Issue Brief

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China and the Hormuz Crisis: Fresh Momentum for the Green Transition?

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The closure of the Strait of Hormuz—through which roughly 20 percent of global oil consumption transits—triggered what the International Energy Agency (IEA) described as the largest supply disruption in the history of the global oil market. Beyond the immediate market shock, the crisis has underscored the strategic risks associated with continued dependence on fossil fuels and a small number of critical maritime chokepoints. This issue brief analyzes how the Hormuz Crisis is reinforcing China's centrality within the emerging clean energy order and the broader geostrategic implications of this shift. It argues that the crisis is not merely a temporary disruption of global energy flows, but also a catalyst accelerating structural changes already underway in the global energy system. China's growing role in the clean energy transition is likely to create new opportunities, but also new dependencies, for countries seeking to strengthen energy security while advancing decarbonization.

Introduction

On June 14, the United States and Iran reached an interim agreement after nearly four months of escalating hostilities that culminated in the Hormuz Crisis. While the resumption of negotiations has provided some relief to energy markets, the disruption has already highlighted the fragility of the existing global energy order.

The closure of the Strait of Hormuz—through which roughly 20 percent of global oil consumption transits—triggered what the International Energy Agency (IEA) described as the largest supply disruption in the history of the global oil market,[1] pushing Brent crude prices rising above USD 120 per barrel for the first time since 2022.[2] Record inventory drawdowns and unprecedented releases from strategic reserves have further exposed the limited buffers available to absorb prolonged disruptions of this kind.

Beyond the immediate market shock, the crisis has underscored the strategic risks associated with continued dependence on fossil fuels and a small number of critical maritime chokepoints. As governments seek to reduce exposure to future disruptions, the Hormuz Crisis is thus accelerating a broader transformation of the global energy order, strengthening the imperative for clean energy alternatives.

In this context, China's position warrants particular attention. After more than two decades of state-led investment, Beijing has established a near-monopoly across key segments of the clean energy value chain—from upstream processing of critical minerals to the mass manufacturing of solar panels, batteries, and electric vehicles (EVs). The acceleration of the energy transition therefore raises broader questions regarding the implications of growing reliance on Chinese industrial capacity, technology, and supply chains for the future global energy system.

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Crisis as Catalyst: China's Energy Recalibration

Prior to the Hormuz Crisis, China had already embarked on a long-term effort to reduce its structural dependence on imported fossil fuels. This objective has been pursued through targeted industrial policies, large-scale investments in renewable energy capacity, and the expansion of domestic energy infrastructure over the past decade. While coal continues to account for the largest share of China's energy consumption (51.4 percent), crude oil represented only 18.2 percent in 2025, compared to 30.4 percent for renewable energy sources.[3]

China also entered the crisis with substantial strategic and commercial crude reserves following years of sustained stockpiling efforts. According to data from the U.S. Energy Information Administration, Beijing reportedly accumulated a surplus of 1.2 million barrels per day in the first months of 2026,[4] and holds total reserves estimated at 1.4 billion barrels.[5] This represents more than the combined strategic inventories of the U.S., Japan, OECD Europe, Saudi Arabia, South Korea, Iran, the UAE, and India.[6] While the closure of the Strait of Hormuz still poses significant risks, given China's continued reliance on imported oil and gas, these reserves have nonetheless provided Beijing with greater short-term flexibility to absorb the current energy shock than many other major energy-importing economies.

Rather than fundamentally altering its energy trajectory, the ongoing crisis has thus sharpened China's strategic focus and injected renewed momentum into its green transition efforts. The disruptions have acted as a political accelerant, strengthening the case across the Chinese policy apparatus for moving faster on a transition already underway. Recent official messaging points to a more coordinated and urgent approach at multiple levels of governance. Premier Li Qiang has doubled down on the need to advance the expansion of non-fossil energy and build a new energy system, encouraging faster institutional reforms and innovation.[7] This shift has also been reflected in increased policy guidance and infrastructure planning focused not only on decarbonization but also on strengthening grid resilience, energy security, and industrial competitiveness.

On April 22, China's two highest governing bodies—the CPC Central Committee and the State Council—jointly issued a set of "guiding opinions"[8] on energy conservation and carbon reduction. The move marked one of the clearest high-level linkages to date between decarbonization efforts, energy security, and industrial development. A second binding directive issued the following day further strengthened environmental inspections of provincial governments and introduced new evaluation metrics tied to emissions reduction and coal consumption.[9] For decades, economic growth has remained the central benchmark for the evaluation of local officials, often creating tensions between industrial expansion and environmental objectives despite Beijing's growing focus on decarbonization. The incorporation of indicators including emission reductions, coal consumption controls, and investments in "new quality productive forces" marks a significant institutional shift in China's governance priorities.

