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UK Energy and Russian Aggression

Challenges for the UK

Dan Marks

RUSI

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Get in touch

www.rusi.org

enquiries@rusi.org

+44 (0)207 747 2600

The Royal United Services Institute for Defence and Security

61 Whitehall, London

SW1A 2ET

United Kingdom

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Executive Summary

Russia's full-scale invasion of Ukraine has transformed global energy flows and had enduring consequences for UK energy security. Hydrocarbons remain the backbone of the Russian economy and war effort, providing most of its foreign currency earnings. While existing economic sanctions are eroding Russia's economic and energy capacities, their gradual effect is insufficient to shape the conflict's outcome in the near term. More forceful measures – modelled on past sanctions regimes against Iran – could increase pressure on Russia but are unlikely to be implemented without US leadership.

The war has rearranged energy dependencies. By pivoting away from Russian gas, Europe has notably increased its reliance on American liquefied natural gas (LNG). This is creating new vulnerabilities to American political and market shifts. At the same time, Russia has deepened its energy ties with China and India, although structural limits to these partnerships and strategic tensions remain.

UK and wider European energy systems increasingly depend on offshore infrastructure, interconnectors and undersea cables. Yet, security planning in the UK and Europe remains piecemeal and insufficiently integrated into energy transition strategies to address the threat from Russia.

Most clean energy supply chains are also heavily concentrated in China, mirroring past over-reliance on Russian gas. Without actively taking measures to mitigate this dependency, the UK and Europe risk embedding new vulnerabilities within low-carbon systems.

UK governance structures have not kept pace with this shifting landscape. This paper recommends that the UK government strengthens integration of energy and security policymaking, improves its infrastructure resilience oversight and enacts targeted measures to cushion extreme market volatility – thereby enhancing national resilience.

The UK's strategic aim should be to ensure that energy security is treated as a core enabler of sustainable economic growth, and not as a constraint on it. The current combination of geopolitical disruption and structural transformation in energy systems demands a more deliberate and coordinated approach to managing the intersection of security, energy markets and the energy transition.

Key Findings

- **Hydrocarbons remain central to Russia's war effort**. Oil and gas exports provide the bulk of Russia's foreign currency earnings, sustaining the economy and financing the conflict. Current sanctions are degrading Russia's market position, but the effect is too slow to influence the immediate course of the war. Without tighter measures on oil exports, harsher economic restrictions in other areas will have a limited impact.
- **Sanctions policy is constrained by political realities**. US political instability and European reluctance to impose extraterritorial measures limit the feasibility of more forceful action. Tariffs are an inadequate substitute for targeted sanctions.
- **Energy flows have shifted, creating new vulnerabilities**. Europe's move away from Russian gas has increased the UK's dependence on US LNG, increasing strategic exposure to shifts in US politics and LNG market conditions.
- **Infrastructure security lags behind the threat environment**. Offshore gas production and pipelines, offshore wind farms, interconnectors and undersea cables are increasingly critical to energy supply but remain insufficiently protected against sabotage or cyberattack. Current safeguarding measures are fragmented and lack interregional coordination, while spatial planning does not sufficiently account for security priorities.
- **China's role in critical infrastructure, including clean energy supply chains, poses strategic risks.** Reducing exposure to oil and gas requires investment in other energy sources. However, the UK's heavy reliance on Chinese manufacturing has echoes of its over-reliance on Russian gas up until 2022 and creates vulnerabilities to cyber threats. Without active risk mitigation, these dependencies could hardwire new vulnerabilities into future energy systems.
- **UK governance structures need stronger integration of energy and security priorities**. Greater coordination between energy and national security decision-making – potentially through permanent representation of the energy minister on the National Security Council and a Cabinet-level Energy Transition Committee – would help to address cross-cutting risks.
- **Resilience planning should extend beyond market mechanisms**. While market flexibility remains invaluable, targeted measures by government to enhance system resilience – such as mechanisms to limit extreme price impacts and incentives to diversify and secure supply chains – would reduce exposure to external shocks without undermining competitiveness.

Introduction

Russia's full-scale invasion of Ukraine has raised many questions for the UK. After nearly four years of high-intensity war, energy remains an integral part of the politics and economics of the conflict. Disruption to the sector continues to have implications both for the UK energy system and for Western unity on Ukraine.

As US President Donald Trump has radically overhauled his country's approach to Ukraine, it is an important moment to review the implications of Russia's war and its strategic consequences for the UK.

Exports of hydrocarbons – and oil most of all – remain the lifeline for the Russian economy. They are a critical stream of foreign currency that prevents the country from falling into an inflationary spiral. Targeting hydrocarbons remains therefore the most impactful line of economic attack for Western powers.

Existing energy restrictions and the collapse of oil and gas sales to Europe are degrading Russia's long-term market position, causing a loss of market share and disrupting its access to finance, technology and project execution expertise. Consequently, Russian energy companies have reduced revenues and a weakened negotiating position. Most pipeline gas is now stranded.

However, the impact on Russia and its energy sector is not being sufficiently fast or extensive to factor into the Russian leadership's decision on whether to continue the war or to negotiate its end. If NATO leaders want to end the war on terms less unfavourable to Ukraine, it is likely that additional measures targeting Russian oil exports – or much more extensive military support – will be required.

The US administration's currently ambiguous position on the war – and on Russia policy more generally – risks degrading the sanctions regime. It also creates the risk that Russia could raise the prospect of energy sales to Europe to stall ceasefire negotiations and stoke transatlantic and intra-European political divisions. The 2025 Russia–United States Summit, which took place between Trump and Russian President Vladimir Putin on 15 August 2025, revived fears in Europe and Ukraine that Kyiv would be scapegoated by the two leaders for failing to agree on a ceasefire.

Russia's invasion of Ukraine has raised questions on the security of the UK's energy mix and the structure of its energy markets. While the UK used only small volumes of Russian gas compared with continental Europe, the interdependence of UK, European and global energy markets meant that the UK was heavily exposed to the supply shock precipitated by the invasion. Today, the UK is increasingly dependent on imported gas, even as gas demand is falling; gas has become a pre-eminent resource underpinning the UK's energy security, and oil remains so.

Concern about exposure to global oil and gas markets has been heightened by the unpredictable US behaviour. Senior UK politicians and security officials interviewed for this paper now view the US as a long-term structural risk due to unpredictable Republican Party politics. Meanwhile, renewed conflict in the Middle East raises the perennial spectre of an attempt to close the Strait of Hormuz.

Sabotage, particularly in the Baltic Sea, has made clear that energy systems must be defensible. It has also highlighted the necessity of better incorporating infrastructure security into energy transition planning.

Historical complacency on the part of the UK and Europe over importing Russian energy also raises questions about whether the UK risks developing comparable economic and technological dependencies on China, and whether the machinery of government can effectively integrate national security and energy concerns into its planning.

At the heart of these issues are two key questions:

1. To what extent should the UK be comfortable depending on global commodity markets for energy security in an era of geopolitical and market fragmentation?
2. Does market-driven security best suit the current UK economy?

Government energy security strategy does not sufficiently address these two questions. This paper reviews the central security questions on energy that the UK government faces nearly four years after Russia's full-scale invasion of Ukraine. In doing so, it reflects on differences of perspective within and between the security and energy communities, both within and outside of government.

Methodology

This paper draws on recently published research reports, books and data about Russian energy and Western sanctions. It also draws on discussions at a workshop held at RUSI in February 2025, subsequent events held at RUSI in March and April 2025, and nine interviews conducted in June and July 2025 with former senior officials from Downing Street and the Cabinet Office, as well as with a former energy minister, two former senior US State Department officials, oil and gas industry executives and independent experts on energy and sanctions.

Energy Politics

Russia's Energy Industry

Oil is the foundation of Russian economic resistance. Oil and gas revenues accounted for 30% of total federal budget revenue in 2024 (in rouble terms), 85% of which was generated by the oil industry.[1] While oil and gas have been targeted by Western sanctions, Russia's energy industry allows the country to manage its currency and thereby inflation, preventing the type of economic tailspin that might have deterred military escalation.

Comtrade data shows that in 2023, crude oil, oil products and natural gas exports accounted for 50% of Russia's exports (28% oil, 12% oil products and 9% gas)[2] and therefore roughly half of its foreign currency earnings.[3] In October 2023, the Russian government mandated that 80% of foreign currency earnings from major exporters must be deposited with Russian banks, indicating the role exports played in stabilising Russia's economy (although this particular measure was withdrawn within months).[4]

Foreign currency, generated by exports of hydrocarbons, underpins a sanctioned economy's ability to withstand economic attack;[5] Iran's experience with sanctions showed this in the early 2010s. The Iranian leadership lost macroeconomic control when US blocking sanctions forced oil payments to be held in escrow in the purchasing country, thereby restricting the country's access to hard currency. Ultimately, the rial

1. Vitaly Yermakov, 'Fiscal Flex: Russia's Oil and Gas Revenues in 2024', Oxford Institute for Energy Studies (OIES), February 2025, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2025/02/Comment-Fiscal-Flex.pdf>, accessed 15 August 2025.
2. The difference in total is due to rounding.
3. UN, 'United Nations Commodity Trade Statistics Database', <https://comtradeplus.un.org/>, accessed 15 August 2025.
4. *Reuters*, 'Russia Tells Exporters: Bring Back 80% of FX Revenues, Sell Most of That', 13 October 2023.
5. Edward Fishman, *Chokepoints: How the Global Economy Became a Weapon of War* (London: Elliott & Thompson, 2025), chapter 20; author's interview with former State Department official A, online, 13 June 2025; author's interview with former State Department official B, online, 8 July 2025.

lost 80% of its value between 2011 and 2013,[6] inflation reached 50–70%,[7] and, in effect, a balance of payments crisis ensued.[8]

In Russia, however, oil and gas exports provide a consistent flow of foreign currency, despite the plethora of sanctions, as summarised in Table 1, below.

Table 1: Summary of UK, EU and US Energy-Relevant Sanctions on Russia

Sanction Type	Effect
Asset freeze and travel bans (individual listings)	• Numerous energy executives designated, including: Igor Sechin (chief executive, Rosneft); Alexei Miller (chief executive, Gazprom); Nikolai Tokarev (president, Transneft).
Blocking sanctions – Specially Designated National	• US blocks property of listed persons; US individuals are prohibited from business dealings with listed persons. • Prevents access to correspondent banking, removing the possibility of trading in dollars anywhere in the world.
Central Bank/sovereign immobilisation	• Transactions prohibited with Russia's Central Bank, National Wealth Fund and Ministry of Finance. • Immobilisation of reserves held under G7 jurisdiction.
Capital markets restrictions (sovereign and state-owned enterprises)	• Bans on dealing in new debt/equity for major banks/companies, and on listing/trading certain Russian securities. • Sovereign financing restrictions.
SWIFT (Society for Worldwide Interbank Financial Telecommunication) disconnection	• Designated Russian banks prohibited from using SWIFT.
Export controls: dual-use and advanced tech	• Licensing requirements for dual-use and advanced items such as semiconductors, electronics and avionics, impacting energy industry access.
Industry sector controls (aviation, maritime, machine tools and energy technology)	• Restrictions on specified equipment, software and services to targeted sectors.
Oil price cap and maritime services ban	• G7/EU allow maritime services (transport, insurance and brokering) only if Russian crude oil/products sold at or below price cap. • Above-cap shipments barred from services.
Energy import bans (oil, coal and refined products)	• EU bans seaborne crude/products. • US bans imports of Russian energy. • UK bans oil, LNG and coal.
LNG measures	• EU ban on providing reloading/transshipment services for Russian LNG, and limits on use of terminals not connected to the EU gas grid. • Restrictions on new investment/services for Russian LNG projects.

6. Mary Casey-Baker and Jennifer Parker, 'Suffering from Sanctions, Iran's Currency Plunges to a Record Low', *Foreign Policy*, 2 October 2012, <https://foreignpolicy.com/2012/10/02/suffering-from-sanctions-irans-currency-plunges-to-a-record-low/>, accessed 15 August 2025.
7. Congressional Research Service, 'Iran Sanctions', RS20871, 15 April 2019, <https://www.congress.gov/crs_external_products/RS/PDF/RS20871/RS20871.289.pdf>, accessed 15 August 2025.
8. International Monetary Fund, 'Islamic Republic of Iran: Staff Report for the 2014 Article IV Consultation', 4 April 2014, <https://www.elibrary.imf.org/view/journals/002/2014/093/article-A001-en.xml>, accessed 15 August 2025.

Sanction Type	Effect
Transport restrictions (airspace, ports, road, automatic identification system (AIS)/ship-to-ship (STS))	• EU and UK close airspace to Russian aircraft, restrict Russian road freight, ban port access for Russian-flagged vessels and ships using deceptive/shadow fleet practices.
New investment bans	• US prohibitions on new investment in Russia's energy sector and economy-wide bans. • Bans on investment in occupied Ukrainian territories.
Anti-circumvention and contractual 'no-Russia' clauses	• EU anti-circumvention tool restricts exports to high-risk jurisdictions. • Operators must include no-re-export clauses for certain goods.

Source: The author.

