PLAN B FOR EUROPE: A Complement Strategy for European Energy Efficiency, Industrial Resilience, and Economic Security

This paper addresses the European Union's realistic ability to respond to the growing internal and external challenges that define the current economic, energy, and socio-economic reality of Europe. Taking into account the Union's existing strategies, the study proposes complementary recommendations in the form of a *cautious, complementary pathway* that can run alongside—and reinforce—current initiatives. The proposed **"Plan B for Europe"—developed by GARI**—prioritizes the sustainability, and gradual technological development of Europe's industrial base by significantly increasing its energy efficiency, and implementing technological innovations at scale, rather than betting everything on the success of a leap-frog transformation. In the context of a rapidly changing global environment and domestic political shifts, the EU is encouraged to reassess its strategic priorities, strengthen its economic resilience, and identify more effective approaches to maintaining cohesion and competitiveness.

The EU should continue adapting to a global environment increasingly characterized by economic nationalism and fragmentation. A key recommendation and finding of this analysis are that it is in the vital interest of the Czech Republic—and the long-term sustainability of the EU as a whole—to exert maximum effort toward a prudent recalibration of the Union's economic, energy, and industrial strategies, including the recommendations outlined in the so-called Draghi Report. Current strategies and ambitions do not fully correspond to present or future European and global realities, and their unadjusted implementation risks placing the EU in an economically and politically less sustainable position.

Our "Plan B for Europe" is cautious, pragmatic, and realistic in reconciling the key EU priorities that have been set since at least the Lisbon Strategy: competitiveness, sustainability, social cohesion, and the mitigation of external vulnerable dependencies. The analysis demonstrates that the way these pillars have been pursued over the past decade has sometimes been internally contradictory and has overlooked several important structural conditions, and contradictions. Without targeted reassessment, the result can be disappointment, unintended negative consequences, and increasing socio-political frustration.

The study concludes with a set of pragmatic recommendations whose immediate impact and feasibility of implementation are intended to *complement and support* the EU's overarching ambitions, rather than replace them.

The study concludes with a set of pragmatic recommendations, focusing on their immediate impact and feasibility of implementation.

🔹 Plan B for Europe: Strategic Priorities at a Glance 🔹

- ➢ **Prioritize Energy Efficiency** — Focus decarbonization on reducing energy consumption in energy-intensive industries (EIIs) together with adopting high-risk technologies.
- ➢ **Modernize Infrastructure** — Upgrade core systems—power grids, heating, water, and waste—to reduce losses, boost efficiency, and improve resilience.
- ➢ **Rebuild Industrial Competitiveness** — Align tech-first green ambitions with a robust focus on energy efficiency and existing industrial strengths.
- ➢ **Reinforce Supply Chain Sovereignty** — Reduce reliance on external suppliers (e.g., China) through localized production and industrial modernization.
- ➢ **Strengthen Economic Stability** — Use targeted, lower-cost investments to deliver faster returns, improve fiscal sustainability, and create regional jobs.
- ➢ **Address Geopolitical Risk** — Position Europe to navigate U.S.–EU trade tensions and future-proof its industrial base in a shifting global order.
- ➢ **Bridge Sustainability with Realism** — Offer an actionable path aligned with EU climate goals—without speculative bets, unrealistic assumptions, or new dependencies.

Executive Summary

Over the past two decades, the EU´s global competitiveness has structurally decreased, its external dependencies became more complex and more significant, while socio-political fragmentation within the EU has deepened. **Rural and post-industrial areas** are often excluded from the benefits of the EU policies, which results in interregional and intra-social disparities. Without a change in approach, the EU will continue to experience worsening **socio-political pathologies**, which ultimately threaten the **very existence of a democratic European Union**. The **green transition**, central to the EU's ambitions, is **riddled with contradictions**: despite recognizing the issue, Europe continues to **deepen its dependence** on imports of technologies, raw materials, and goods essential for both industrial production and the green transition, while simultaneously increasing the **vulnerability of its energy infrastructure** and existing **industrial** base and **deepening intra- and inter-regional socioeconomic divergences. The state of EU industry reflects years of deindustrialization** and an economically short-sighted reliance on global supply and energy chains, weakening Europe's ability to compete in high-tech industrial sectors.

The ***Draghi Report*** (*European Competitiveness, 2024a, 2024b*), while commendable for its urgency and critical assessment, ultimately preserves many of these shortcomings by - in practice and in results - **ignoring key issues** such as external dependencies, social inequality and deindustrialization. The report does address these issues individually, but in a way that is contradictory to other pillars of the report, which renders them very difficult to implement with success. Our findings suggest that the newest EU´s economic, and industrial strategies largely **propose the same contradictory paths** that have been advocated in previous decades, failing to account for the complexity of systemic interdependencies. While its recommendations on competitiveness, research and development, and deregulation are individually reasonable, they **do not address the broader entropic costs, global developments, and social cohesion necessary for long-term resilience.** Additionally, even if these recommendations were unexpectedly successful, their tangible structural impact would not materialize for at least a decade—a time horizon that Europe no longer has. **The EU must adopt a crisis management mindset and focus on tools that can yield results within 2 to 4 years.**

This analysis presents a pragmatic and cautious ***"Plan B for Europe"***, acknowledging the **EU's structural constraints** and offering a **gradual, realistic pathway forward**. The plan prioritizes **energy efficiency in energy-intensive industries**, a sector capable of delivering immediate and

tangible results while addressing Europe's fundamental vulnerabilities. It focuses on **precision manufacturing and infrastructure modernization**, advocating for a robust incentive plan and carefully selected regulations in energy efficiency, workforce reskilling, and investments in core and critical infrastructure. The goal of these measures is to **balance external dependencies, competitiveness, environmental sustainability, and social cohesion** in a way that is **realistic**, organic, and capable of d**elivering results within a sufficiently short timeframe**—without succumbing to the pitfalls of overly ambitious but unattainable goals.