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China's Structural Dominance of the Green Tech Supply Chain

China's emergence as the dominant supplier of green technology is the result of two decades of sustained state-backed industrial expansion across the full clean energy supply chain. Beijing progressively moved from large-scale end-product manufacturing into upstream refining, processing, and industrial inputs, while simultaneously scaling domestic production capacity through subsidies, infrastructure investment, and long-term industrial planning.[10] This combination of vertical integration, manufacturing scale, and lower production costs enabled Chinese firms to consolidate market share across multiple strategic segments of the green technology ecosystem.

The rapid expansion of China's so-called "New Three Industries"—electrical vehicles, lithium-ion batteries, and solar panels—is a direct result of this strategy.[11] In the first quarter of 2026, Chinese exports of these three categories increased by a record 77.5 percent, 50.4 percent, and 30.5 percent, respectively.[12] China now accounts for more than 80 percent of global solar manufacturing capacity across much of the supply chain and over 60 percent of the global EV battery market, with companies such as CATL and BYD continuing to consolidate their global lead.[13]

China has also secured a near-monopoly across most upstream stages of the supply chain.[14]

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Beijing processes over 90 percent of the rare earths required for the permanent magnets used in wind turbines and EVs,[15] while also dominating the refining of graphite and manganese—both essential for lithium-ion battery production.[16] In addition, China accounts for roughly 89 percent of polysilicon processing capacity for solar photovoltaic (PV) panels.[17] Across many of these segments, China holds between 80 and 100 percent of global market share, giving it a structural advantage in supply chains that no other country can currently replicate at scale.

More significantly, China is already moving into more advanced and specialized segments of the sector.[18] The recently released 15th Five-Year Plan notably emphasizes accelerating breakthroughs in next-generation batteries, new solar cell technologies, and green hydrogen, alongside the broader goal of doubling non-fossil energy capacity between 2025 and 2035.[19] Last year, China's National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) also released a plan to accelerate the integration of artificial intelligence (AI) into the energy sector, with a goal of establishing a basic innovation system for AI-energy integration by 2027.[20] The scale of these ambitions reflects Beijing's determination to not merely maintain its manufacturing lead, but to strengthen its technological dominance across the industries that will underpin the future energy economy.

The Paradigm Shift: China as the New Default Green Tech Partner?

The Hormuz Crisis represents more than a temporary disruption of global energy flows. It is accelerating a broader structural shift in the global energy order, as countries increasingly seek long-term alternatives to vulnerable fossil fuel supply chains. In doing so, the crisis is reinforcing

China's position as a leading global provider of green technologies and infrastructure.

Demand for Chinese clean energy—including batteries, solar panels, and electric vehicles—has already surged significantly since the outbreak of the conflict. According to data from the Chinese Customs Authority, China had "record exports of solar products, batteries and EVs in March 2026," up 70 percent compared to March 2025 and up 38 percent compared to February 2026, in the wake of the U.S.-Israel war with Iran.[21]

In South Asia, the crisis has accelerated efforts to diversify from imported fossil fuels through electrification and renewable energy deployment, further deepening reliance on Chinese technology, manufacturing capacity, and financing. Pakistan, one of the countries most affected by the disruptions, has seen a wave of large-scale Chinese investments in the sector, including plans by Dongjin Group to establish a USD 15 million battery manufacturing facility in Faisalabad, alongside partnerships with Beijing Automotive Group (BAIC) and Lucky Motors aimed at expanding local EV assembly and infrastructure.[22] Meanwhile, Southeast Asian countries such as Indonesia and Thailand, are emerging as key hubs for Chinese EV and battery investments. Another important trend is the sharp increase in Chinese solar energy exports to African markets, which reached 10 gigawatts in March 2026, a 176 percent increase compared to February. Nigeria's demand in March 2026 was 519 percent higher than in February 2026, reaching a total of 1.2 GW, while Ethiopia imported 1.1 GW, up 391 percent from February, and Kenya imported 1.4 GW, up 207 percent. [23]

The IEA estimates that China will account for 60 percent of all renewable energy installations worldwide, underscoring the scale of its influence in shaping the future global energy transition.[24] For many countries across the Global South, China increasingly represents not merely a supplier of renewable technologies, but also the most accessible pathway toward energy transition and greater energy self-sufficiency. Through a combination of affordable technologies, infrastructure financing, manufacturing scale, and technology transfers, Beijing is thus positioning itself as a key regional partner for many countries seeking to reduce their dependence on volatile fossil fuel markets.

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Geo-strategic Risks and Implications

While China's clean energy dominance offers countries a fast and affordable pathway to decarbonization, it also creates new forms of strategic exposure. As Chinese technologies become increasingly embedded in national energy systems, Beijing's influence is expanding beyond manufacturing and trade into areas with growing geopolitical and security implications.