In the first year of its full-scale invasion of Ukraine, Russia saw an exodus of major Western oil and gas companies. While sanctions were a factor, reputation was also a driver. This is clear from the exits of BP and Shell soon after the invasion, while TotalEnergies resisted until pushed by evidence that oil from its assets was being used by the Russian military in Ukraine.[9] Western restrictions on new investments and technology transfers – and sanctions on Russian banks – made transactions more difficult. An oil price cap enforced by G7 restrictions on maritime services has been in effect since December 2022.

In the short term, these developments had little impact on Russian oil export volumes or revenues, which were buoyed by a price surge in the early months of the war. This is unsurprising, as measures were designed by Western powers to limit the impact on oil markets[10] – with explicit exemptions for energy payments – rather than to maximise damage to the Russian economy. Traders such as Dutch multinational Vitol were asked by the US government to resume purchases of Russian oil products, after voluntarily ceasing all trade with Russia except for existing term contracts.[11] Indeed, Ukrainian attacks on Russian refineries – reported to have temporarily taken as much as 20% of capacity out of action[12] – may ultimately have had a greater impact on Russia's oil industry than the plethora of Western restrictions on Russian energy in place since 2022.

Nevertheless, Western sanctions have had negative consequences for Russia. A price discount on Russian oil sales, albeit less than anticipated, is apparent and was acknowledged by Russian state energy company Rosneft in its Q1 2025 results, which stated that 'wider discounts' alongside 'new sanction[s] restrictions' affected its

9. Patrick Alley, *Terrible Humans* (London: Hachette UK, 2024), chapter 1.
10. Fishman, *Chokepoints*.
11. Livvy Doherty and Anna Cooban, 'World's Top Oil Trader will Stop Buying Russian Crude', *CNN Business*, 13 April 2022, <https://edition.cnn.com/2022/04/13/business/vitol-russian-oil/index.html>, accessed 15 August 2025; author's interview with senior independent energy consultant, online, 25 June 2025; author's interview with former State Department official B, online, 8 July 2025.
12. *The Economist*, 'Putin's Petrostate Faces a Kamikaze Petrol Crisis', 3 September 2025; author's interview with a Russian energy analyst from an independent research institute, online, 17 June 2025.

financial performance.[13] These costs are layered on to above-inflation increases in Rosneft's outlays on electricity, transportation – including both domestic transportation and because of longer journeys to new buyers – and debt.

Some experts also argue that sanctions have weakened Russian central government control over its oil economy. One oil analyst argued that the oil price cap and the emergence of the shadow fleet have 'increased the informality of Russia's economy and extemporising nature of how Russia runs its war economy'.[14] This analyst argued that while Russia has found new buyers for its oil, sanctions have also increased the power of intermediaries in places such as Hong Kong, Indonesia and the UAE. The price cap therefore 'dissipated money and control around the world to offshore locations or third countries', a phenomenon which introduced new risks – including corruption – and costs, while reducing the commercial efficiency of Russia's most strategic industry.[15]

Over time, current restrictions on Russia, combined with extremely high political and reputational risk, will undoubtedly weaken Russia's position in the oil market and consequently its geostrategic position. Yet, this is not occurring fast enough to impact the current conflict in Ukraine.[16] Analysts do not have a unified view on the trajectory of Russia's oil production. However, few expect production to return to its peak of 10 million barrels (bbl)/day achieved in the 2010s, but the decline might be gradual.[17] Russia has been producing slightly below its OPEC+ quota in 2025,[18] nominally because of previous overproduction, but there are also suggestions that Russia's oil production costs are rising.[19]

New investment and access to technology are critical for Russia to replenish its oil production and to manage costs. Russia's oil is mostly produced by mature fields, where the cost of production typically rises over time, and new developments are needed to sustain output. There are new projects which could sustain, or even expand, production. These include, most notably, the Vostok oil project, in which Rosneft is the

13. Rosneft, 'Rosneft Oil Company First Quarter 2025 IFRS Results', 30 May 2025, <https://www.rosneft.com/press/releases/item/222221/>, accessed 15 August 2025.
14. Author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025.
15. Author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025.
16. Richard Connolly, 'Russia's Wartime Economy isn't as Weak as it Looks', *RUSI Commentary*, 22 January 2025, <https://www.rusi.org/explore-our-research/publications/commentary/russias-wartime-economy-isnt-weak-it-looks>, accessed 15 August 2025.
17. James Henderson, Vitaly Yermakov and Richard Connolly, 'Outlook for Russia's Oil and Gas Production and Exports', Oxford Energy, March 2024, pp. 9 and 19, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2024/03/NG-189-Outlook-for-Russias-oil-and-gas-improved-resolution.pdf>, accessed 15 August 2025; author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025.
18. Charles Kennedy, 'Russia Keeps Oil Production Below OPEC+ Quota', oilprice.com, 5 June 2025, <https://oilprice.com/Energy/Energy-General/Russia-Keeps-Oil-Production-Below-OPEC-Quota.html>, accessed 15 August 2025.
19. Lucile Brizard, 'Russia's Cheap Oil Era Ends as Hard-to-Recover Reserves Take Over by 2030', *United24 Media*, 13 May 2025, <https://united24media.com/latest-news/russias-cheap-oil-era-ends-as-hard-to-recover-reserves-take-over-by-2030-8350>, accessed 15 August 2025.

majority owner and lead developer. On paper, the project – which has confirmed oil reserves of 45 billion barrels,[20] and could cost more than $100 billion to develop – could produce as much as 2 million bbl/day from the early 2030s.[21]

Russia has a poor track record of mega-project execution, particularly in remote locations.[22] Rosneft's ability to develop Vostok will be hampered by restricted access to technology and finance. Chinese equipment does not always match the quality of equivalent technology from the US,[23] and the absence of project management expertise from the largest global oil and gas companies, or supermajors,[24] will also affect the ability of Russian energy companies to execute projects. While most physical work and technology on large oil and gas projects is subcontracted, supermajors continue to lead on project and contract management. Their role is based on a foundation of institutional capacity and global experience that is difficult even for capable national oil companies – such as Rosneft – to replicate.[25]

Sanctions, which significantly weakened demand for Russian oil, might cause permanent damage to Russian production. If production is paused, older wells can freeze, causing irreparable damage.[26] This might incentivise Russia to not follow through on its threats to cease exports if it faces tougher sanctions.

Despite the influx of revenue from the spike in energy prices at the onset of the invasion, the Russian oil and gas industry is in a weakened position. But if G7 leaders hope to go beyond imposing an economic penalty on Russia and instead aim to use sanctions to hasten the end of the conflict, the current set of G7 restrictions – and the incremental approach to escalation – will not have an impact at the scale or speed that is required.

G7 Sanctions Options

Russia's incremental territorial gains in Ukraine and Trump's inaction in renewing sanctions against Russia have pushed European governments to the forefront of the economic war, with a concomitant hardening of their outlook. Political conditions for tougher measures remain challenging across the G7: populist parties sympathetic to

20. Henderson, Yermakov and Connolly, 'Outlook for Russia's Oil and Gas Production and Exports', p. 16.
21. Energy Intelligence, 'Cost of Rosneft Oil Project to Exceed $120 Billion', 15 September 2023, <https://www.energyintel.com/0000018a-98a5-db55-a98e-fabfeeb90000>, accessed 15 August 2025.
22. Author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025; author's interview with independent expert on Russia's oil and gas industry, online, 17 June 2025.
23. Author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025.
24. Alexey Bereznoy, 'Catching-Up with Supermajors: The Technology Factor in Building the Competitive Power of National Oil Companies from Developing Economies', *Industry and Innovation* (Vol. 26, No. 2, 2019), p. 127–57.
25. Author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025.
26. Author's interview with independent expert on Russia's oil and gas industry, online, 17 June 2025.

Russia are capitalising on inflation and fiscal constraints to bolster their support. Despite this, the EU has taken enforcement action against Chinese banks dealing with Russia[27] – albeit not actions relating to energy – and lowered the oil price cap from $60 to $47.6/bbl.[28]

European leaders must take the lead and set a clearer objective for the sanctions regime. If the aim is to use sanctions to accelerate the end of the war, rather than weaken Putin's regime over the long term or to simply ensure a price is paid, more impactful measures on energy exports alongside increased military support for Ukraine are needed.[29] This section asks whether more impactful restrictions on Russian oil exports are a feasible option to support UK and European efforts to end the conflict on acceptable terms.

Attempts by the US to use tariffs to push Russia to negotiate an end to the conflict lack credibility and are unlikely to be effective, but other battle-tested measures exist. The former Russia and Europe sanctions lead at the State Department, Edward Fishman, argues that the sanctions regime deployed against Iran's oil sector would similarly be effective against Russia.[30] The US used the threat of loss of access to the US financial system (in effect, the ability to trade in dollars) to force banks around the world to hold payments for Iranian oil in domestic escrow accounts, which could only be accessed in very limited circumstances.

The US also required that countries reduced their imports of Iranian oil over time. The quantity of the reductions was not specified, allowing the market time to adapt to the restrictions. Fishman argues that these sanctions were the primary factor pushing Iran to sign the Joint Comprehensive Plan of Action in 2015.[31]

Another former State Department sanctions expert agreed with Fishman, suggesting that the escrow measure alone would be effective, potentially targeting Russia's currency and economy without disrupting oil flows. According to this interviewee, if a credible deadline was given before the measure became active – a negotiating tactic that Trump favours – the market would have time to adjust and space could open for more productive negotiations to end the fighting.[32]

Secondary sanctions could be used to more effectively enforce the existing price cap, improving compliance and potentially reducing the utility of Russia's highly dangerous shadow fleet.[33] Reinforcing the oil price cap is unlikely to be politically palatable in the

27. *Bloomberg*, 'China Threatens Response to EU Sanctions on Banks, Firms', 21 July 2025.
28. European Commission (EC), 'EU Adopts 18th Package of Sanctions Against Russia', press release, 18 July 2025, <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1840>, accessed 11 September 2025.
29. Author's interview with former State Department official B, online, 8 July 2025.
30. Edward Fishman, 'Putin's Pressure Point', *Foreign Affairs*, 4 June 2025, <https://www.foreignaffairs.com/russia/putins-pressure-point>, accessed 11 September 2025.
31. *Ibid.*
32. Author's interview with former State Department official B, online, 8 July 2025.
33. Author's interview with former State Department official A, online, 13 June 2025.

US, however; many Republicans oppose the price cap because it provides a flow of discounted energy to China and India.[34]

Secondary sanctions denying access to the euro or sterling could, in theory, be deployed by the UK and the EU, even without the US. Historically, the EU and the UK have been willing to impose restrictions on the use of domestically produced goods and technology, and on imports into their jurisdictions. But neither has been willing to impose extraterritorial restrictions. Indeed, the EU enacted a law opposing US sanctions on Iran.[35] This reluctance has resulted in clunky workarounds such as the oil price cap.

Nevertheless, oil market conditions have created an opportunity to target Russian oil exports, if there is political will. Falling oil prices – despite conflict threatening oil supply – reflect a supply–demand balance that favours the consumer. This dynamic may persist for some time, as global geopolitical tension compounds with the lingering effects of the Covid-19 pandemic and the 2022 energy crisis to dampen global economic activity. Consequently, for the first time since 2022, there is scope to take measures which have some risk to overall oil supply, with less risk of extremely high oil prices.

The availability of spare oil production capacity[36] and the benefits to other producers of higher oil prices that would result from sanctions – current prices are below what Saudi Arabia requires to support its Vision 2030 project,[37] for example – could lead to less resistance from oil producing countries than when the price cap was first introduced in 2022–23. OPEC also appears to have learned lessons from high oil prices in 2022 and the creeping impact of electric vehicles (EV) on oil demand in some markets. One analyst argued that while the Gulf States want higher prices, they are unlikely to welcome prices higher than $90/bbl.[38]

Implementing restrictions on Russian oil exports would be challenging. Markets and governments no longer take Trump's threats seriously, so independent backing from other G7 countries would be required for new sanctions to be credible.[39] New

34. Tsvetana Paraskova, 'China Saved $10 Billion by Buying Cheap Oil from Sanctioned Exporters', *oilprice.com*, 11 October 2023, <https://oilprice.com/Energy/Energy-General/China-Saved-10-Billion-By-Buying-Cheap-Oil-From-Sanctioned-Exporters.html>, accessed 11 September 2025; author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025.
35. EC, 'Extraterritoriality (Blocking Statute)', <https://finance.ec.europa.eu/eu-and-world/open-strategic-autonomy/extraterritoriality-blocking-statute_en>, accessed 11 September 2025.
36. How much spare oil production capacity is somewhat contested. See, for example, Paul Horsnell and Bassam Fattouh, *What Next for Oil Markets?*, Oxford Institute for Energy Studies podcast, 21 August 2025.
37. Irina Slav, 'Can Saudi Arabia Actually Afford Vision 2030?', *oilprice.com*, 8 September 2024, <https://oilprice.com/Energy/Energy-General/Can-Saudi-Arabia-Actually-Afford-Vision-2030.html>, accessed 11 September 2025; Tobias Borck, 'Saudi Arabia: The Kingdom of Oil', *RUSI Occasional Papers* (November 2023), <https://www.rusi.org/explore-our-research/publications/occasional-papers/saudi-arabia-kingdom-oil>, accessed 11 September 2025.
38. Author's interview with Russian energy analyst from an independent research institute, online, 17 June 2025.
39. Author's interview with former State Department official B, online, 8 July 2025.

restrictions would require a pivot in US policy, since the current US administration has so far favoured the threat of tariffs and has weakened sanctions by failing to update its list of sanctioned companies. US policy would furthermore need a level of consistency and diplomatic engagement which the current administration is unlikely to achieve.