Key Pillars:

- **Energy Efficiency:** Targeting energy-intensive industries that have been overlooked in previous strategies, with the goal of achieving immediate gains, reducing emissions, and increasing competitiveness without exacerbating reliance on external supply chains.
- **Infrastructure Modernization:** Addressing deficiencies in water distribution, waste management, district heating systems, and transmission networks to improve quality of life and economic resilience at both national and regional levels.
- **Incremental Innovation:** Building on existing industrial strengths through workforce reskilling and localised research and development, ensuring stability throughout the transition.

Ultimately, this analysis calls for a **paradigm shift in how the EU approaches** its strategic challenges. Breaking the **blind cycle of excessive promises and insufficient results** requires a focus on **resilience and pragmatism**. Only by confronting its internal contradictions and adopting a realistic vision can Europe navigate the complexity and upheavals of the 21st century and secure its place in the unstable global (dis)order.

GEOPOLITICAL DISRUPTIONS AND THE EUROPEAN RESPONSE

The Return of Donald Trump and Transatlantic Relations Going Forward

The return of Donald Trump presents realistic scenarios of **trade wars, reduced commitments to NATO, and increased pressure on European industry and technological development**. For the EU, this underscores the importance of recalibrating its approach to the U.S. and recognizing that, under Trump's second presidency, **economic nationalism and unilateral decision-making will dominate**. This will challenge EU-U.S. cooperation on global issues such as climate change, trade, security, defence, and the regulation and promotion of technological development. Under these conditions, the EU must find a way to define its own priorities in a manner that can, at least partially, be **framed as a win for a transactional U.S. president.**

"Plan B" underscores the importance of **transatlantic relations under a potential Trump administration**—not through unconditional alignment, but through targeted, individualized, and pragmatic cooperation. Constructive engagement opportunities exist in areas such as **nuclear research** (including nuclear **fusion**), **space exploration**, joint investments in **defence technologies**, and the **broader aerospace ecosystem**. At the same time, the EU must prepare for trade conflicts and further unilateralism from the U.S. Some of the transactional and unilateral tendencies of the new American administration can be mitigated by focusing on **engagement at the level of U.S. states, key political and business representatives, and strategically selected economic sectors.**

Specific Case: Nuclear Energy

Nuclear research is one of the strategic areas that, given sufficient political will and favorable circumstances, may avoid becoming a casualty of the transactional approach to future transatlantic relations. Nuclear energy, often a contentious topic within EU debates, is critical for low-carbon electricity generation and can serve as a bridge to future nuclear fusion technologies (International Energy Agency [IEA], 2019; Nuclear Energy Agency [NEA], 2020). Cooperation in the nuclear sector can leverage technological complementarities and existing multilateral institutions (including the European Organization for Nuclear Research – CERN) with their specialized expertise.

The United States is striving to maintain its dominant position in cutting-edge scientific fields. Collaboration with the European Union or East Asian nations such as Japan and South Korea could help secure access to state-of-the-art scientific knowledge and experimental facilities (Glaser & Goldston, 2018; IEA, 2019). **Fusion energy** is a highly promising energy source for the future—far cleaner, more energy-dense, and geopolitically less contentious (ITER, 2020;

National Academies of Sciences, Engineering, and Medicine [NASEM], 2019). However, research and development in nuclear fusion is scientifically complex and extremely costly.

By adopting clear scenario-based approaches and a *quid pro quo* mentality—aligned with Trump's transactionalism—pragmatic scientific cooperation and joint research can be pursued in exchange for balanced trade agreements, reduced energy uncertainty, and harmonized intellectual property systems.

The Growing Challenge of China and Strategic Imbalance

With **China's** rise as a dominant economic and technological power, the **global balance of power is undergoing a dramatic shift**. This analysis does not overlook the economic and potentially social challenges facing the Asian giant, which will likely be exacerbated by a new Trump administration. However, **Beijing's investments in artificial intelligence, digital infrastructure, and renewable energy technologies have already positioned China ahead of the EU in virtually all critical industries of the future.**

In navigating the competition between the U.S. and China, as well as its direct relationship with China, the EU must adopt a **dual approach**: reducing economic dependence while maintaining opportunities for constructive dialogue and trade. Striking this balance will be made more difficult by U.S. pressure for unequivocal stances on China.

Russia, Ukraine, and Geopolitical Tensions

Russia's invasion of Ukraine has **redefined Europe's security paradigm**. The EU's solidarity in imposing sanctions and reducing dependency on Russian energy has demonstrated its ability to maintain unity in times of crisis. However, sustaining this dynamic requires **long-term strategies to stabilize energy markets**, support **Ukraine's reconstruction**, and address broader geopolitical risks.

