



Policy Brief

The First Fuel of Security: Energy Efficiency and Germany's Path to Strategic Resilience

In 2026, domestic energy sources covered only 125 days of Germany's energy demand¹, leaving its economy, society and defence capabilities dependent on volatile global energy markets for most of the year. Russia's weaponisation of energy and disruptions to key maritime chokepoints – including the Strait of Hormuz – demonstrate how quickly external shocks can constrain energy supplies, drive up prices and undermine economic stability.

These risks have direct implications for national security and resilience. Germany must be able to maintain essential civilian functions and military readiness under all circumstances. While energy supply diversification and the protection of critical infrastructure remain essential, they cannot eliminate structural vulnerability. Given the possibility of disruptions to the energy system at any time, reducing energy demand through energy efficiency must become a core pillar of Germany's national security and resilience strategy.

Operationalising Energy Efficiency as Security Policy

1. Reducing Import Dependence and Strengthening Strategic Autonomy

In 2025, the European Union spent approximately €396 billion on fossil fuel imports². This figure is likely to increase further in 2026 following renewed disruptions to global energy supply routes, including the Strait of Hormuz. While diversification reduces dependence on individual suppliers and transit routes, it does not eliminate import dependence itself. Replacing Russian pipeline gas with LNG imports – 96% of which originated from the United States in 2025 – has largely substituted one external dependency for another. Energy efficiency addresses this structural vulnerability directly: every unit of energy saved reduces import requirements and thereby strengthens Germany's strategic autonomy.

Energy efficiency is therefore the „first fuel“ of security. By reducing overall demand, it simultaneously strengthens strategic autonomy, infrastructure resilience and industrial competitiveness. It is not an alternative to renewable energy deployment but its most effective accelerator. By reducing overall demand, it allows every additional unit of domestic renewable generation to cover a larger share of total energy consumption. To illustrate: without the efficiency gains of the last fifteen years, Germany's renewable electricity share would not be around 50%, but closer to 35%.³

2. Strengthening Infrastructure Resilience and Civil Preparedness

Energy efficiency also strengthens the resilience of critical energy infrastructure. Lower energy demand, particularly in the electricity sector, allows networks to operate more reliably, especially while grid expansion struggles to keep pace with growing electrification. Lower baseline demand also makes disruptions easier to manage and reduces the risk of cascading failures.

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¹ According to AG Energiebilanzen's annual energy report, Germany consumed 10,530 petajoules of primary energy consumption in 2025. Imports accounted for 65,6% in the same year. Based on these figures, domestic energy production would be sufficient to meet demand for only the first 125 days of the year, until 5 May 2026. In contrast, the EU average extends to 5 June, indicating roughly one additional month of energy self-sufficiency. <https://deneff.org/tag-der-energieabhaengigkeit-2026/>
² <https://energyandcleanair.org/publication/eu-fossil-fuel-imports-and-co2-emissions-in-2025-dependence-continues-as-u-s-becomes-largest-supplier/>
³ https://deneff.org/wp-content/uploads/2026/03/20260313_DENEFF_Call-fo-Evidence_Governance.pdf and <https://www.odyssee-mure.eu/publications/efficiency-trends-policies-profiles/germany.html>

This also means that improving energy efficiency is not simply a means of reducing energy consumption. By lowering baseline demand, it makes the energy transition more resilient because it reduces the need for generation capacity, grid expansion and strategic reserves for oil and gas – all of which must be built, maintained, protected and, where necessary, backed up through redundancy.⁴ As electrification expands, these savings become increasingly significant. By reducing overall energy demand, efficiency reduces the overall scale of the energy system and therefore the cost of securing it.⁵

Whether through building renovations, smart meters, digital energy management or industrial efficiency measures, structural improvements in energy productivity make the energy system more reliable, more resilient and ultimately more secure. This security function also suggests that structural investments in energy efficiency should be recognised as a contribution to NATO's civil preparedness and resilience objectives.

3. Preserving European Industrial Leadership

Energy efficiency is one of the few areas of the energy transition in which Europe continues to enjoy a clear technological advantage. This advantage should be regarded as a strategic asset. Europe has already experienced how quickly technological leadership can be lost: although European companies pioneered many renewable energy technologies, manufacturing capacity and key supply chains gradually shifted abroad, leaving Europe dependent on heavily subsidised competitors, particularly China, in critical segments of the clean energy economy.