There are also economic and diplomatic risks for G7 countries. An announcement of measures to force payments for Russian oil into escrow accounts, and probably subsequent Russian threats to cease oil exports, would increase oil demand to top up inventories, resulting in higher prices. China's reaction would be particularly important. Beijing – more confident after fending off the economic assault from the US earlier in 2025 – could instruct companies not to comply and threaten reciprocal penalties.

Russia's dependence on oil exports and the vulnerability of its industry to shutdowns – especially in winter – might put the West in an advantageous position. But Russia might credibly threaten to withhold LNG exports, which are less critical to its budget. A senior independent energy consultant explained that 'closing Yamal would be a big deal because most of the offtake is in Europe' – at least until planned new LNG export capacity comes onstream in the US and Qatar.[40]

Reduced Russian oil exports would also increase the strategic importance of the Strait of Hormuz.[41] Consequently, measures taken against Russia might strengthen Iran's hand in its tussle with the US and Israel over its nuclear programme. The biggest obstacle may simply be that governments across Europe and the G7 are currently unwilling to take measures which risk impacting domestic inflation and damaging economic competitiveness.

While the political reality in the US and continued hostility to secondary sanctions in the UK and the EU make the implementation of tougher sanctions targeting Russian oil exports unlikely, progress may be possible if the US did decide to lead. The UK and the EU should work with the US, and particularly with Congress, to attempt to deflect Trump away from tariffs and towards targeted sanctions on Russia's oil exports.

40. Author's interview with senior independent energy consultant, online, 25 June 2025.
41. Dan Marks, 'The Israel–Iran Conflict and the Oil Market: Strategic Consequences', *RUSI Commentary*, 18 June 2025, <https://www.rusi.org/explore-our-research/publications/commentary/israel-iran-conflict-and-oil-market-strategic-consequences>, accessed 11 September 2025.

Russian Exports to Europe

With Trump pushing to end the fighting in Ukraine, the future of Russian energy exports to Europe has become a more immediate issue. Three questions are particularly pressing:

1. How determined are European governments to prevent the return of Russian energy?
2. How united are European governments on this?
3. Where do energy sales to Europe feature among Russia's priorities?

There are physical and commercial barriers to the resumption of Russian piped gas sales to Europe. European gas expert Jack Sharples highlighted that both Nord Stream 1 pipelines are damaged, that one of the Nord Stream 2 pipelines is damaged and that German government approval would be needed to operate the second.[42] He added that Poland has sanctioned the Yamal–Europe pipeline and is unlikely to change its position; transit via Ukraine was halted at the end of 2024 and is also hampered by damage to a compressor station; and the TurkStream pipeline, the last remaining pipeline to Europe carrying Russian gas, is close to capacity.[43] Supply resumption is also complicated by numerous arbitral awards in favour of European companies (as well as in favour of Russian companies in Russia), preventing the re-establishment of Gazprom trading subsidiaries in Europe. Most long-term gas supply contracts have expired or been cancelled.

The return of Nord Stream 2 to the political debate in early 2025 therefore surprised many security observers.[44] US businessman Stephen Lynch launched his bid to acquire the pipeline long before Trump's inauguration – he filed a licence application with the Office of Foreign Assets Control in February 2024[45] – but the idea was then embraced by Russian negotiators who sought to deflect Trump's attempts to achieve a ceasefire in April and May 2025.[46]

42. Jack Sharples, 'No Way Back? Challenges to Russian Pipeline Gas in Europe Make Near-Term Rebound Unlikely', OIES Energy Insight, No. 166, March 2025, <https://www.oxfordenergy.org/publications/no-way-back-challenges-to-russian-pipeline-gas-in-europe-make-near-term-rebound-unlikely/>, accessed 11 September 2025.
43. *Ibid.*
44. Author's interview with a director at a leading US foreign affairs think tank, online, 30 June 2025.
45. Office of Foreign Assets Control, 'License Application: 2024.02.28_Lynch', 28 February 2024, <https://www.washingtonpost.com/documents/028f897b-14a3-492c-b61a-45d1ed27c1ae.pdf>, accessed 11 September 2025.
46. Anna Hirtenstein and Marwa Rashad, 'Exclusive: US, Russia Explore Ways to Restore Russian Gas Flows to Europe, Sources Say', *Reuters,* 8 May 2025.

The debate on Nord Stream 2 indicated that there is political support within Europe in some quarters, including in Germany, for the resumption of energy flows from Russia.[47] European opposition to Russian energy began to wilt at first contact with the opportunity, despite Germany later committing to keeping Nord Stream 2 closed. The debate also showed how readily Russia could use the prospect of energy exports to disrupt European consensus and transatlantic relations.

There is little doubt that Russian hydrocarbons would be purchased by European buyers if they were to become available again and purchases were legally allowed. While new long-term contracts are unlikely, since Russia has proven itself an unreliable supplier, Gazprom appeared willing to offer short-term discounted deals in May 2025 to unlock stranded gas.[48] 'Even SEFE [Securing Energy for Europe, a German state-owned energy company], which took over Gazprom in Germany, up until very recently was buying Russian cargoes', said one energy consultant.[49] 'In today's mindset, it is not going to be a reputational issue, it is going to be "is it legal or is it not legal?"'[50]

While resumption of energy exports to Europe would be positive for Russia, and particularly for Gazprom, Putin's priority is to secure political control of Ukraine and to undermine European and transatlantic relationships to help achieve that.[51] A European strategy that denies Putin the option of using energy opportunistically is therefore sensible, pre-emptively introducing impediments to resuming purchases of Russian oil and gas.

The EU is already adopting such a strategy. An initial assessment of measures proposed by the European Commission (EC) to end use of Russian oil and gas in Europe found that these should not cause energy shortages.[52] The EC's proposed ban on gas imports under new contracts signed after 17 June 2025, and its ending of imports under existing contracts by the end of 2027 – which took the first steps towards implementation with the EU's 19th Sanctions Package and measures to end storage of Russian gas – are designed to eliminate the 13% of Russian gas remaining in the European energy mix.[53] There is, however, significant legal and financial jeopardy in the EC's approach to ending long-term contracts early.

47. Ben Knight, 'Germany Debates Proposal to Reopen Nord Stream Pipelines', *DW*, 27 March 2025, <https://www.dw.com/en/germany-cdu-nord-stream-russia-gas-afd-far-right/a-72060104>, accessed 11 September 2025.
48. Hirtenstein and Rashad, 'Exclusive.
49. Author's interview with senior independent energy consultant, online, 25 June 2025.
50. *Ibid.*
51. Russia expert speaking at RUSI Breakfast Briefing, London, 26 March 2025.
52. Katja Yafimava, Agnieszka Ason and Mike Fulwood, *The EU Proposal to Ban Russian Gas Imports: Roadblock More than Roadmap*, (Oxford: Oxford Institute for Energy Studies, 2025).
53. 'Statement by President von der Leyen on the 19th Package of Sanctions Against Russia', 19 September 2025, <https://ec.europa.eu/commission/presscorner/detail/en/statement_25_2138>, accessed 24 October 2025; European Parliament, 'Imports of Rssian Gas and Oil to the EU: MEPs Back Ban', Press Release, 16 October 2025, <https://www.europarl.europa.eu/news/en/press-room/20251013IPR30895/imports-of-russian-gas-and-oil-to-the-eu-meps-back-ban>, accessed 24 October 2025.

The EU could send a more definitive message by permanently decommissioning supply infrastructure such as the Nord Stream and Yamal pipelines. By suspending plans to expand the pipeline network transporting gas from TurkStream through Bulgaria, on the basis that TurkStream risks being used as a backdoor for Russian gas into Europe and encourages the use of Russian gas in Turkey and the Caucasus,[54] the EU could prompt a re-evaluation of Turkey's own energy strategy.

Finally, while the UK introduced bans on Russian oil and gas imports between August 2022 and January 2023, it continues to use Russian hydrocarbons indirectly through European interconnectors and through oil products refined using Russian crude in third countries.[55] It is therefore essential for the UK to engage with Europe on energy security questions as part of its ongoing defence dialogues to avoid indirect impacts on the UK economy and to support broader Western political alignment. UK security would benefit from more engagement with European energy market decision-making.

The European political position on resuming purchases of Russian gas is not as settled as EC rhetoric suggests. This presents an opportunity for Russia to use the possibility of resuming gas supply to sow division within Europe and to deflect US efforts to end fighting in Ukraine. While gas sales to Europe are important to Russia, Moscow's priority is control of Ukraine, and access to European gas markets is unlikely to elicit any concessions in that regard. Europe's strategy of closing off routes to Russian energy is therefore sensible and could be strengthened by permanently decommissioning infrastructure, and by suspending support for transporting additional volumes of gas through TurkStream.

Energy Geopolitics: China and India

The Russo-Ukrainian War has impacted energy flows and caused a shift in geopolitical relationships, particularly by strengthening the relationship between Russia and China. However, caution on both sides limits the extent of interdependence, which is also reflected in energy flows. As the other major buyer of Russian oil, relations between India and the West are being undermined by inconsistent US policy and contradictory policy objectives in the G7.

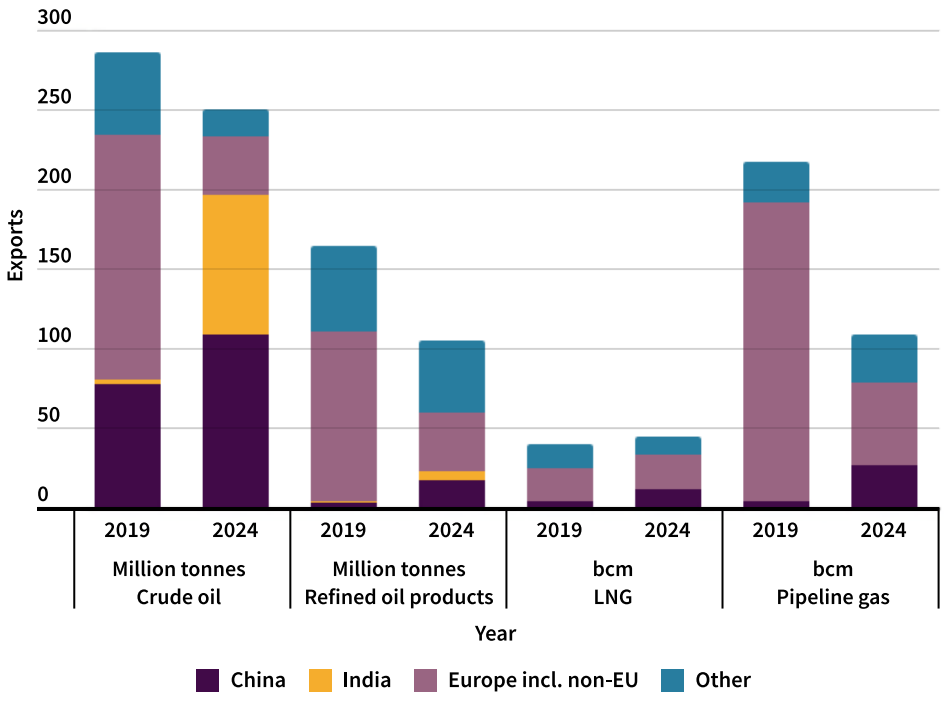
Figure 1 shows the impact of sanctions on Russian oil and gas exports. In each of the four sectors, the overall export volumes have declined, largely due to declines in

54. Aura Sabadus, 'Turkey's New Gas Hub Could be a Boon for a Beleaguered Russia', *RUSI Commentary*, 6 November 2023, <https://www.rusi.org/explore-our-research/publications/commentary/turkeys-new-gas-hub-could-be-boon-beleaguered-russia>, accessed 3 September 2025.
55. Vaibhav Raghunandan, Martin Vladimirov and Isaac Levi, 'Sanctions Hypocrisy: G7+ Imports EUR 1.8 Bn of Turkish Oil Products Made from Russian Crude', Centre for Research on Energy and Clean Air, <https://energyandcleanair.org/publication/sanctions-hypocrisy-g7-imports-eur-1-8-bn-of-turkish-oil-products-made-from-russian-crude/>, accessed 11 September 2025.

exports to Europe. The upswing in Chinese – and particularly Indian – demand for Russian crude oil has mitigated some of the impact of the collapse of Russian sales to Europe. However, aside from crude oil exports, Europe still accounts for a higher proportion of Russian energy exports than both India and China.

Indeed, Europe accounted for 48% of Russian LNG exports, 48% of pipeline gas sales and 35% of refined oil product exports in 2024, according to the Statistical Review of World Energy, compared with 17–26% across these products for China, and less than 5% for India.[56] This may soon change. If the Power of Siberia pipeline operates at its full 38 bcm (billion cubic metres) capacity,[57] combined with Europe losing 15 bcm after Ukrainian transit ended, China could overtake Europe as the largest buyer of Russian gas in 2025 with imports of around 36 bcm.