Strategic autonomy for the EU must include preparedness for a prolonged, even frozen, conflict, as well as economic losses from further closures of Asian commercial routes. At the same time, it must recognize **opportunities that could arise from the potential revival of Ukraine's industrial base**. This issue is addressed in more detail in the *"Plan B for Europe"* section.

EU's Strategic Failures and Lessons from the Past

Despite **ambitious**—and well-intentioned—initiatives such as the *Lisbon Agenda*, *Europe 2020*, and the *European Green Deal*, the **EU has consistently struggled to meet its strategic objectives**. Systemic issues—including uneven implementation of reforms across member states, ambitious targets without targeted structural reforms, and excessive **reliance** on external supply chains—have **undermined its competitiveness, sustainability, and cohesion.**

EU REALITY CHECK – STRATEGIC FAILURES AND EUROPEAN SOCIOECONOMIC DEVELOPMENT (2000–2024)

The current structure and nature of the European Union still largely reflect the **economic and political assumptions of the turn of the millennium**. Its key institutional framework **mirrors the optimism of the late 1990s and early 2000s**. At that time, the world in which the EU was expected to thrive was one of **secure and unrestricted movement of goods, people, and capital** among mostly cooperative states, with international Islamic terrorism being the primary global security concern. This environment provided **cheaper production inputs**, better access to external markets, and, from a European perspective, seemingly reduced concerns over defence and its associated costs. Managed migration was intended to supply the necessary workforce—both sufficiently skilled and "affordable"—to play a crucial role in labor-intensive industrial sectors.

The EU's ambitious and commendable **climate goals appeared achievable**, or at least realistic, as **energy-intensive industries were gradually relocating out of Europe**, with minimal social or economic repercussions at the time. These losses were offset by European companies' rapid access to Eastern European and other global markets, as well as by cheap production inputs. The *Lisbon Strategy*—and to a large extent most EU strategic documents until the COVID-19 pandemic—was based on the assumption that this trajectory would remain unchanged.

For at least a decade, it has been evident that this projection no longer aligns with reality. Yet, EU strategies continue to operate as if this new reality has not been acknowledged. Today, the **anti-globalist narrative has become a mainstream political force** and a legitimate challenger in serious political contests, rather than a fringe movement of anti-systemic ideologies. Despite its commitment to multilateralism, the EU risks becoming a passive observer as the **global multilateral framework is dismantled in real-time**.

Europe's current position is marked by a **troubling deadlock**. While it has successfully reduced its energy dependence on Russia, this **achievement has been counterbalanced by growing reliance** on alternative suppliers such as the United States, Qatar, and Australia, as well as on providers of green and digital technologies—sectors in which the EU is no longer globally competitive. The once-praised European Single Market, previously considered the cornerstone of future economic strength, remains incomplete and burdened by excessive regulation, regional disparities, and stagnating productivity.

Member states such as the Czech Republic, Slovakia, Hungary, and parts of Germany now find themselves caught in the **crossfire of global trends**, including digitalization, the green transition, and geoeconomic competition. The EU's fundamental promise of **reducing interregional inequalities** remains unfulfilled. While economic hubs like Paris, Munich, Amsterdam, Prague, and Warsaw are advancing rapidly, many **other regions are stagnating, and peripheral areas are falling behind.**

To substantiate this claim, we will evaluate progress in key areas that have appeared in EU strategic documents since the *Lisbon Strategy* (2000): **competitiveness, social cohesion, and environmental sustainability**, along with **external vulnerable dependencies**, which became a focus after the COVID-19 pandemic.

EUROPE IN CRISIS: Lost Competitiveness, Import Dependencies, & Inequalities

Parallels and Limitations of Mario Draghi's Vision and the Structural Problems of European Policies

The following sections are based on **long-term, comprehensive data research conducted by the GARI institute**, which has been presented and continuously updated since approximately 2018. These findings—and the associated warnings—align in many ways with the European diagnosis outlined by Mario Draghi's team in September 2024.

While Draghi's critique is highly accurate, his report largely overlooks certain European vulnerabilities that fundamentally hinder the likelihood of success for his proposed recommendations. Specifically, the report barely addresses **interregional and broader social disparities within the EU**, as well as **the complex dependencies on imported intermediate goods**, which significantly impact Europe's economic resilience and industrial strategy.

Competitiveness and the Digital Economy

Europe's competitiveness, particularly in the field of digital technologies—once the top priority of the *Lisbon Strategy*—has **instead become one of its greatest weaknesses**. While the EU was once considered a potential leader in telecommunications and green technologies, the **technological gap between the EU and, first, the United States**, and later **China, has been widening for nearly fifteen years.**

The **absence of major European global tech giants** is a stark symptom of this decline. The scale of this gap is difficult to fully convey: while companies like Apple, Amazon, NVIDIA, and Chinese giants Alibaba and Tencent grew by thousands, tens of thousands, or even hundreds of thousands of percent between 2005 and 2020, Europe's leading digital and communications firms at the start of the millennium (SAP, Nokia, and Ericsson) followed a very different trajectory. Since 2005, only SAP has grown, by roughly 240%, while Nokia has lost nearly 90% of its market capitalization, and Ericsson has declined by around 80%.