Avoiding a similar loss in energy efficiency technologies is therefore of strategic importance. European firms remain global leaders in industrial heat recovery, advanced building insulation, energy management systems and smart grid solutions. Many of these technologies also have dual-use applications that enhance military energy resilience and operational effectiveness, while strengthening the resilience and competitiveness of civilian energy systems.

Beyond their strategic value, energy efficiency industries are also a major source of economic prosperity. In Germany alone, the sector supports more than one million jobs, while the energy-efficient renovation of the building stock accounts for approximately 2.5% of GDP. Preserving and expanding this industrial base helps to ensure that critical engineering expertise, manufacturing capacity and intellectual property remain anchored in Europe, strengthening long-term competitiveness, technological sovereignty and strategic resilience. Realising the strategic benefits as outlined above requires integrating energy efficiency systematically into Germany's industrial, security and investment policies.

From Strategic Principle to Policy Implementation: Policy Recommendations

Anchor Energy Efficiency in Industrial, Security and Investment Policy. The Federal Ministry for Economic Affairs and Energy (BMWE) should adopt an efficiency first approach across industrial, energy and investment policy, ensuring that reducing energy demand becomes a guiding principle in public planning and funding decisions. Industrial energy subsidies and Climate Protection Contracts (Klimaschutzverträge) should be made conditional on meaningful efficiency improvements, linking support for industrial decarbonisation to investments in waste heat recovery, process optimisation and demand-side management.

At the same time, the Energy Efficiency Act (EnEFG) should be implemented consistently and without weakening national targets or corporate energy management obligations. It remains one of the most effective instruments for decoupling industrial output from volatile energy prices while creating a stable domestic market for European manufacturers of energy-efficiency technologies.

Finally, the BMWE should develop a comprehensive Energy Security Strategy that explicitly recognises energy efficiency as a strategic national security asset. Embedding demand reduction within Germany's resilience planning would strengthen the country's ability to withstand supply disruptions, geopolitical coercion and the weaponisation of energy. A complementary strategic communications campaign could reinforce this shift by presenting energy efficiency as Germany's Sovereign Energy Reserve.

4 https://deneff.org/wp-content/uploads/2025/10/DENEFF_policybrief-EnEFG_2509.pdf
 5 <https://www.yourhomeourfuture.eu/app/uploads/7eef07a7d9b60f4582627119-applied-energy-study.pdf>
 6 <https://deneff.org/von-null-auf-wachstum/>

From Strategic Principle to Policy Implementation: Policy Recommendations

Embed Energy Efficiency in Defence and Civil Protection Infrastructure.

Given the Bundeswehr's extensive estate, improving the energy performance of military infrastructure represents a significant opportunity to strengthen operational resilience. The Bundeswehr's current exemption from the Energy Efficiency Act (EnEfG § 21) should be reconsidered. The Federal Ministry of Defence (BMVg) should adopt the Act's energy productivity standards and prioritise the rapid („sprinter“) retrofit of military barracks, hospitals and command centres to ensure that critical command-and-control capabilities remain operational during disruptions to energy supplies.

Reducing overall energy demand (including oil and gas) in fixed infrastructure also reduces the logistical burden of supplying military installations during crises, allowing fuel transport and supply chains to focus on operational missions. More importantly, it enables scarce fuels and logistical resources to be prioritised for operational capabilities where electrification or substitution is not feasible, such as military aviation, naval operations and heavy armoured manoeuvres.

In parallel, the Federal Ministry of the Interior (BMI) should establish baseline energy efficiency as a mandatory resilience indicator under the KRITIS Umbrella Act and introduce energy productivity targets across federal facilities, including those of e.g. the Federal Police and the Federal Agency for Technical Relief (THW). This would strengthen the resilience of Germany's civil protection infrastructure while reducing its exposure to external energy disruptions.

Recognise Energy Efficiency within NATO's 1.5% Civil Preparedness and Resilience Spending Target.

This requires the development of a formal accounting framework to ensure that investments in structural energy efficiency are systematically recognised within the resilience spending category. A meaningful share of these resources should be directed towards dual-use technologies and infrastructure that strengthen both energy security and defence resilience. Targeted investment in energy management systems, the energy-efficient refurbishment of military facilities and municipal heat planning would enhance the resilience of critical infrastructure while also creating a stable domestic market for European providers of energy efficiency technologies.

Ultimately, Germany needs a comprehensive Energy Security Strategy that recognises energy efficiency as the first fuel of security. Treating demand reduction as a strategic capability rather than solely an environmental objective would strengthen the country's strategic, physical and industrial resilience while reducing its exposure to external energy shocks.



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