Figure 1: Russian Oil and Gas Exports



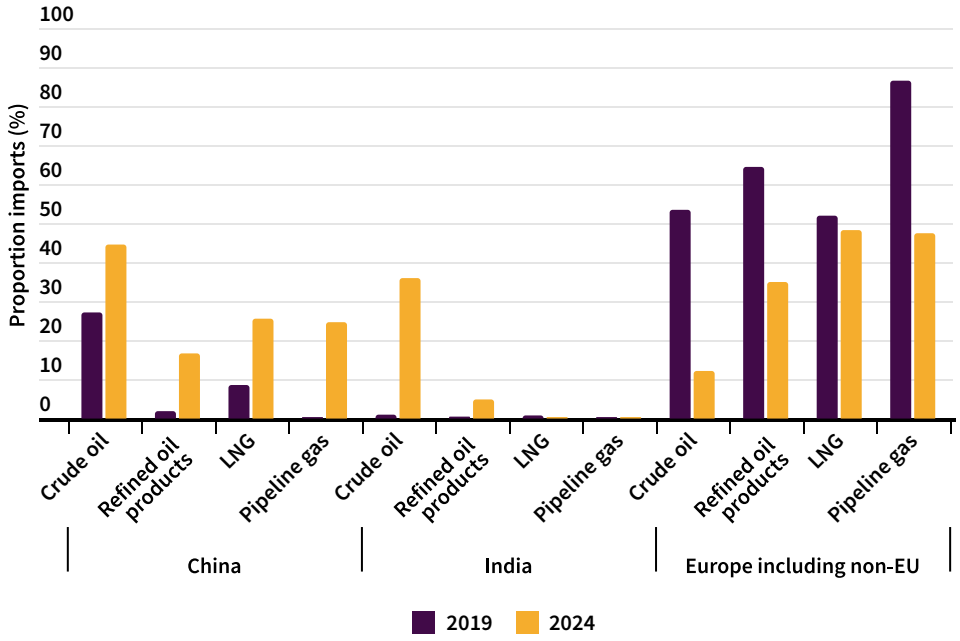
Source: The author, based on BP, 'Statistical Review of World Energy, 2020', 17 June 2020, <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-statistical-review-of-world-energy-2020-published.html>, accessed 23 October 2025; and BP, 'Statistical Review of World Energy, 2025', 2025, <https://www.energyinst.org/statistical-review>, accessed 23 October 2025.

The recalibration of Russian and Chinese relations is apparent in their energy trade. Figure 2 shows that Chinese dependence on Russia has increased, but that there are

56. Energy Institute, 'Statistical Review of World Energy', 2025, <https://www.energyinst.org/statistical-review/resources-and-data-downloads>, accessed 11 September 2025.
57. Interfax, 'Power of Siberia Pipeline to Reach Design Capacity of 38 bcm Per Year a Month Early, in Dec 2024', 20 September 2024, <https://interfax.com/newsroom/top-stories/105979/>, accessed 11 September 2025.

limits. While Russia accounted for 38% of Chinese pipeline gas imports and 11% of LNG imports in 2024, this made up only 9% of China's total gas consumption.[58] Furthermore, the 108 million tonnes of crude oil that China imported from Russia in 2024 were dwarfed by the 316 million tonnes it imported from the Middle East.

Figure 2: Proportion of Oil and Gas Imports Supplied by Russia



Source: The author, based on BP, 'Statistical Review of World Energy 2020' and BP, 'Statistical Review of World Energy, 2025'.

China has stretched its traditional approximate 20% cap on dependence on a single country as part of its new 'no limits'[59] relationship with Russia, but limits and strategic tensions in this relationship are apparent. China wants to reduce dependence on seaborne energy imports and maintain low energy costs, which could imply an increased role for Russia, while avoiding dependence on the country.[60] This contradiction is evident in the hard-nosed negotiations taking place over the Power of Siberia 2 gas pipeline, despite the 'legally binding memorandum' to build the pipeline.[61] Meanwhile, China takes advantage of black market 'teapot' refineries, which are

58. Energy Institute, 'Statistical Review of World Energy'.
59. *Reuters,* 'Moscow-Beijing Partnership has "No Limits"', 4 February 2022.
60. Author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.
61. Michal Meidan and Vitaly Yermakov, 'China–Russia: The Gas Hedge', OIES Energy Comment, 11 September 2025, <https://www.oxfordenergy.org/publications/china-russia-the-gas-hedge/>, accessed 11 September 2025.

believed to consume sanctioned crude oil from Russia,[62] Venezuela and Iran at a rate of around 600,000 bbl/day, with discounts as high as $20–30/bbl.[63]

Russia is equally reluctant to become overly dependent on China as an export market. While Russia accounted for 51% of Europe's refined oil product imports and 40% of its pipeline gas imports in 2019, Europe accounted for 87% of Russia's pipeline gas exports and 65% of its refined oil product sales. In that sense, Russia had the largest proportional pre-war foreign dependence, albeit a dependence whose risk could be more easily mitigated. That said, numerous warnings have come from within Russia about the risks of developing a similar dependence on China and India.[64]

India's rapid increase in Russian crude oil imports is widely viewed as opportunistic, although it also reinforces longstanding close relations between New Delhi and Moscow.[65] Energy costs have been a primary driver of inflation in India and a challenge to balance of payments.[66] This means that economic incentives in India to procure cheap supplies wherever they are available, to maintain its impressive economic growth, are aligned with its longtime strategy of non-alignment and maintaining relations with Moscow.

Purchase of Russian energy has complicated UK and European relations with both India and China, since companies in India and China were sanctioned in the EU's 18th sanctions package.[67] Indian politicians have robustly defended these purchases, with Minister of External Affairs Subrahmanyam Jaishankar commenting in November 2024 that 'if everything is a matter of such a deep principle, then Europe itself should have cut off all its business with Russia, but it doesn't do that', a point he repeated in March 2025.[68]

Maintaining the oil price cap depends on countries such as India purchasing discounted Russian oil, which prevents oil price spikes and which was encouraged

62. Maryelle Demongeot, 'China's Teapots Weigh Shifts in Dark Oil Market', *Energy Intelligence*, 8 February 2024, <https://www.energyintel.com/0000018d-8302-def5-abed-ef0e81f20000>, accessed 11 September 2025.
63. Author's interview with analyst at an oil and gas supermajor, online, 26 June 2025; author's interview with independent China energy analyst, online, 24 July 2025.
64. Martiros Martynov and Aleksandr Zimovets, 'Analysis of the Role of Oil and Gas Revenues in Ensuring the Economic Security of Russia', *Economic Security* (Vol. 6, No. 4, October–December 2023), pp. 1283–300.
65. Author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.
66. Venkatachalam Anbumozhi, 'Soaring Energy Prices Stunt Decarbonisation in the Indian Power Sector', *East Asia Forum*, 12 August 2022, <https://eastasiaforum.org/2022/08/12/soaring-energy-prices-stunt-decarbonisation-in-the-indian-power-sector/>, accessed 11 September 2025.
67. EC, 'EU Adopts 18th Package of Sanctions Against Russia'.
68. *Business Standard*, 'Jaishankar Slams Western Criticism of India's Purchase of Russian Oil', 27 November 2024, <https://www.business-standard.com/external-affairs-defence-security/news/jaishankar-slams-western-criticism-of-india-s-purchase-of-russian-oil-124112601426_1.html>, accessed 11 September 2025; Alec Russell, 'Indian Foreign Minister S Jaishankar: "The Virtues of the Old World Order are Exaggerated"', *Financial Times*, 14 March 2025.

publicly by US officials as recently as 2024.[69] European companies, including companies based in the UK,[70] have until now purchased Russian oil products refined in India without restriction.[71] These purchases will be banned under the EU's 18th sanctions package, but remain legal in the UK.[72]

India faces US tariffs of 50% on its exports, comparable to those which the US imposed on China. Nominally, these are to be imposed due to Indian purchases of Russian oil. There are early indications that these tariffs may have had some impact in India: several Indian state-run refiners appear to have ceased spot market purchases – near-term deliveries paid for at current market prices – of Russian oil.[73] India's largest refiner, Reliance Industries, has switched to fuel oil purchases from Hindustan Petroleum Corporation,[74] and the spread on Urals crude oil against Brent crude oil increased.[75] This may be attributable to other factors:[76] the chairman of the Indian Oil Corporation, Arvinder Singh Sahney, has stated that India has not stopped Russian oil imports,[77] and that its purchases are driven by economics.

That threats of tariffs did not impact global oil prices shows that Trump has lost credibility. Numerous observers doubt that Russian oil purchases are the main motive for the application of tariffs on India by the US.[78] Furthermore, tariffs are a limited economic instrument because they do not create commercial risk for the companies

69. Eric Van Nostrand and Anna Morris, 'Remarks by Assistant Secretary for Economic Policy (P. D. O.) Eric Van Nostrand and Acting Assistant Secretary for Terrorist Financing Anna Morris on the Price Cap on Russian Oil', US Department of the Treasury press release, 4 April 2024, <https://home.treasury.gov/news/press-releases/jy2221>, accessed 11 September 2025.
70. Isaac Levi, 'Written Evidence Submitted by Isaac Levi (UKS0003)', 13 March 2025, <https://committees.parliament.uk/writtenevidence/139107/pdf/>, UK Parliament, accessed 11 September 2025.
71. Josep Borrell, 'Some Clarifications on the Circumvention of EU Sanctions Against Russia', 19 May 2023, <https://www.eeas.europa.eu/eeas/some-clarifications-circumvention-eu-sanctions-against-russia_en>, accessed 11 September 2025.
72. EC, 'EU Adopts 18th Package of Sanctions Against Russia'.
73. *Times of India*, 'Donald Trump Tariff Impact? State-Run Oil Refiners Stop Russia Crude Oil Purchases in Spot Market; Government Says No Instructions Given', 1 August 2025, <https://timesofindia.indiatimes.com/business/india-business/donald-trump-tariff-impact-state-run-oil-refiners-stop-russia-crude-oil-purchases-in-spot-market-government-says-no-instructions-given/articleshow/123037780.cms>, accessed 11 September 2025.
74. Jeslyn Lerh and Mohi Narayan, 'India's Reliance Makes Rare Fuel Oil Purchase from HPCL, Sources Say', *Reuters*, 14 August 2025.
75. Irina Slav, 'Crude Oil: Russian Discount Deepens Amid Sanctions and Tariffs', investing.com, 8 July 2025, <https://www.investing.com/analysis/crude-oil-russian-discount-deepens-amid-sanctions-and-tariffs-200664962>, accessed 11 September 2025.
76. John Zadeh, 'Crude Oil Prices Today: Global Factors Driving Market Volatility', Discovery Alert, 28 June 2025, <https://discoveryalert.com.au/news/crude-oil-price-movements-geopolitical-supply-demand-2025/>, accessed 11 September 2025.
77. *Hindustan Times*, '"No Pause" on Russian Oil Purchase Amid Trump Tariffs, Says Indian Oil Corporation Chairman', 14 August 2025, <https://www.hindustantimes.com/india-news/no-pause-on-indias-russian-oil-purchase-amid-trump-tariffs-says-indian-oil-corporation-chairman-101755186589758.html>, accessed 11 September 2025.
78. Pratul Sharma, 'Trump's Tariffs Vs Modi's Farmers: How US–India Trade Battle Sparked a Fierce Stand-Off', *The Week*, 7 August 2025, <https://www.theweek.in/news/india/2025/08/07/trump-s-tariffs-vs-modi-s-farmers-why-us-india-trade-battle-spark-a-fierce-standoff.html>, accessed 11 September 2025.

engaging in the trade. Refineries, which are not controlled by the Indian government and which are not trading with the US, have little incentive to cease their lucrative activity. The US tariff policy is therefore unlikely to substantially deter purchases of Russian oil by other countries.

The use of tariffs – rather than targeted sanctions – therefore both confuses messaging and risks causing unintended consequences. India is seen by many as a potential manufacturing alternative to China, for example, particularly for clean energy technologies. More broadly, India is the main geopolitical counterweight to China in the region.

To date, Western energy strategies have pushed Russia and China closer together, but this is not without limits. The closer their energy sectors are bound, the more their interests will align. But the limits of this were already demonstrated by the ultimate failure of Ostpolitik (West Germany's policy of building better relations with the Soviet Union through dialogue and trade, including energy purchases). Concerns over Western energy policy helping to create a cohesive, opposing political bloc are therefore probably overstated.