Today, Europe's largest technology company is ASML (a leader in precision manufacturing), followed by SAP (which focuses on consulting and data services). In green technologies, the key players are mostly limited to **turbine and hydroelectric manufacturers** such as Ørsted and Vestas. While ASML (Netherlands), Ørsted, and Vestas (Denmark) are globally competitive and, in ASML's case, even irreplaceable, they primarily represent precision industrial manufacturing and **not digital or green technologies** in the true sense. More importantly, they are exceptions in the European landscape. None of these companies rank among the world's ten largest tech firms, and their revenues and **market capitalizations** are **many orders of magnitude lower** than those of the dominant U.S. and Chinese[1] technology giants—despite being Europe's clear champions.

Despite funding initiatives such as *Horizon Europe*, which allocates €95.5 billion for research and development from 2021 to 2027, **structural barriers** continue to prevent these investments from translating into a comparable global market position.

Trade Dependencies and Vulnerabilities

The COVID-19 pandemic and the subsequent energy crisis definitively exposed the **fragility of the EU's trade and technological relationships**, as well as the risks associated with these dependencies. Initiatives such as the *Critical Raw Materials Act (CRMA)* and the *Draghi Report* aim to reduce reliance on external suppliers. However, these strategies devote less attention to the fact that their success will depend on the EU's ability to implement complementary

[1] It is also essential to emphasize that when **including Tesla**, the **full spectrum of digital services and technologies** in which the **U.S. maintains complete dominance** becomes evident: from **manufacturing** (NVIDIA, Apple) to **software** (Microsoft), **comprehensive cloud and data services** (Alphabet), **retail and entertainment** (Amazon), and even **green technologies and space exploration** (Tesla and many others).

Despite its ambitions, **Europe has become a consumer rather than a creator** of transformative digital technologies—including in the green sector. The EU's **comparative advantage now lies almost exclusively in precision and sophisticated, technologically intensive industrial manufacturing**, rather than in digital or green technology innovation.

measures, such as strengthening domestic production and recycling capacities, as well as effectively advancing its geoeconomic priorities on the global stage. In particular, **the issue of Europe's industrial manufacturing capacities remains inadequately addressed in current EU materials and even in the Draghi Report** (see below).

The *Draghi Report*, along with other EU documents, identifies **material dependency** as a **key weakness** in terms of access to ***critical raw materials (CRM)***, which are essential for the green and digital transitions. It acknowledges that the EU's current dependence on **China** (for rare earths and battery materials) **and other third countries** significantly undermines European strategic autonomy. However, despite being presented as a landmark step, the ***Critical Raw Materials Act (CRMA)*** **fails to offer realistic solutions to the systemic challenges at hand**:

- **Circular economy and domestic supply:** The report emphasizes recycling and the utilization of domestic resources (e.g., lithium in Portugal, rare earths in Sweden). However, these solutions hinge on **accelerating mining permit approvals**, improving recycling systems, and addressing public resistance—all of which remain unresolved. Even under the **best-case scenario**, the timeline for achieving significant progress in these areas is at least **a decade**.[2]
- **Diversification through trade partnerships:** Proposed joint trade strategies and alliances, such as the *Critical Raw Materials Club*, are framed as safeguards against external shocks. However, they echo earlier initiatives like *Global Gateway*, which failed to

[2] The **initial phase**, which includes exploration, feasibility studies, and permitting, is both time- and resource-intensive. Even with existing geological data, the process of resource assessment, test drilling, and environmental impact evaluation often takes **five years or more**. The **EU regulatory framework further extends these timelines**, as it mandates detailed Environmental and Social Impact Assessments (ESIA) and extensive stakeholder consultations, which typically add another **2–5 years**. Historical experience and insights from the European Commission and the European Raw Materials Alliance (ERMA) confirm that these steps take **significantly longer** compared to jurisdictions with less stringent regulatory requirements (Evropská komise, 2020), (JRC, 2020).

Once permits are issued, **mine construction and processing plant development bring additional delays**. Building mining infrastructure—including shafts, tunnels, and waste management systems—typically takes **2–3 years**, with timelines influenced by deposit availability and geological conditions. **Processing and refining facilities**, which involve complex chemical separation techniques, present even greater challenges. The construction of such facilities can take **3–7 years**, particularly due to **strict EU regulations** on environmental protection and chemical handling, such as the **REACH regulation**. The EU's **limited expertise in rare earth element (REE) processing** may further exacerbate delays. Previous studies indicate that advanced REE processing **often reaches the upper end of these timeframes**, especially when starting from scratch (Dehaine et al., 2021) , (Binnemans et al., 2015).

Finally, even after production begins, **full supply chain integration and market maturity** can take another **5–10 years**. The EU would need to establish downstream industries, such as **magnet manufacturing**, while ensuring the necessary **logistical and quality standards**. Competing with **China's well-established supply chains** will require achieving **economies of scale and cost reductions**, which remain **challenging due to high production costs and an emerging domestic industry**. While **policy frameworks and strategic alliances** may mitigate some of these obstacles, the overall process remains **lengthy**.

