

# Defence and strategic implications of energy security trends

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# Defence and Strategic Implications of Energy Security Trends



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All countries regard affordable, stable, and secure energy supply as a vital interest. It is a foundation for economic growth and affects social stability, essential public services, jobs, international investments, and national defence.

## Energy Security

Countries aim for either Energy Independence or Energy Security. Energy Independence happens when a country has enough natural resources to meet its demands. Most countries aim for Energy Security, which entails access to fossil fuels, reliable energy storage, good energy usage management, renewable energy sources, and a reliable power grid infrastructure. The literature review suggests that Energy Security comprises four pillars: affordability, accessibility, availability, and reliability. Policymakers achieve this through the coordination of domestic and foreign policies.

In the 1970s – 1980s, energy security was about ensuring a stable supply of cheap fossil fuels while facing threats of price manipulation and embargoes by exporting countries. Today, Energy Security is also about access to various energy resources, mitigating the impact of climate change and natural hazards, and cyber-physical threats to the power grid infrastructure. It also features two parallel races: the race for new sources of fossil fuels and critical minerals such as lithium, nickel, and copper to make green tech like batteries and solar panels.

Countries that sit on fossil fuels and critical minerals can become important strategic actors. They may leverage other countries' energy needs, shaping foreign relations. Besides fossil fuels, critical minerals and green technologies have been securitised as issues of influence, power rivalry, and new supply chain vulnerabilities in geopolitical competition. For example, when US Treasury Secretary Janet Yellen met with Chinese leaders in Beijing in April 2024, she raised US concerns about Chinese green technology exports.

## Energy Insecurity

Amid geopolitical contest, the Russia-Ukraine war has shown the fragility of energy security. As an energy exporter, Russia sees Energy Security as a matter of export stability, finding new markets, and tied to its economic resilience. It has to work around Western sanctions and rely more on China and India as buyers. However, Russia cannot be too dependent on China as China's energy sector is increasing investment and development of alternative energy sources for economic and strategic reasons.

To Ukraine and the European countries, the diversity of energy resources and new suppliers to meet domestic demand amid regional instability is increasingly a security matter. The problem of energy insecurity these countries face could be attributed to four factors: geography, price risks, cyberspace as a domain of warfare, and dependence on foreign countries. Regarding cyberspace, the cyberattack on Ukraine's power grid in October 2022 by the advanced persistent threat (APT) Sandworm at the same time as Russian missile attacks shows that the reliability of infrastructure is subject to resilience or the ability to tolerate potential disruptions.

Regarding dependence on foreign sources, Germany's Nord Stream pipeline deal with Russia was a mutually beneficial commercial deal. It could have promoted regional stability through economic interdependence and fostering common interests. However, the strategic objective of this cooperation unravelled when the Russian invasion of Ukraine happened, creating disagreements between Germany and other European countries and highlighting the critical issue of Energy Sovereignty.

## Energy Sovereignty

Understandably, Eastern European countries have increasingly focused on energy sovereignty in their energy policies since the Russia-Ukraine war. However, in Germany's case, its energy sovereignty was under stress even before the war due to US sanctions on the Nord Stream pipeline. While there were concerns over major suppliers like Russia using energy for economic coercion, there were also concerns over the US – as it becomes more energy independent – using its dominance in the global financial system to pursue its foreign policy goals. The impact could limit the free trade of energy and available sources of affordable energy supplies.

As the literature review suggests, energy sovereignty is about having strategic autonomy in the energy domain, where countries can acquire energy in a way that does not conflict with their national security interests and foreign policy goals. A country has to diversify or reduce dependence on supply areas, which can lead to vulnerability or entanglement with broader security issues. It is less about self-sufficiency and more about expanding bilateral relations and strategic partnerships with the global energy market to have more alternatives.

## Energy Minilateralism

In the Indo-Pacific, Japan is one example of a country pursuing alternatives because the conflict in the Middle East, sanctions on Russian gas, and anti-nuclear sentiment among the Japanese people pose a serious challenge to its energy security. On the one hand, Japan protects its energy interests in the Middle East by deploying naval assets to help protect oil tankers in the Gulf and deepening bilateral defence ties with Arab states like the United Arab Emirates (UAE).

Additionally, Japan intends to purchase more Australian and US gas because it sees these sources as more politically stable. In a way, this development may be a form of energy minilateralism as there is more strategic and military trust between these countries that make up the Quadrilateral Security Dialogue (Quad).

## Defence Issues

With the military, the role of defence in energy security entails more than securing oil shipping routes and homeland defence of oil facilities. In the area of renewable energy, for example, the French and Swedish military are reportedly assessing whether wind farms and solar power infrastructure could interfere with radar signals, radio communications and signal intelligence. In the US, the Navy reportedly prefers some parts of the Pacific Ocean near California off-limits to offshore wind farms as the infrastructure could interfere with military operations and readiness. Nonetheless, the military must explore renewable energy to ensure a resilient energy system that could provide energy at a reduced rate when the power grid faces cyber-physical disruptions during a crisis or armed conflict.

This effort is necessary because energy is not only a potential economic warfare tool. It is also an enabler of hard power and vital to the conduct of military missions, especially in the age of digitalisation and digitally-enabled warfare, including for dismounted soldiers who use systems like drones. Force projection—using long-range precision weaponry, navigational devices, and autonomous systems—depends on advances in energy security, including production and storage.

In past conflicts, the need to deliver energy supplies for forward deployment was a strategic vulnerability. Looking ahead, using renewable energy could reduce the need for fossil fuels, which enemy forces would try to deny access to while securing their own. Of course, this also requires developing weapon systems that could use alternative fuels and increasing the energy efficiency of weapon systems and military vehicles through research and development with the civilian sector.



## **Future Outlook**

Looking ahead, inter-state energy relations would still be subject to geography and increasingly geopolitical and defence considerations. The reason is that sovereignty may not only be a territorial matter. A country's sovereignty could also be a matter of access to energy sources and related technologies and whether energy dependence could weaken its political autonomy. Even now, the role of the US in the global oil market, China's key position in renewable energy technologies and the Belt and Road Initiative (BRI) could tip the balance in the global contest of powers.

Nonetheless, energy exports from Gulf countries would likely remain vital even as the world transitions to renewable energy. China and India, for example, may increase their naval presence near the Indian Ocean shipping routes to safeguard their energy interests, especially if the Gaza crisis and Israel-Iran tensions escalate into a regional war.

If China's naval presence grows, India may increase maritime security cooperation with its Quad partners, Australia and the US, in the Indian Ocean to ensure strategic balance. And suppose war happens at the Taiwan Strait. In that case, oil shipments from the Indian Ocean and through the Malacca Strait would be a vulnerability for China and an instrument of US pressure.

Amid this strategic background, achieving energy security requires more than relying on limited fossil fuels. It also requires efficient energy usage, investments in and transition to renewable energy sources, and resilient power grid infrastructure that could handle geopolitical shocks and cyber-physical threats.

And amid challenges to global security, Energy Security is an essential bridge between sustainable economic development and national defence. Increasing the diversity of energy sources and systems could help mitigate disruptive incidents' impact on national defence. Furthermore, innovation in sustainable energy solutions could create advantages for national defence by enabling armed forces to operate in geographical or field scenarios where the logistical challenge of transporting energy supplies is significant.

Lastly, the ASEAN Power Grid is a crucial initiative for energy security in Southeast Asia. Future projects related to this initiative could require submarine cable connections. It would be a matter of time before economic discourse on this initiative needs to consider maritime security, including at the ASEAN Defence Ministers' Meeting (ADMM) platform.