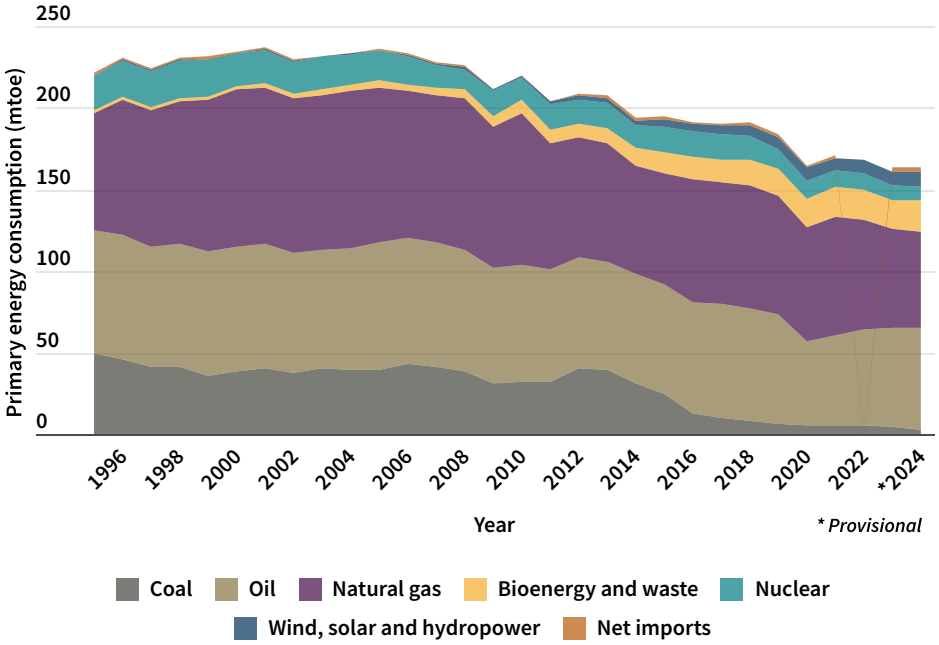
UK Energy Resilience

Supply–Demand Balances

The energy crisis sparked by the Russo-Ukrainian War did not fundamentally alter the UK energy system or its consumption patterns. Oil and gas remain critical to UK energy and wider security, and the country remains largely dependent on imports for both. As shown in Figure 3, oil demand in the UK has remained broadly consistent – aside from a dip during the Covid-19 pandemic – despite oil price volatility (see Figure 4). It is likely that unprecedented gas prices in summer 2022 further reduced the UK's consumption of gas, which in 2024 fell to 69 bcm[79] – the lowest level since before 1995, and a notable reduction from 85 bcm in 2021. Still, this reduction in gas consumption was already underway.

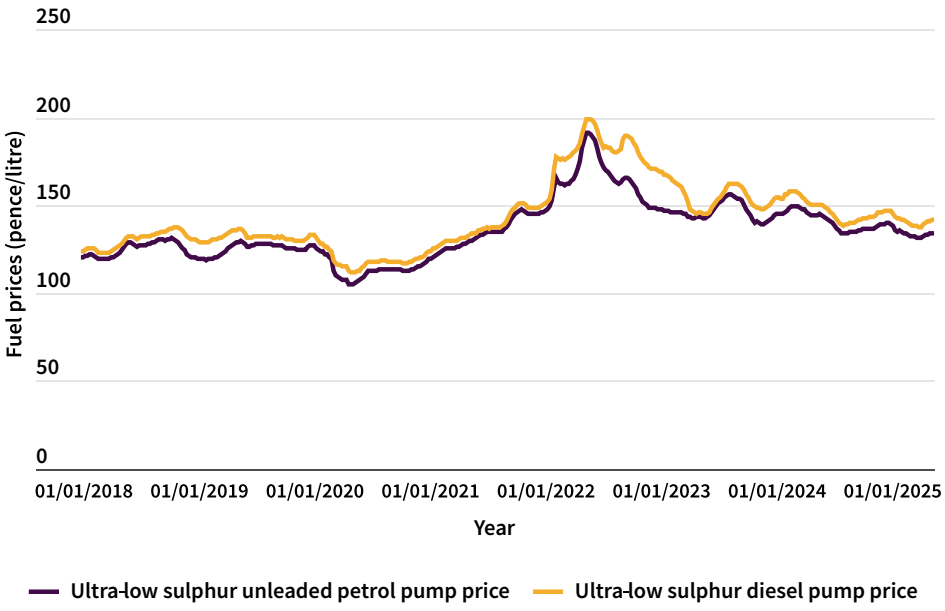
79. Converted from million tonnes of oil equivalent to billion cubic metres using 1.163 conversion factor; Department for Energy Security and Net Zero (DESNZ), 'Energy Trends: UK Total Energy', 28 August 2025, <https://www.gov.uk/government/statistics/total-energy-section-1-energy-trends>, accessed 11 September 2025.

Figure 3: UK Primary Energy Consumption



Source: The author, based on Department of Energy Security and Net Zero (DESNZ), 'Energy Trends: June 2025', 26 June 2025, <https://www.gov.uk/government/statistics/energy-trends-june-2025>, accessed 23 October 2025.

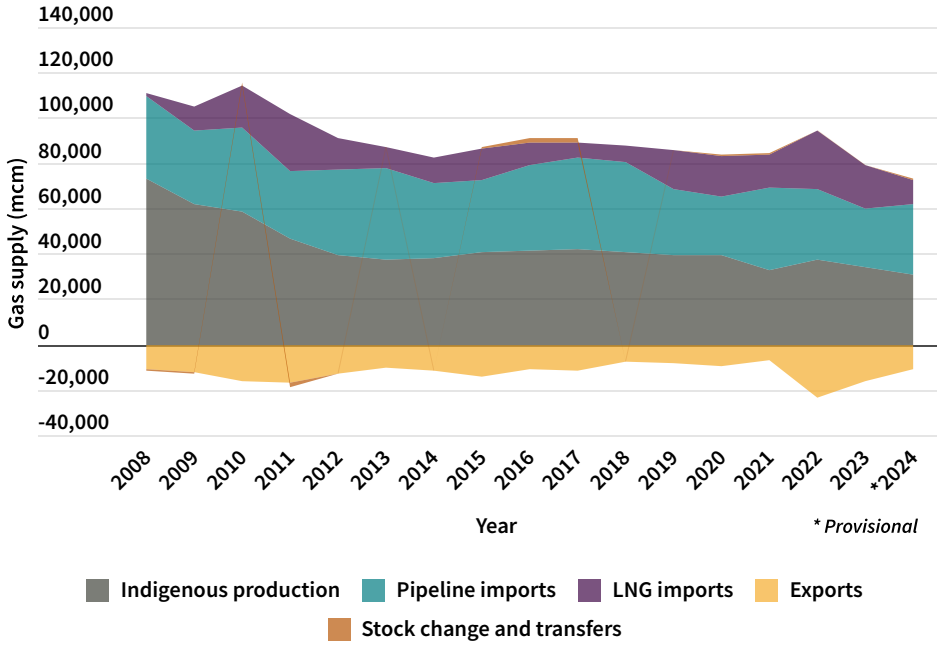
Figure 4: UK Road Fuel Prices



Source: The author based on DESNZ, 'Energy Trends: June 2025.

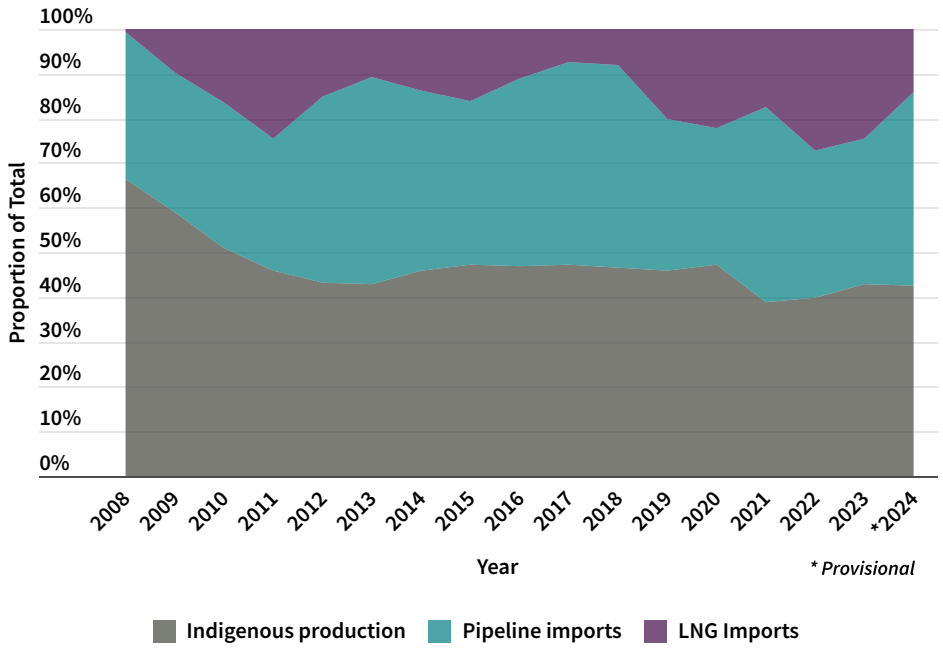
Figure 5 illustrates the steady decline of UK gas demand, as well as the decline in its domestic gas production. This reduction means that although the proportion of demand met by imports has increased – from 56% in 2010, to 59% in 2019, and 66% in 2024, according to the Department for Energy Security and Net Zero (DESNZ) – the absolute volume of UK gas imports has decreased, from 56 bcm in 2010, to 45 bcm in 2024. Domestic production and pipeline gas from Norway remain the mainstay of gas security of supply in terms of volume but provide limited flexibility and operate close to capacity.

Figure 5: UK Natural Gas Supply by Source



Source: The author, based on DESNZ, 'Energy Trends: UK Gas'.

Figure 6: UK Natural Gas Supply by Source (proportion of total)



Source: The author, based on DESNZ, 'Energy Trends: UK Gas'.

UK domestic gas production rarely determines the domestic price of gas – which is closely linked to the price of LNG and the price of gas in Europe[80] – but it is important for the security of supply. Greater volumes of domestic gas production reduce the amount of gas that must be imported, which is a relevant consideration when supply shocks hit global or regional markets. This possibility, however, is heavily restricted by the age of UK gas fields and the lack of investment into them. The North Sea Transition Authority projects that gross UK gas production will decline by 53% between 2024 and 2030.[81] Even high-investment scenarios produced for the industry association Offshore Energies show substantial drops of around 30% by 2030, and 83% by 2040. Consequently, while reducing the rate of production decline would be beneficial from a security and emissions perspective – LNG has significantly higher emissions than UK pipeline gas – the impact on supply security is by geology (barring unlikely discoveries), and any impact on exposure to LNG prices is likely to be minimal.

While oil and gas consumption has decreased over time in the UK, these fuels remain the most immediately relevant energy sources for the country's security. Oil remains irreplaceable for transport; currently, its consumption can only be meaningfully

80. Marshall Hall, 'LNG and UK Energy Security', OIES Paper, NG 181, May 2023, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2023/05/LNG-and-UK-Energy-Security-NG181.pdf>, accessed 26 September 2025.
81. North Sea Transition Authority, 'NSTA March 2025 Projections of UK Oil and Gas Production and Expenditure', March 2025, <https://www.nstauthority.co.uk/data-and-insights/insights-and-analysis/production-and-expenditure-projections/>, accessed 26 September 2025.

reduced by the transition to EVs. The slow pace of this transition in the UK will not reduce the criticality of oil any time soon. Independent assurance and risk-management provider DNV (Det Norske Veritas) forecasts that internal combustion energy vehicles will continue to make up the majority of the passenger vehicle fleet until 2036, and of commercial vehicles until 2041.[82]

Gas constituted 36% of the UK's primary energy consumption in 2024 – down from 42% in 2021 – but it is irreplaceable for domestic heating without a transition to electrified heating. According to DNV forecasts, even by 2040, heat pumps will only heat 20% of UK homes. Until then, a gas shortage would result in cold homes and cold water. Gas is also the main source of flexible generation for the electricity system.

Similarly, LNG is critical for UK security, despite only accounting for 16% of the UK's gas supply in 2024. Even in 2022, LNG only accounted for 36% of the UK's gas supply, much of which was re-exported to Europe. This is because the cost of LNG largely determines gas and electricity prices in the UK[83] and is the main source of overall energy system flexibility during emergencies (since coal was phased out). Nuclear power is poorly suited to provide flexible supply, and in the period from now to 2035, electricity storage will probably only balance variable renewables within the day, or potentially, within the week.[84]

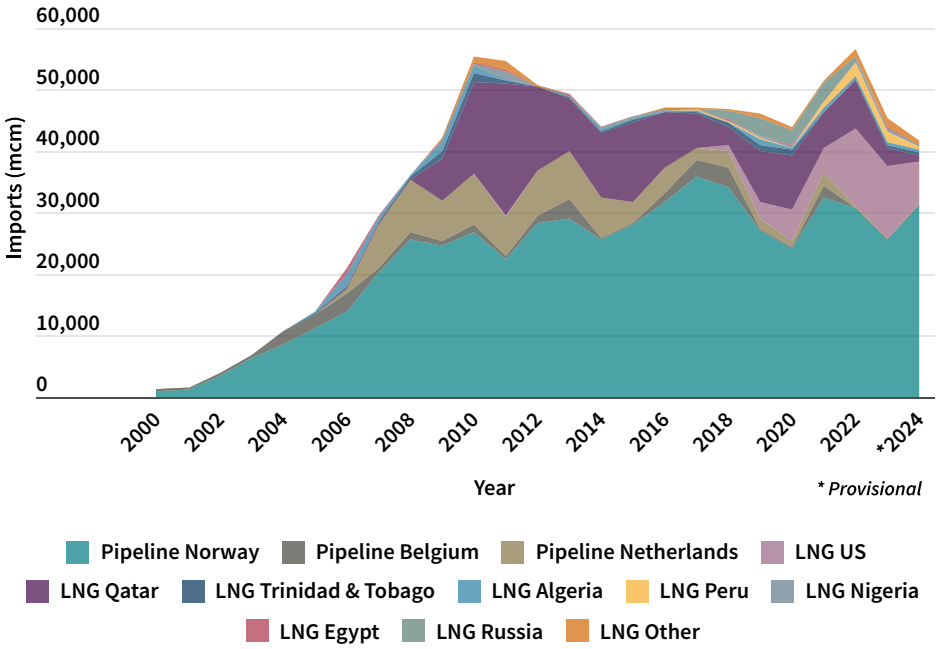
For these reasons, the UK's security will remain heavily dependent on global oil and gas markets until major advances are made in transport and heating electrification, as well as in energy efficiency and long-duration energy storage. The operation of global oil and gas markets and how UK companies navigate them – with or without support from the government – will therefore remain critical for the foreseeable future.