When combining exploration, permitting, development, and **supply chain integration**, the estimated timeframe for a **fully functional and competitive REE supply chain in the EU is at best 10–15 years**—and **likely even longer** (Mancheri et al., 2019), (Hayes-Labruto et al., 2013). While **aggressive political support and technological advancements** could accelerate some steps, historical data suggests that this remains a **significant and long-term endeavor**.

deliver meaningful results due to limited geopolitical influence and internal EU contradictions. **Our analysis shows that, despite the *Draghi Report's* urgent tone, this approach is not a realistic pathway to resolving the issue.**[3]

From the perspective of this analysis, what is most striking is that the *Draghi Report* **completely overlooks a far more complex and difficult-to-solve issue:**

Europe's import dependency on intermediate goods

More than **40% of EU imports in key sectors**—including mining, metallurgy, fossil fuel processing, chemicals, energy, water supply, and waste management—consist of **intermediate goods** (i.e., products used in further manufacturing or production processes rather than for direct consumption). The European economy is **also highly dependent on intermediate goods across numerous strategic industrial sectors**, including **information and communication technologies (IT/ICT)** (Baldwin & Lopez-Gonzalez, 2015; OECD, 2013).

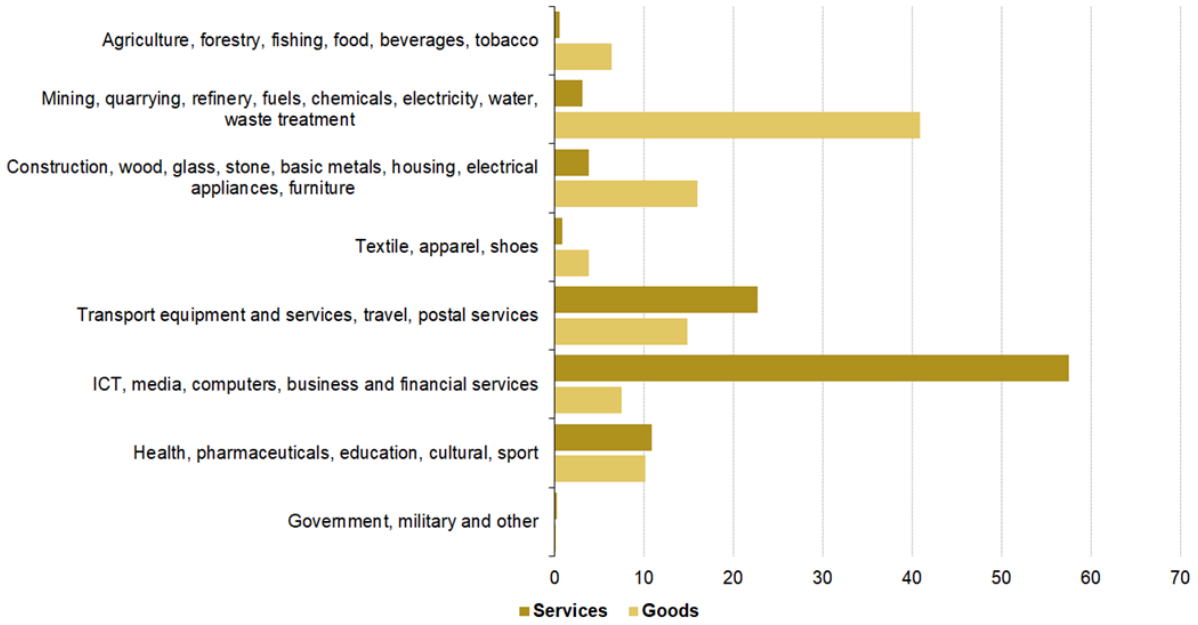
Artificially created **Chinese industrial overproduction**, along with **U.S. pro-industrial policies**, further exacerbate this problem, making it a growing concern for the European Commission (European Commission, 2020).

From a geopolitical standpoint, it is crucial to highlight that **Europe's reliance on intermediate goods becomes a critical vulnerability in the event of any major escalation in the Middle East** (e.g., disruptions in the **Suez Canal** and other key maritime chokepoints) or **in East Asia** (e.g., a crisis in the **Taiwan Strait** and the EU's dependence on key ports and trans-shipment hubs in Southeast Asia).

[3] Despite **decades of strategic frameworks**, the EU's efforts to establish a **unified external economic strategy** have consistently failed. These initiatives have been based on leveraging the **EU's collective economic weight**—an argument that remains valid and widely used. However, the reality is far less cohesive: **national and regional economic interests continue to undermine** the EU's ability to act collectively. Additionally, the **increasingly fragmented international landscape** and the **rise of protectionist rhetoric within Europe** leave little hope for meaningful change.

Mario Draghi's recent recommendation to develop a **"foreign economic policy"** focused on securing **critical resources** is a well-placed proposal. However, expecting **any real progress** in this area is **unrealistic**. Crucially, **success in this domain is a prerequisite for the success of the entire envisioned industrial strategy**.

