post-pandemic economic reconstruction, supply chains require immediate attention, particularly those transporting the rare minerals crucial for battery technology and renewable energy infrastructure. China possesses an alarming two-thirds of the world's critical mineral refinement capacity, creating a situation where supply chains globally are dependent on the country.

The United States, in collaboration with overseas allies, would benefit from identifying and remedying supply chain gaps to strengthen U.S.-Asia energy trade and tighten overall network security. Government programs that support direct trade between the United States and its allies and partners with mutual interests will be crucial to develop a secure supply chain strategy. Bilateral agreements have proved successful for both Japan and South Korea, a model the United States could benefit from replicating. Additionally, the United States could utilize its competitive edge to promote good governance in mining practices and mineral trading. U.S. allies and partners have turned to others for the capital and technology needed

to meet their demand for critical minerals. But as regional countries rapidly urbanize, environmental safety has become a growing concern. The United States has the funding and the expertise to both meet environmental standards and remain a competitive trade partner.

CCUS and hydrogen. The United States excels in CCUS technology, and extending this innovation to U.S. allies and partners across Asia would contribute to establishing their energy independence. As of 2022, 24 industrial plants across the world had CCUS systems installed, with half of them based in the United States. The Inflation Reduction Act contains CCUS provisions in the form of $3 billion in tax incentives for installing this technology at existing power plants. Encouraging a similar initiative abroad would empower local facilities to lower emissions and forge deeper ties with the United States.

CCUS is also a key technology for cleaner hydrogen development. "Blue hydrogen" is made from natural gas but utilizes CCUS to offset emissions. Currently, however, "gray hydrogen," created from natural gas without CCUS, is the most used form in the world, with China being the largest producer and consumer. As hydrogen demand is projected to increase, India's demand will quadruple by 2050. The United States has a significant opportunity to help India meet this demand. In 2022 the United States pledged to invest over $8 billion into global hydrogen hubs by 2030 through the Bipartisan Infrastructure Law. Following through on this plan and extending hydrogen products and technology to Asian allies and partners will simultaneously increase global energy supply and establish the United States as a leading power in this developing field.

Natural gas. The United States became the largest liquified natural gas (LNG) exporter in 2022 due to the supply vacuum left in the wake of countries decoupling from Russian fuel sources. During this boom period, most U.S. LNG exports went to the European Union, whereas traditionally the Indo-Pacific had filled that demand. As the U.S. supply of LNG is projected to keep growing, there is an opportunity to bolster exports to Indo-Pacific markets, without reducing exports to Europe. Seizing this opportunity would reinforce trade relations and provide U.S. companies with continued access into this key market.

The main barriers to entry are price and infrastructure. Infrastructure must first be built or adapted before LNG exports can be received to ensure the reliability of accessible power. Focusing U.S. capital on developing Asia's infrastructure to meet the growing demand for cheaper LNG would heighten U.S. engagement in the region and prevent countries from relying on local or imported coal. The United States already has strong trade relationships with Japan and South Korea on LNG; it is now a matter of developing similar relationships with other regional countries.

Congress could improve the reliability of supply chains for critical minerals through bilateral agreements, good governance, and funding for U.S. infrastructure and renewable capacity building.

Options for Congress

Congress could take several actions to reinforce U.S. leadership and promote energy security in Asia. First, it could support grant initiatives for countries aiming to decouple their industries from China with the aim of obtaining preferential access for U.S. exports to these energy markets. Congress's role in this initiative would involve coordination with the State Department and the Energy Department to allow more funding to be distributed as grants pertaining to energy stability in Asia. Specifically of interest would be R&D grants focused on hydrogen innovation and CCUS technologies. As Asia demands more LNG and cleaner fuels like hydrogen, the United States should bring hydrogen and CCUS into the conversation. Providing resources for more in-depth R&D would promote energy innovation not just for Asia but also for the United States.

Second, Congress could improve the reliability of supply chains for critical minerals through bilateral agreements, good governance, and funding for U.S. infrastructure and renewable capacity building. Congress should support bilateral trade agreements as well as domestic programs that ensure high environmental standards and increase renewable capacity. The Energy Resource Governance Initiative (ERGI), led by the State Department, is one program that would benefit from additional support. This plan's focus on capacity building between the United States and its allies aligns with their mutual desire to ensure cross-border project development and energy production management. ERGI is also designed to promote good governance in the mining sector, an area where the United States can be competitive as countries in the region look for trade partners.

In addition to ERGI, the Department of Energy's Clean Energy Manufacturing program is expected to reinforce resilient supply chains for clean energy equipment by engaging with allies, as well as increasing domestic production. Providing adequate congressional funding for programs and bilateral agreements that focus on transparency and high standards would ensure economic opportunities for the United States and increase its share of the global clean technology market.

Finally, Congress could provide more funding for the U.S. International Development Finance Corporation (DFC) and USAID to facilitate foreign energy projects. The Biden administration's 2023 budget provides $11 billion to fulfill the pledge to quadruple international climate finance through U.S. assistance. With congressional support, the United States could utilize foreign direct investment to fund projects centered on regional energy security and climate resilience, bolster the efficiency of industrial processes, and support U.S. agencies that conduct in-region work. Projects should aim to improve energy capacity through infrastructure development, as well as develop human capacity and training for managing advanced energy systems, such as USAID's Southeast Asia's Smart Power Program and the DFC's investment in the Energy Access Relief Fund.

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The views expressed are those of the authors.

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