82. DNV, 'Energy Transition Outlook UK 2025', 2025, <https://www.dnv.com/energy-transition-outlook/uk/>, accessed 11 September 2025.
83. Dan Marks, 'Foundations of UK Energy Security: The Shifting Sands of Oil and Gas', *RUSI Occasional Papers* (November 2023), <https://www.rusi.org/explore-our-research/publications/occasional-papers/foundations-uk-energy-security-shifting-sands-oil-and-gas>, accessed 11 September 2025.
84. Paul Denholm, Wesley Cole and Nate Blair, 'Moving Beyond 4-Hour Li-Ion Batteries: Challenges and Opportunities for Long(er)-Duration Energy Storage', National Renewable Energy Laboratory, September 2023, <https://docs.nrel.gov/docs/fy23osti/85878.pdf>, accessed 26 September 2025.

Accessing Supply

The emergence of the US as a major LNG supplier to the UK and Europe is one of the strategic consequences of changes to energy flows following Russia's full-scale invasion of Ukraine. Norway remains the main source of imported gas for the UK overall (Figure 7). But supply from the US grew from 27% of the UK's LNG in 2020 and 2021, to 68% in provisional figures for 2024, according to DESNZ (Figure 8).[85] The rise in US imports came as LNG from Qatar, which had accounted for as much as 86% of UK supply in 2017, was largely diverted to Asia.

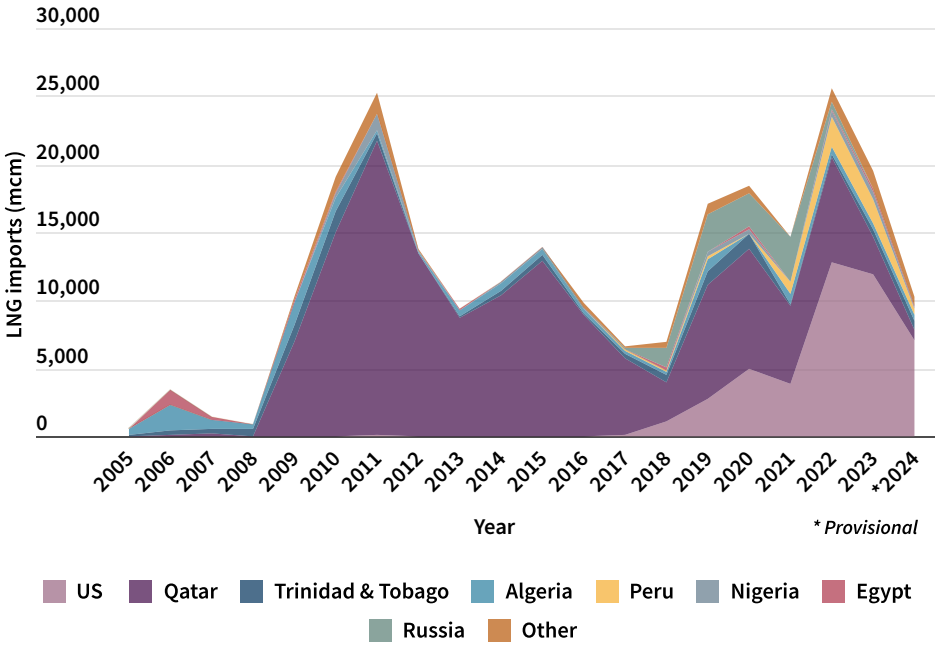
Figure 7: UK Gas Imports, Pipeline and LNG



Source: The author, based on DESNZ, 'Energy Trends: UK Gas'.

85. DESNZ, 'Energy Trends: UK Total Energy', 28 August 2025, <https://www.gov.uk/government/statistics/total-energy-section-1-energy-trends>, accessed 11 September 2025.

Figure 8: UK Imports of LNG by Country of Origin



Source: The author, based on DESNZ, 'Energy Trends: UK Gas'.

With global gas markets still tight, and with limited spare capacity and dependence on the US for much of the anticipated capacity expansion,[86] the UK's over-reliance on US LNG is seen by some current and former senior UK government officials as a strategic risk. 'The Republican Party has changed fundamentally', said one former top Downing Street official. 'Whether the person at the top is Donald Trump or someone else, we shouldn't assume that the Republican Party of Ronald Reagan or even George W Bush is coming back. We should plan on that basis'.[87]

This view is shared by some UK politicians. 'I don't think we would want to be dependent on American gas, because an American president could say that he doesn't think we've got enough free speech in this country and he's going to deny us LNG for a period', said a former UK energy minister.[88] The mere threat of disruption to LNG supply chains could in some cases change decisions in London.

86. OIES, 'Quarterly Gas Market Review: Europe Benefits from Looser Global Market, but Storage Refill Challenge Remains', July 2025, <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2025/07/OIES-Quarterly-Gas-Review-Issue-29.pdf>, accessed 11 September 2025.
87. Author's interview with former senior Downing Street official, online, 16 June 2025.
88. Author's interview with former energy minister, online, 25 June 2025.

The energy industry is more sanguine.[89] How a US administration would meaningfully exert control over LNG sales is unclear; US LNG is privately controlled, and contracts do not include destination clauses. Short of the US imposing sanctions – where courts, to-date, have been deferential[90] – there are questions about whether restrictions on US LNG exports would fall within a president's powers without additional legislation, although the Natural Gas Act gives the Department of Energy authority to revoke or suspend export licences based on the 'public interest'.[91] Moreover, lawsuits and a political backlash from Trump's corporate backers in Texas would be very likely.[92]

A toolkit for restricting LNG exports is emerging in the US, albeit currently targeting China. The current administration has attempted to impose levies on Chinese-built ships docking at US ports,[93] and former President Joe Biden's administration considered using export licensing to control energy sales to the country.[94] US LNG exports are currently only prohibited to North Korea, Cuba and Iran.

For the global energy industry, a knee-jerk export ban would be a nightmare scenario. There are precedents for export bans in the US: oil exports were banned between 1975 and 2015.[95] An LNG export ban is seen as an unlikely but possible prospect if the US domestic gas price, also known as 'Henry Hub', were to spike.

The International Energy Agency expects the US to increase its LNG export capacity by 149 bcm/yr by 2030.[96] Such a large increase could cause domestic price volatility; gas for liquefaction is bought from the US domestic gas network at the market price.[97] Although any Henry Hub price spike would probably be short lived, political pressure within the US could result in a ban or in export restrictions. One consultant speculated that a Henry Hub price of around $12 million metric British thermal units (mmbtu)

89. Author's interview with oil analyst from a leading data and analytics company, online, 16 June 2025; author's interview with senior independent energy consultant, online, 25 June 2025; author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.
90. Author's interview with former State Department official B, online, 8 July 2025.
91. Author's interview with senior independent energy consultant, online, 25 June 2025; author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.
92. Legal Information Institute, '15 U.S. Code § 717b – Exportation or Importation of Natural Gas; LNG Terminals', Cornell Law School, <https://www.law.cornell.edu/uscode/text/15/717b>, accessed 11 September 2025; author's interview with senior independent energy consultant, online, 25 June 2025; author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.
93. Jamie Smyth and Aime Williams, 'LNG Companies Say They Cannot Comply with Trump Rules on Chinese Ships', *Financial Times*, 27 April 2025.
94. Gabriel Collins and Steven R Miles, 'Is the US Preparing to Ban Future LNG Sales to China?', Center for Energy Studies, Baker Institute, 25 April 2024, <https://www.bakerinstitute.org/research/us-preparing-ban-future-lng-sales-china>, accessed 11 September 2025.
95. US Government Accountability Office, 'Crude Oil Markets: Effects of the Repeal of the Crude Oil Export Ban', GAO-21-118, 21 October 2020, <https://www.gao.gov/products/gao-21-118>, accessed 11 September 2025.
96. International Energy Agency, 'Global LNG Capacity Tracker', 1 September 2025, <https://www.iea.org/data-and-statistics/data-tools/global-lng-capacity-tracker>, accessed 11 September 2025.
97. Author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.

could trigger a reaction from the US government, while a director at a leading US think tank thought that action would be taken before then.[98]

Global LNG exports remain concentrated: the US, Qatar and Australia accounted for 60% of LNG exports in 2023.[99] With new export capacity located mostly in the US and Qatar, this concentration will continue in coming years, although the potential emergence of Canada as a major LNG exporter might introduce more diversity and less political risk.[100] British Columbia alone has technically recoverable gas reserves of 14,866 bcm,[101] comparable to the giant 25,485 bcm North Field in Qatar,[102] which is the largest non-associated gas field in the world.

However, for the time being the UK will remain heavily exposed to production disruption in the three major LNG exporting countries, as well as to the routes used for shipping and the trade relationships that facilitate these transactions. The Strait of Hormuz is particularly critical. Although disruption to LNG shipping of 7–14 days through the Strait might be somewhat manageable – by using existing global stocks – prolonged disruption could precipitate a crisis large enough to prompt a rethink about Russian gas supply to Europe.[103]

The return of Russian gas to Europe in moderate volumes would have some benefits for the UK gas market and UK security. Russian gas offers a flexible alternative to LNG, reducing the criticality of the global LNG market for European energy security and thereby for the UK, where gas imports from Europe are an alternative to LNG imports.[104] The Austrian junior energy minister, Elisabeth Zehetner, suggested in June 2025 that offering Russia access to European energy markets could be considered as part of a permanent end to the fighting in Ukraine.[105]

Still, the prevailing political view at the top of European governments is that they are dramatically increasing spending on defence at the expense of other pressing budgetary concerns because of the security threat from Russia.[106] Rebuilding energy dependence on Russia – and thereby financing the Russian economy and the country's

98. Author's interview with senior independent energy consultant, online, 25 June 2025; author's interview with a director at a leading US foreign affairs think tank, online, 30 June 2025.
99. Shafiqul Alam et al., 'Global LNG Outlook 2024–2028', Institute for Energy Economics and Financial Analysis, April 2024, <https://ieefa.org/resources/global-lng-outlook-2024-2028>, accessed 11 September 2025.
100. Author's interview with analyst at an oil and gas supermajor, online, 26 June 2025.
101. Natural Resources Canada, 'British Columbia's Shale and Tight Resources', <https://natural-resources.canada.ca/energy-sources/fossil-fuels/british-columbia-s-shale-tight-resources>, accessed 11 September 2025.
102. Qatar Energy, 'North Field', <https://www.qatarenergylng.qa/english/about-us/north-field>, accessed 11 September 2025.
103. Author's interview with senior independent energy consultant, online, 25 June 2025.
104. Marks, 'Foundations of UK Energy Security'.
105. Kate Abnett and Bart H Meijer, 'EU Should Consider Resuming Russian Gas Imports if Ukraine Peace Reached, Austria Says', *Reuters*, 17 June 2025.
106. Author's interview with former senior Downing Street official, online, 16 June 2025.

rearmament – would therefore be counterproductive to the primary security priority of most leading European countries. The former Downing Street official said:

> "In the context of an enduring settlement, we could talk about what Russian gas exports to Europe might look like and what protections we might need, after first building some trust … But if you are a European leader whose assumption is that any settlement will be used by the Russians to reconstitute and go again, you won't want to do anything that makes your life in the next conflict harder, whatever pressure the US put on. The question in Europe is: what is the minimum acceptable package of restrictions? I would give a lot before I gave them the reopening of Nord Stream.[107]

Protecting Infrastructure

Another consequence of Russia's invasion of Ukraine has been an increased awareness of infrastructure vulnerability across the world. Multiple incidents involving electrical interconnectors, gas pipelines and fibre-optic cables – not least the sabotage of the Nord Stream pipelines, as well as suspicious Russian activity in UK waters – have prompted an institutional response.[108]

NATO has established a Critical Undersea Infrastructure Network and a Maritime Centre for the Security of Critical Undersea Infrastructure, based in the UK, to coordinate monitoring and early warning for incidents targeting undersea infrastructure.[109] The UK is involved in multiple initiatives to improve maritime security, including *Nordic Warden*,[110] the monitoring of suspicious vessels such as Russia's *Yantar*[111] and the entry into service of the surveillance ship RFA *Proteus*.[112]

While the European security architecture is adapting to the heightened threat to infrastructure, there has been little systematic analysis of the long-term security

107. *Ibid.*
108. John Healey, 'Defence Secretary Oral Statement on Russian Maritime Activity and UK Response – 22 January 2025', 22 January 2025, <https://www.gov.uk/government/speeches/defence-secretary-oral-statement-on-russian-maritime-activity-and-uk-response-22-january-2025>, accessed 11 September 2025.
109. NATO, 'NATO Holds First Meeting of Critical Undersea Infrastructure Network', 23 May 2024, <https://www.nato.int/cps/en/natohq/news_225582.htm>, accessed 11 September 2025.
110. HM Government, 'Joint Expeditionary Force Activates UK-Led Reaction System to Track Threats to Undersea Infrastructure and Monitor Russian Shadow Fleet', 6 January 2025, <https://www.gov.uk/government/news/joint-expeditionary-force-activates-uk-led-reaction-system-to-track-threats-to-undersea-infrastructure-and-monitor-russian-shadow-fleet>, accessed 11 September 2025.
111. *Hansard,* 'Volume 760: Debated on Wednesday 22 January 2025', 22 January 2025, <https://hansard.parliament.uk/Commons/2025-01-22/debates/31e14542-83cd-44ee-8d00-ddc602115722/CommonsChamber>, accessed 11 September 2025.
112. Louisa Brooke-Holland, 'Seabed Warfare: Protecting the UK's Undersea Infrastructure', House of Commons Library Insight, 24 May 2023, <https://commonslibrary.parliament.uk/seabed-warfare-protecting-the-uks-undersea-infrastructure/>, accessed 11 September 2025.

implications of the combination of Russian aggression and the energy transition. The energy transition is fundamentally changing the geography of the UK energy system and the wider interconnected northern European networks. This has significant implications for securing infrastructure.