Extra-EU imports of intermediate goods and services, 2023
(shares by broad economic category)



Note: 2023 data on Services are preliminary
Source: Eurostat (online data codes: bop_its6_det, DS-1288854 and own calculations)

In the **services sector**, intermediate goods account for nearly **60% of imports**, meaning that almost two-thirds of imported services are used to generate additional **value-added** within European economies. This high level of dependency makes the EU **more vulnerable than the U.S. and China**[4] if intermediate goods imports—whether in goods or services—are disrupted.

Within the **timeframe of Trump's presidency**, this leaves the EU **more susceptible to economic coercion**, not only in terms of **tariffs impacting exports** but also in terms of **inputs for industrial production and services** (i.e., intermediate goods imports).

The Central European region is the most vulnerable to all three major global trends:

1. **Digitalization**
2. **The Green Transition**
3. **Anti-globalization sentiment**

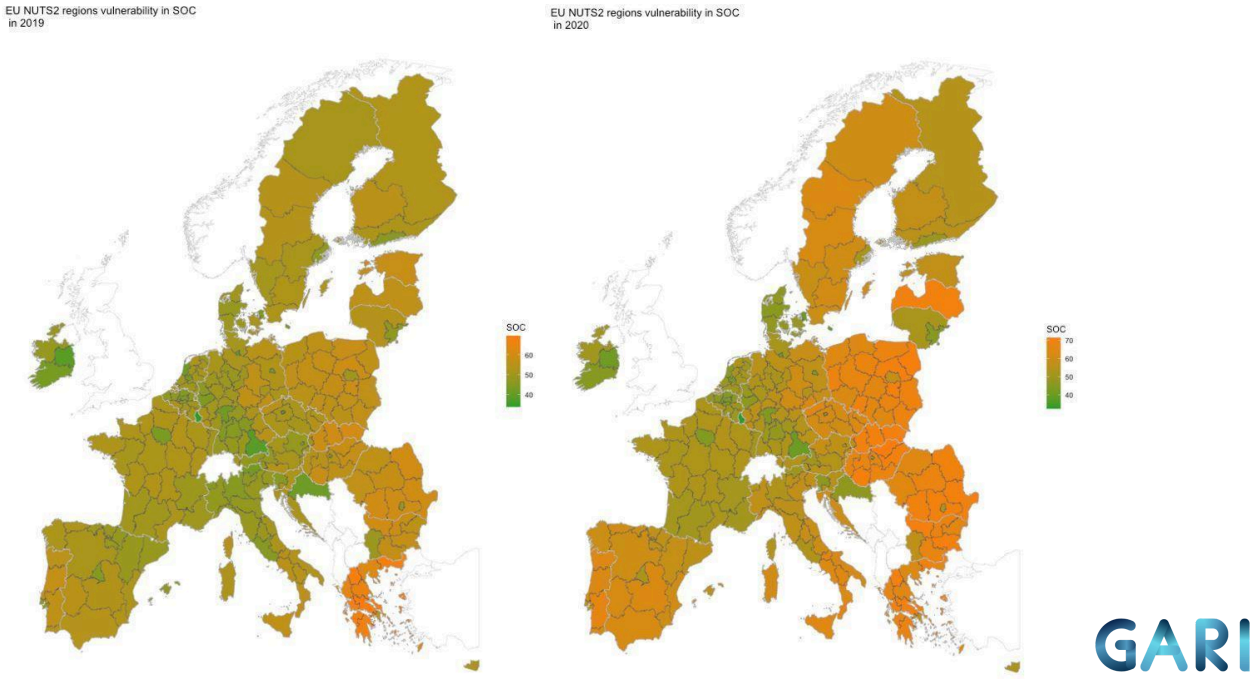
The **unequal socio-economic impact** on **less resilient regions** becomes evident in the following maps, which compare the NUTS2[5] regional socio-economic index for 2019 (pre-COVID)

[4] While the EU, U.S., and China have similar levels of dependency in volume, the U.S. and China's larger markets and production scales make these dependencies easier to manage. Since COVID-19, both countries have strategically supported domestic industry—China also boosting domestic demand—to strengthen resilience against anti-globalization trends. The EU's strategic support, however, has focused almost exclusively on the future green industry, rather than broader industrial self-sufficiency.

[5] Results from TAČR research for the Ministry of Industry and Trade (MPO), with findings presented, among other occasions, at the informal meeting of ministers responsible for regional development during the Czech Presidency of the EU Council in July 2022.

and 2020 (post-COVID). The evolution of the index clearly shows how **Central and Eastern European regions** were **disproportionately and significantly worse affected.**

Notably, **COVID-era economic shocks did not yet reflect the energy crisis** or the **current energy policy measures**, which have since **further exacerbated** economic disparities. Under **present conditions, any geopolitical disruption to supply chains would have an extremely severe impact on industrially developed Central Europe**, particularly affecting its already highly vulnerable regions.