A first concern is the risk of technological dependency. As countries accelerate renewable energy deployment using Chinese equipment and infrastructure, their ability to diversify away from Chinese suppliers may diminish over time. This dependency can persist even when countries pursue localization strategies, as China has generally retained control over higher-value segments of the value chain, including upstream processing, advanced manufacturing equipment, and key intellectual property (IP). Saudi Arabia's partnerships with China's JinkoSolar and TCL Zhonghuan demonstrate these limitations.[25] While such projects support the development of domestic manufacturing capacity, they do not automatically translate into technological autonomy. Instead, they risk creating localized production systems that remain dependent on Chinese technology, inputs, and future upgrades.

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Furthermore, China's expanding clean energy footprint is strengthening its ability to shape the standards, norms, and industrial ecosystems underpinning the future energy system. The Chinese leadership has long viewed technical standardization as a strategic instrument for achieving technological leadership in critical industries (e.g. Made in China 2025 and China Standards 2035).[26] Through the Green Belt and Road Initiative (GBRI) and a growing number of industrial partnerships, China is not only exporting equipment but also the technical specifications, regulatory practices, and operational frameworks that accompany it. As these standards become more widely adopted, they may create long-term infrastructure dependencies that increase switching costs and reduce supplier diversification. Over time, this could reinforce Beijing's influence over the development of green energy industries while expanding its broader geopolitical leverage in recipient countries.

Technological lock-in also introduces long-term cybersecurity vulnerabilities for critical infrastructure. This is particularly evident in the solar energy sector, where Chinese firms dominate not only the production of solar panels but also the supply of critical system components such as inverters. Inverters are essential to support the rapid expansion of renewable energy, given their role in grid integration, monitoring, and power management. Yet, their digital and networked nature raises concerns about potential cyber risks related to data access, remote system management, and operational control. Because many of these systems are connected to platforms operating under Chinese jurisdiction, access, data governance, and certain operational parameters may ultimately be subject to Chinese regulatory and legal frameworks.[27] The same vulnerabilities associated with solar inverters exist across other digitally connected renewable energy technologies, including wind turbines, which rely on sensors, software, remote monitoring, and networked control systems for their operation.

While there is limited evidence of deliberate misuse, concerns have been raised that the concentration of remotely managed foreign components within critical energy infrastructure could create vulnerabilities that may be exploited during periods of geopolitical tension or crisis. In a worst-case scenario, the disruption or shutdown of large numbers of connected devices could severely affect grid stability and electricity supply, potentially leading to broader disruptions across national energy systems. As attacks on critical energy infrastructure have become more frequent in recent years, governments are increasingly treating the resilience of energy systems and their underlying supply chains as a matter of national security. Recent European Union moves to restrict or phase out "high-risk" Chinese-made inverters from certain energy projects highlight the growing recognition that decarbonization and security objectives are becoming increasingly intertwined.[28]

Finally, the most complex long-term challenge remains geopolitical. Strategic rivalry between the U.S. and China continues to intensify, marked by the growing use of tariffs, export controls, investment restrictions, and other economic security measures targeting critical technologies and supply chains. In this context, countries deeply integrated into Chinese technology ecosystems, while simultaneously relying on Washington as a security provider may face increasingly difficult trade-offs. This challenge is particularly visible in the Gulf, where efforts to accelerate the energy transition are deepening engagement with Chinese technology and investment even as regional security continues to rest on Washington's security umbrella. In the case of Saudi Arabia, for instance, deeper cooperation with China in the energy sector could make the Kingdom's long-standing hedging strategy increasingly challenging to maintain.

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For Europe, the challenge is compounded by China's deepening strategic cooperation with Russia. At a time when European governments increasingly view Moscow as their primary security threat, growing reliance on Chinese technologies in critical infrastructure has intensified concerns regarding resilience, economic security, and strategic autonomy. The prospect of becoming dependent on critical technologies supplied by a close strategic partner of Europe's principal adversary is likely to fuel growing scrutiny of Chinese involvement in strategically sensitive sectors and further complicate Europe's efforts to balance decarbonization goals with broader security considerations.

Conclusion

The significance of the Hormuz Crisis extends beyond its immediate impact on global energy markets. By exposing the vulnerabilities associated with fossil fuel dependence and concentrated supply routes, the crisis has strengthened the perception that energy security, economic resilience, and decarbonization are increasingly interconnected objectives. In doing so, it may accelerate a broader reconfiguration of the global energy order, in which access to clean energy technologies becomes a central component of national power and strategic influence.

China's structural advantages across the clean energy value chain position it to play an increasingly important role in this emerging landscape. Yet, as the transition gathers pace, governments will face a complex balancing act. While Chinese technologies may offer one of the fastest and most affordable pathways toward greater energy security, deeper reliance on Chinese supply chains also raises questions about resilience, strategic autonomy, and geopolitical exposure. The challenge will not be whether to engage with China's green industrial ecosystem, but rather how to do so while managing the dependencies that may accompany it.

Author –

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