The UK energy transition will result in a significantly increased reliance on offshore infrastructure. The National Energy System Operator anticipates that 35–48 GW of offshore wind will be operating in UK waters by 2030, growing to 80–104 GW by 2050.[113] Interconnector capacity is also expected to grow from 9.8 GW in 2024 to 17–24 GW by 2050. Offshore wind will be the largest single electricity generator for the UK, supplying 37–48% of electricity by 2030 and 49–61% by 2035.

To date, defence considerations for offshore wind have been considered largely on a project-by-project basis. Since 2022, these have been taken more seriously across Europe, with the Swedish government rejecting applications for 13 wind projects because they could impact onshore radar installations.[114] The energy industry has also been working with the UK government on radar interference, which has so far affected at least one major offshore wind project.

Authorities across the region have taken action, including in Germany where a new law has been passed[115] and where the defence ministry is now represented on the Offshore Wind Energy Foundation Board of Trustees.[116] Sweden has amended marine spatial plans to prevent offshore wind development in some areas due to interference with sensors.[117] Finland also excludes wind developments from some regions for defence purposes and has established an inter-ministerial working group to reconcile wind generation and surveillance.[118] Estonia's maritime spatial plan includes 'extensive restrictions due to national defence' for offshore wind development.[119]

113. National Energy System Operator (NESO), 'Future Energy Scenarios: NESO Pathways to Net Zero 2025 Data Workbook', 18 August 2025, <https://www.neso.energy/publications/future-energy-scenarios-fes>, accessed 11 September 2025.
114. Energy Institute, 'Swedish Government Rejects 13 Offshore Wind Projects over Defense Concerns', 13 November 2024, <https://knowledge.energyinst.org/new-energy-world/article?id=139168>, accessed 5 September 2025.
115. German Offshore Wind Energy Association, 'BWO Statement on the Kritis Umbrella Act', 20 December 2024, <https://bwo-offshorewind.de/en/bwo-stellungnahme-zum-kritis-dach-gesetz/>, accessed 11 September 2025.
116. Hansa News, 'Offshore Wind Power Becomes a Matter of Defence', 3 February 2025, <https://hansa.news/offshore-wind-power-becomes-a-matter-of-defence/>, accessed 11 September 2025.
117. Swedish Agency for Marine and Water Management, 'Proposal for Amended Marine Spatial Plans in Sweden', 20 January 2025, <https://www.havochvatten.se/proposals-for-marine-spatial-plans>, accessed 11 September 2025.
118. Renewables Finland, 'The Finnish Defence Forces and Wind Power', <https://suomenuusiutuvat.fi/en/wind-power/the-finnish-defence-forces-and-wind-power/>, accessed 11 September 2025.
119. Regional and Agricultural Ministry of Estonia, 'Establishment of the Thematic Spatial Plan of the National Spatial Plan's Estonian Maritime Area and the Adjacent Coastal Area, As Well As the Exclusive Economic Zone', Government of the Republic Order No. 146, 12 May 2022, <https://www.agri.ee/sites/default/files/documents/2023-06/maritime-plan-government-order-2022-146.pdf>, accessed 11 September 2025.

The Netherlands plans to install cameras, radar and AIS trackers on offshore wind turbines and oil platforms, while using satellite monitoring to protect undersea cables.[120] Polish law requires technical expert opinions on the impact of offshore wind farms on national defence systems.[121] At the EU level, the European Defence Agency launched the Symbiosis project in October 2022 to find solutions for the coexistence of military activities and offshore renewable energy.[122]

These efforts are gradually integrating energy and defence concerns in response to the threat from Russia. However, these initiatives are patchy and lack the regionally integrated approach which would bring the most benefits. Across Europe, security concerns are still not effectively integrated into energy policy, and vice versa. This risks delays, cancellations or costly mitigations to energy infrastructure down the line, as well as vulnerability to attack. There is also yet to be a systematic investigation into whether offshore infrastructure could provide new defence capabilities in some circumstances, building on the Dutch approach.

The nature of the threat calls for an evolution in energy system planning. Spatial planning in the UK and wider region must incorporate security considerations and incentivise optimal placement of infrastructure, given security as well as technical and economic considerations. Intervention is needed in planning, and not only in resilience. Measures such as armouring cables and improving the protection of substations are unlikely to be as effective as better placement and increased redundancy of infrastructure.[123]

Integrated planning in the UK may require better alignment between defence and energy architectures within government. 'It is absolutely the case that energy is not fully integrated into national security machinery, and national security considerations are not fully integrated into energy decision-making in the UK government', said one former senior UK National Security Secretariat (NSS) and DESNZ official. 'If you compare the UK to the US, it is a very, very different way of doing things'.

120. Rudy Ruitenberg, 'Netherlands to Boost North Sea Surveillance to Deter Seabed Threats', *Defense News*, 20 December 2023, <https://www.defensenews.com/naval/2023/12/20/netherlands-to-boost-north-sea-surveillance-to-deter-seabed-threats/>, accessed 11 September 2025.
121. KG Legal, 'Offshore Wind Farms', <https://www.kg-legal.pl/offshore-wind-farms/>, accessed 11 September 2025.
122. European Defence Agency, 'Symbiosis – Offshore Renewable Energy for Defence', <https://eda.europa.eu/publications-and-data/factsheets/factsheet-symbiosis-offshore-renewable-energy-for-defence>, accessed 11 September 2025.
123. Caspar Hobhouse, *On a War Footing: Securing Critical Energy Infrastructure* (Paris: European Union Institute for Security Studies Briefs, 2025).

Managing Risk

Machinery of Government

The possibility of Russia deliberately withholding gas supply from Europe, and the impact that this would have on the UK, does not appear to have received significant attention in the UK prior to 2022 – despite the clear warning provided by Russia's initial invasion of Ukraine in 2014.

In the early 2010s, the coalition government in the UK and Russian gas supplier Gazprom discussed a Nord Stream spur to the UK. The proposal was rejected largely on commercial grounds: Gazprom required long-term price guarantees and certainty on UK shale gas plans, while there was uncertainty over gas demand.[124] The Russian company was also reluctant to commit to gas storage in the UK.[125] Following the 2014 invasion of Ukraine, the issue of Russian gas supply to Europe did not reach the top of UK government, although some officials in the national security architecture did raise it. 'The national security community has always said it is not a good idea to be overly dependent on Russian fossil fuel imports', said the former NSS and DESNZ official. 'That [warning] became louder after 2014, but [it was] not particularly listened to as the UK national security community historically has been seen as an adversary to UK prosperity'.[126]

'There is almost no thinking about strategic energy security issues at the centre of government', the former Downing Street official added. 'The links between the national security staff and other bits of the Cabinet Office, I don't think are working well'.[127]

Failure to identify European energy imports from Russia as a strategic security risk is in part due to an absence of processes that force energy and security issues to be considered together at the highest levels of decision-making. Unlike in the US – but like

124. Elizabeth Corner, 'UK Grid Doubts Russian Pipeline Extension Plans for Britain', LNG Industry, 19 July 2013, <https://www.lngindustry.com/liquid-natural-gas/19072013/uk_grid_doubts_russian_pipeline_extension_plans_for_britain/>, accessed 11 September 2025.
125. Author's interview with former energy minister, online, 25 June 2025.
126. Author's interview with former senior NSS and DESNZ official, online, 4 July 2025.
127. Author's interview with former senior Downing Street official, online, 16 June 2025.

other European countries such as Germany – the UK energy minister does not attend National Security Committee (NSC) meetings unless specifically asked.

Invitations have been infrequent. 'I only remember one occasion when energy specifically was discussed at the NSC in the more than two years I was a minister, and that wasn't oil and gas', said the UK former energy minister. Similarly, COBRA planning meetings focused on immediate emergencies, such as planning for blackouts.[128] According to the former NSS official, DESNZ joining NSC meetings 'doesn't happen very regularly. It happens very infrequently in fact'.[129]

'The machinery of government doesn't force the communities together, the departments don't proactively reach out', the former NSS official added. 'There is overlap on a couple of Cabinet committees, so there are a few places at Cabinet level where these strategic issues might be discussed, but there is no energy Cabinet committee'.[130]

The UK secretary of state for energy security and net zero only sits on the NSC (Resilience) and NSC (Nuclear) Cabinet committees – both broadly domestic-facing – as well as the Science and Technology Committee. Since energy is now recognised as a major vulnerability and flashpoint in the key geopolitical contestations affecting UK interests, providing the energy minister with a permanent seat on the NSC could help to ensure that energy is accounted for in national security decision-making and vice versa. Similarly, establishing a Cabinet Energy Transition Committee – including DESNZ, the Department for Trade and Industry, the Department for Transport, the Foreign, Commonwealth & Development Office, the Cabinet Office, the Department for Science, Innovation and Technology, and the Treasury – would help to coordinate the government response to energy transition challenges during the highest risk period of system and market transformations over the next 15 years.

Interviewees expressed concern about oversight of infrastructure resilience, particularly in light of the recent failure of a substation serving Heathrow Airport. This 'catastrophic failure' of a high voltage transformer bushing was most likely caused by an issue first detected in 2018 by what is now the National Grid Electricity Transmission.[131] The former NSS official argued that 'whether it is central government or arms' length bodies, that accountability process for checking compliance with resilience requirements simply is not there'.[132]

128. Author's interview with former energy minister, online, 25 June 2025.
129. Author's interview with former senior NSS and DESNZ official, online, 4 July 2025.
130. *Ibid.* Cabinet Office, 'List of Cabinet Committees and Their Membership', 21 October 2024, <https://www.gov.uk/government/publications/the-cabinet-committees-system-and-list-of-cabinet-committees/list-of-cabinet-committees-and-their-membership>, accessed 11 September 2025.
131. NESO, 'Final Report from the Review into the North Hyde Substation Outage', 1 July 2025, <https://www.neso.energy/news/final-report-review-north-hyde-substation-outage>, accessed 11 September 2025.
132. Author's interview with former senior NSS and DESNZ official, online, 4 July 2025.

All government officials interviewed for this paper stated that there is a risk the UK is preparing for the last crisis; it is not identifying and preparing for the next one. The shortcomings that resulted in the UK overlooking the strategic risks of European demand for Russian energy may contribute to the development of new dependencies, particularly on China. The UK's 'China audit', which was not published, appears not to have reconciled the UK's economic relationships with its security concerns. On one side, then-Foreign Secretary David Lammy said the audit 'described a full spectrum of threats', resulting in the need for increased protection from China for critical national infrastructure and a review of the sectors covered by the National Security and Investment Act.[133]

At the same time, Lammy stated that 'our approach will always be guided by the UK's long-term economic growth priorities', with the implicit view that national security might hinder, rather than facilitate, long-term growth. Indeed, the government intends to deepen UK economic dependence and interconnection with China, 'to unlock £1 billion of economic value for the UK economy'.[134]

Considering that the UK's security and energy decision-making are not fully integrated, critical strategic risks – such as US sanctions on Chinese energy suppliers – are unlikely to receive sufficient attention. This has the potential for policy reversals similar to the removal of Huawei from the UK 5G network due to the risk from US sanctions.[135]

The government is missing an opportunity to facilitate investment by providing certainty to energy investors about the suppliers and partners with which they can confidently engage. At a time of geopolitical instability, by viewing security as a blockage to economic growth and failing to fully integrate security considerations into energy strategy, the UK government risks both building physical and supply chain vulnerability into the emergent energy system and delays to investment due to political risk.

133. David Lammy, 'China Audit: Foreign Secretary's Statement', Foreign, Commonwealth & Development Office, 24 June 2025, <https://www.gov.uk/government/speeches/china-audit-foreign-secretarys-statement>, accessed 11 September 2025.
134. *Ibid.*
135. Department for Digital, Culture, Media & Sport, 'Huawei Legal Notices Issued', 13 October 2022, <https://www.gov.uk/government/news/huawei-legal-notices-issued>, accessed 5 September 2025.