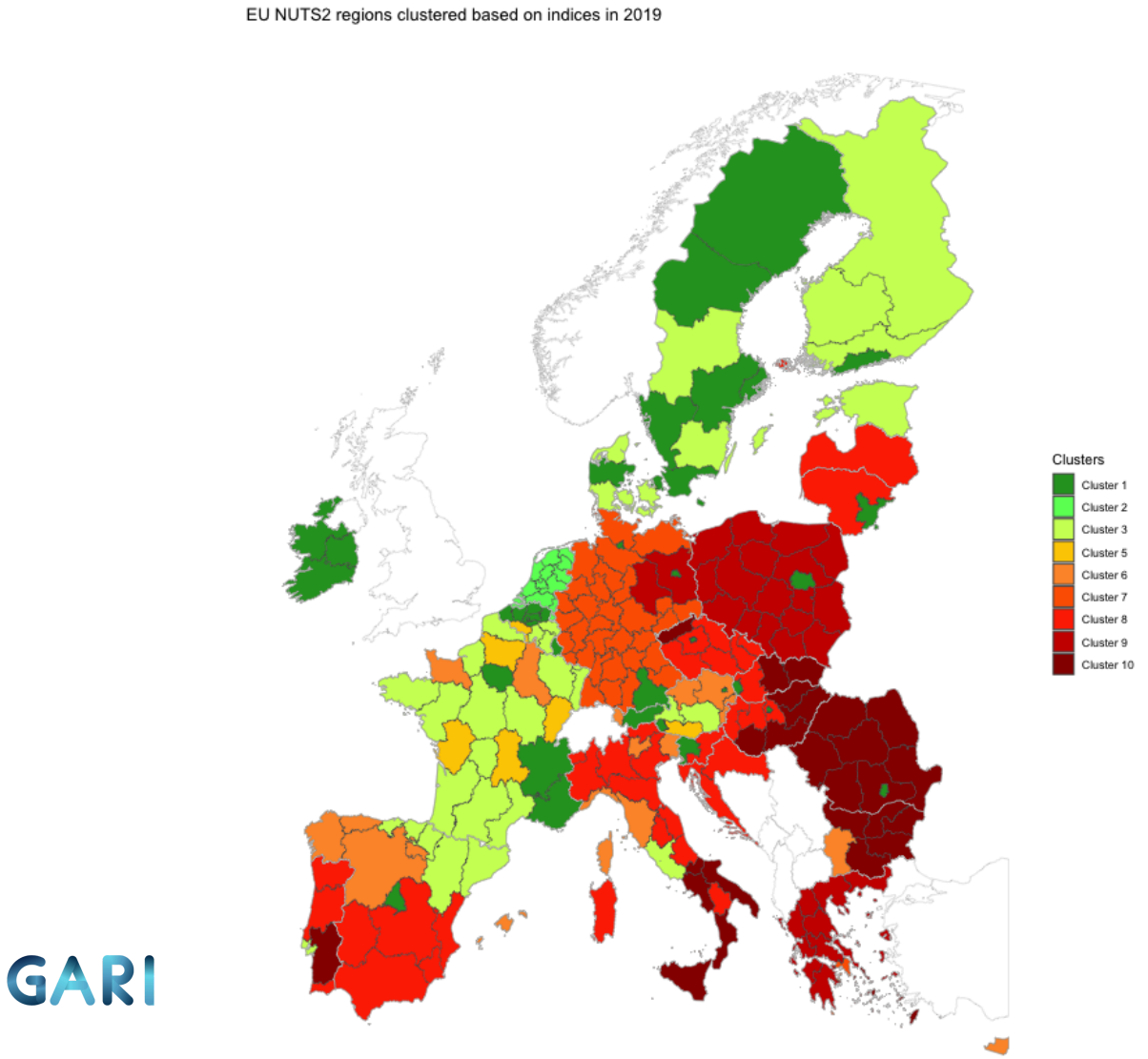


Social Fragmentation and Inequalities

This brings us to another long-standing pillar of EU strategies—**social cohesion**. Our findings indicate that even in cases of **successful economic transformation** within the EU, there is a simultaneous deepening of **socio-economic disparities**, both **intra-societally** and **inter-regionally**.

Countries and regions capable of investing in innovation and infrastructure have achieved higher returns, while **less developed areas have continued to lag behind** (OECD, 2020). The gap between economically dynamic urban centers—such as Munich, Amsterdam, Paris, Prague, and Warsaw—and peripheral or post-industrial areas is widening, with **rural regions often excluded from the benefits of globalization** and EU membership in general. Internal

inequalities within the EU have deepened over the past decade, **undermining both social cohesion** and **trust in EU institutions**.



The graphic above presents the **GARI Composite Index**, which assesses regional (NUTS2) **socioeconomic vulnerabilities to the green and digital transitions**. The data confirms a **widening gap between urban centers and regional areas**.

Since **populist movements capitalize on these disparities**, **trust in institutions and governance continues to decline**, making **social fragmentation** not just an economic issue but a **political challenge and a threat to democracy itself**. No policy can ever be entirely fair, and economic growth inevitably leads to some level of social and economic inequality. However, our findings indicate that **current EU strategies are not mitigating these disparities—they are actively contributing to them**.

The *Draghi Report* acknowledges these problems but offers **few concrete solutions** beyond **vague commitments** to initiatives in **education and vocational training**—which in the past have **struggled to deliver fair and tangible outcomes**. The **core issue** is that **one side of EU policy exacerbates social inequalities, while the other tries to counteract them through financial and regulatory interventions**.