UK Energy Policy

As shown, the UK is highly exposed to global oil and gas market volatility. This restricts the country's ability to support more impactful restrictions on Russia and means major hydrocarbons producers retain leverage over UK foreign policy. In the North Sea, oil and gas infrastructure is vulnerable to Russian sabotage, and Russia has the capability to cause major disruption[136] – although the most impactful attacks would offer little possibility for Russian deniability.[137]

Reducing the UK's reliance on oil and gas would mitigate its exposure to commodity market shocks, but oil and gas imports will still be required. An energy consultant said:

> "Diversity and redundancy in gas and power is what gives security … Renewables, battery storage in a grid that can handle it – build out as much as is feasible. In gas, the best news I heard was North Sea projects continuing to be allowed to go ahead. [These are] the lowest risk because [they are] in waters that you control. LNG is an important piece in the puzzle until at least 2035. It is not a silver bullet, but it is not a risk to have it.[138]

Despite the scale of the 2022 energy crisis and its impact on inflation and UK government finances, there appears to have been surprisingly little reappraisal of energy security strategy.[139] However, recent political shocks in oil and gas markets, combined with the inherent uncertainty of transitioning large energy systems, signify that a strategic review is needed now. As explained by a former NSS official:

> "The old idea of energy security being about establishing a diversified pool of suppliers, well that doesn't work if the entire world has gone up in flames … The UK has stuck so firmly to this idea of a free, globalised market, even while the rest of the world has moved away from it. I think that leaves the UK in trouble, because if you leave the market to itself then it will exist on the spot market and companies will do the cheapest thing.[140]

136. René Balletta, Sidharth Kaushal and Dan Marks, 'The Russian Challenge to Europe's Gas Supplies this Winter and Beyond', *RUSI Commentary*, 8 December 2023, <https://www.rusi.org/explore-our-research/publications/commentary/russian-challenge-europes-gas-supplies-winter-and-beyond>, accessed 11 September 2025.
137. Sidharth Kaushal, 'Recording: Addressing the Persistent Threat to Subsea Cables', RUSI webinar, 10 July 2025, <https://www.rusi.org/members-event-recordings/recording-addressing-persistent-threat-subsea-cables>, accessed 11 September 2025.
138. Author's interview with senior independent energy consultant, online, 25 June 2025.
139. Marks, 'Foundations of UK Energy Security'.
140. Author's interview with former senior NSS and DESNZ official, online, 4 July 2025.

The Labour government, which took office in 2024, has been more interventionist than its predecessor, creating new state energy companies and bolstering public financing bodies. These initiatives have not extended to energy markets, where the security of supply remains largely delegated to the private sector.

Interventions are possible if the government wants to protect against price volatility in LNG markets – or ensure there are diverse sources of energy supply – by creating requirements or guidance for some proportion of imported gas to be contracted long-term. The Japanese government notably encourages large buyers to contract 80% of their gas long-term and provides incentives for storage to prevent oversupply. As a result, Japanese gas price increases were a fraction of those in the UK in 2022.[141] However, increased penetration of renewables in the UK will require more flexibility, which is better achieved through spot and short-term markets.

UK government schemes such as the Energy Markets Financing Scheme (EMFS)[142] – set up to protect against price spirals in the gas market[143] – should be kept ready for an emergency. The EMFS was never used, and European equivalents were not implemented, but this may have been because it launched two months after prices peaked in August 2022.[144] Were these schemes available at the time, they may have helped to mitigate extreme gas prices, although their likely effectiveness is contested.[145]

The UK was particularly impacted by the 2022 energy crisis because of its unusually heavy reliance on gas. In the case of electricity, where price is largely determined by gas power generation, there may be a case to establish a mechanism partially suspending electricity trading for a limited period. This mechanism would come into place in the event of extremely rare high gas prices, with generators paid on a cost-plus basis and centrally dispatched to restrict the impact of high gas prices to thermal power plants.

Although the UK government intends for gas to account for only 5% of electricity generation by 2030, this is not assured; gas will be a core determinant of electricity prices for some time to come.

141. Takeo Kumagai and Yuya Hasegawa, 'INTERVIEW: Japan Hopes for 80% Long-Term LNG Share Post-2030, Sees No Issue with Contracts Beyond 2050', S&P Global, 27 February 2025, <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/lng/022725-interview-japan-hopes-for-80-long-term-lng-share-post-2030-sees-no-issue-with-contracts-beyond-2050>, accessed 11 September 2025.
142. Bank of England, 'Energy Markets Financing Scheme (EMFS)', 27 January 2023, <https://www.bankofengland.co.uk/markets/energy-markets-financing-scheme>, accessed 11 September 2025.
143. Marks, 'Foundations of UK Energy Security'.
144. Author's interview with senior independent energy consultant, online, 25 June 2025.
145. Marks, 'Foundations of UK Energy Security'.

The publication in July 2025 of key decisions made as part of the Review of Electricity Market Arrangements means there will not be appetite for an overhaul of electricity pricing in the UK for some time.[146] Yet, a broader debate is still needed about the objective of marginal pricing in the wholesale electricity market – a factor which links gas and electricity prices so closely in the current system – and the wider structure of the markets. While marginal pricing incentivises efficient operation and investment when electricity generation is dispatchable, renewable generation does not respond to short-term price signals.

At the same time, Chinese industrial dynamics are disrupting the supply chains of key transition technologies – namely, batteries, electric vehicles (EVs), heat pumps, solar photovoltaic (PV) and wind – necessary to reduce UK oil and gas vulnerabilities. This is concentrating production of transition technologies in a country with an increasingly nationalistic leadership, and which has, moreover, imposed export controls targeting clean energy supply chains and been accused of targeting infrastructure for cyber espionage.[147]

Consequently, some major European wind power developers have argued for a slowdown of the energy transition to allow industrial and supply chain issues to be resolved and to prevent over-reliance on China.[148] A similar argument has been made on national security grounds by the former head of MI6, Richard Dearlove.[149] On the other hand, an argument is being made by members of the national security community and by politicians such as UK energy minister Ed Miliband that the energy transition should in fact be accelerated to enhance 'energy sovereignty'.[150] The former senior NSS official explained:

> "The transition will accelerate precisely because of its net security benefits … We've just had three major geopolitical shocks in just over three years – the Russia–Ukraine war, Trump and trade war and the Middle East – all of which have had an angle that has imperilled fossil fuel trade and affected markets.[151]

146. DESNZ, 'Review of Electricity Market Arrangements (REMA): Summer Update, 2025', 10 July 2025, <https://www.gov.uk/government/publications/review-of-electricity-market-arrangements-rema-summer-update-2025/review-of-electricity-market-arrangements-rema-summer-update-2025-accessible-webpage>, accessed 10 September 2025.
147. Louise Marie Hurel and Conrad Prince, 'Recording: The Evolution of Chinese Cyber Statecraft', RUSI webinar, 17 July 2025, <https://www.rusi.org/research-event-recordings/recording-evolution-chinese-cyber-statecraft>, accessed 11 September 2025.
148. European Council on Foreign Relations, 'Winds of Change: Navigating the Geopolitics of Europe's Clean Industrial Policy', policy workshop, Berlin, Germany, 26–27 February 2025; TNO, 'Reduce Europe's Dependence on Chinese Wind Power and Electrolysers', 1 May 2024, <https://www.tno.nl/en/newsroom/insights/2024/05/dependence-wind-power-europe-china/>, accessed 11 September 2025.
149. Max Kendix, 'Labour's Net-Zero Push "Hands Power to Beijing"', *The Times*, 12 January 2025.
150. Ed Miliband, 'Energy Secretary Speech to Energy UK Conference 2025', 14 October 2025, <https://www.gov.uk/government/speeches/energy-secretary-speech-to-energy-uk-conference-2025>, accessed 24 October 2025. .
151. Author's interview with former senior NSS and DESNZ official, online, 4 July 2025.

The former Downing Street official added that:

> "If you have to choose dependencies, it is better to be dependent on Chinese exports for infrastructure than on commodity imports that have to be brought in every day … We should be reducing UK use of LNG as far as we can. There is a glut coming so there will be a spell when the market is well supplied, so the transition is not happening under pressure of market dynamics.[152]

Similarly, a former energy minister said: 'I think the government's perspective would be that we would have been less severely hit by the crisis if we had been less dependent on oil and gas imports'.[153]

These officials argue that security can be better managed in a system dependent on infrastructure-type assets such as renewables and energy storage, than in one dependent on a continuous flow of commodity imports. In a well-designed renewables-based system, infrastructure under sovereign control must be actively penetrated or attacked to achieve rapid, high-impact disruption. In the current gas-heavy energy system, comparable damage disruption in a distant part of the supply chain can have an instant effect.

For UK energy strategy to be successful, market intervention will be necessary to ensure clean energy technologies can be used securely and that supply chains can, over time, be 'de-risked'.[154] A combination of incentives and regulation will be needed to persuade developers and original equipment manufacturers to improve the monitoring and security of their supply chains. Investors are likely to support such measures if competitors face the same restrictions, and regulations are not unnecessarily onerous, as these regulations will reduce political risk to projects.

Uncertainty over the political acceptability of Chinese suppliers, and about the decision-making process, makes pricing bids in renewable auctions challenging for developers. EV manufacturers do not want to become uncompetitive by investing in higher-cost supply chains but are also wary of the political risk attached to relationships with Chinese companies. The UK government could establish security screening and pre-approval of the suppliers of critical components to reduce uncertainty and improve security. A government assessment is needed to determine the components and roles where Chinese suppliers may pose an unacceptable risk – most likely due to cybersecurity concerns – and, by implication, the areas where security is not a primary concern. More research is needed in this area.

152. Author's interview with former senior Downing Street official, online, 16 June 2025.
153. Author's interview with former energy minister, online, 25 June 2025.
154. Belinda Schäpe, 'How to De-Risk Green Technology Supply Chains from China Without Risking Climate Catastrophe', Carnegie Endowment for International Peace, 14 August 2024, <https://carnegieendowment.org/research/2024/08/how-to-de-risk-green-technology-supply-chains-from-china-without-risking-climate-catastrophe?lang=en>, accessed 11 September 2025.

Current UK energy strategy aims to reduce gas use through the rapid introduction of renewables. This strategy will reduce the country's vulnerability to oil and gas market shocks, and has benefits for security. However, the strategy also presents security risks, in addition to technical and implementation risks not discussed in this paper. To unlock investment and ensure an overall improvement in resilience, security considerations must be fully integrated into energy policy, particularly with respect to spatial planning and supplier screening.

Conclusion

The impact of Russia's full-scale invasion of Ukraine on global energy markets continues to have long-lasting implications for UK security. Energy markets have adapted to these shocks, but the UK and partners in Europe have been slower to absorb the full implications of the new security environment.

Hydrocarbons remain the backbone of the Russian war economy. While Western measures taken against the Russian oil and gas industry are having an impact, the resulting gradual wastage of the sector will not decisively influence the outcome of the Russo-Ukrainian War. Sanctions with the ability to create a more immediate political effect are possible – and the current market conditions are more conducive to such action than they have been since the expanded invasion – but movement in this direction in Washington or in European capitals remains improbable. Without Western powers tackling Russian oil exports more effectively, Russia will continue to weather the ongoing sanctions campaign, and the only route to force concessions from Putin will be on the Ukrainian battlefield.

The invasion has changed global energy flows. Russia has become dependent on China and India for oil and gas sales, while Europe and the UK have turned to the US and Qatar for LNG. Without the option of Russian gas supply, UK and European dependence on LNG becomes more of a risk. The nationalist, protectionist and anti-European turn of the US Republican Party has caused concern in UK and European national security circles about over-reliance on US gas.

Russian aggression has focused the attention of policy and expert communities on the physical and digital vulnerability of energy infrastructure, particularly offshore energy infrastructure. Governments and energy companies are putting new policies and procedures in place across northern Europe to reduce infrastructure vulnerability, but these are often ad hoc. The full strategic implications of the combination of an aggressive Russia and changing energy system geography remain to be fully assessed and integrated into infrastructure planning.

The 2022 energy crisis has increased support in the UK national security community for reducing the use of oil and gas on security grounds. Batteries, EVs, heat pumps, solar PV and wind generation will contribute to UK resilience if security is built into

their rollout. Developers and manufacturers need incentives to de-risk supply chains, and government support is needed to protect and foster supply chains.

This raises the question of how to manage the risk from China, the supplier of many of the technologies and materials required for decarbonisation. While China is recognised by many governments as a potential threat as well as an important trade partner, energy policy in the UK or Europe remains ambiguous on the issue. As discussions on the use of Russian gas before 2022 demonstrated, there is a risk of knowingly building vulnerabilities into new energy systems.

The machinery of government in the UK must adapt to these challenges to energy security. More structures are needed to bring energy and security communities together at the highest levels of government. The energy minister should be a permanent member of the NSC, and a Cabinet committee on the energy transition should be established. In addition, there must be more vigorous oversight of compliance with infrastructure resilience requirements.

Russia's expanded invasion of Ukraine should mark a turning point in how security in the energy sector is managed. Security should no longer be seen as a constraint on economic growth, but as a necessary condition for sustainable investment in more resilient energy systems.

About the Author

Dan Marks is a Research Fellow in energy security at RUSI. His research focuses on national security dimensions of the energy transition in the UK and internationally.

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