Cohesion funds and pro-growth measures have **consistently produced uneven results**:

- They **fail to account for local specificities**
- They **often do not reach the regions most in need**
- When they do reach the right areas, they **face absorption capacity limitations and long-term sustainability challenges**

The Green Economy Transition: New Dependencies and Entropy

The EU's ambitious green agenda has positioned it as a global leader in climate policy, yet its **implementation reveals fundamental contradictions** similar to those previously outlined. The most notable success of the green transition has been the **rapid increase in renewable energy production and consumption** and the overall **reduction in energy intensity** of the economy. In hindsight, however, it is evident that these achievements have been driven primarily by strict regulatory measures—a strategy that has not been nearly as effective in other key economic areas (such as competitiveness).

While the shift to renewable energy has helped **reduce direct dependence on an aggressive and unpredictable Russia**, Europe has instead become entangled in a **far more complex web of dependencies** on **new resources and technologies**. However, this has not occurred from a position of technological leadership but rather **as an end-user** of cost-effective technologies developed or manufactured elsewhere (IEA, 2023).

This follows the same logic that defined the EU's previous, ultimately unsuccessful, economic model: **Europe's lack of competitiveness is compensated by increasing reliance on cheaper inputs for production and trade**—the only difference being that this time, the focus is on green technologies.

For example:

- **Solar panels**: **Over 80% of the world's solar panels are manufactured in China**, meaning the EU is a consumer rather than an owner of intellectual property and production capacity.
- **Battery technologies**: Despite EU investments in battery gigafactories, key components and materials for **batteries are increasingly sourced from Asia** (World Bank, 2021).

In other words, an area that has been a top EU priority for more than a decade has contributed to a **highly sophisticated network of dependencies**—on **fragile supply chains, geoeconomically strategic nations like China, and a highly competitive U.S. administration** (Trump's USA)—without the EU having any significant leverage or influence to counteract this reality.

Unequal Socioeconomic Impact of the Green Transition

Investments in renewable energy have **not been evenly distributed** across **EU member states** or **social groups**—a pattern identical to that seen in **competitiveness policies**. Wealthier regions and countries with greater **absorption capacity**, such as Benelux and Denmark, have benefited the most from the transition, while **less developed regions continue to struggle** with **deepening structural barriers** (Veugelers, 2023).

Meanwhile, **Central European regions, including Germany**, whose economies remain **industry-driven**, face **significant economic and social costs** in their attempt to phase out fossil fuels.

This uneven progress not only undermines the EU's climate goals but also deepens internal divisions, further weakening the **Union's cohesion and resilience**. Regions reliant on traditional industrial sectors—such as manufacturing—bear the greatest burden of the green transition, fueling **populism and political instability.**

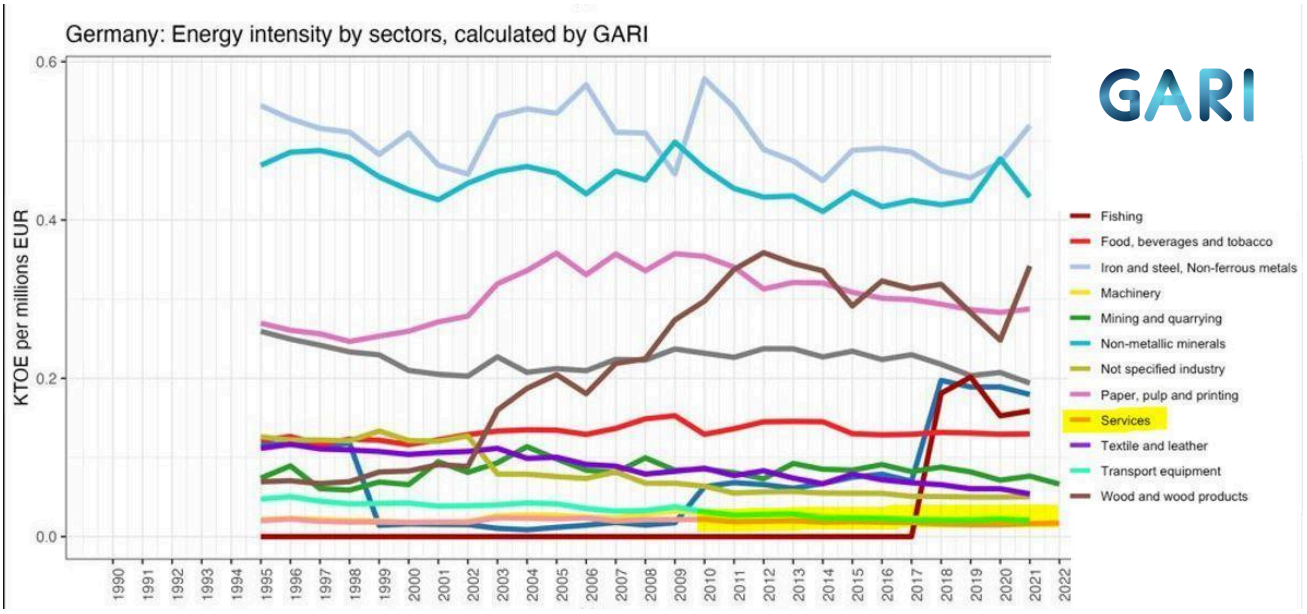
Neither the digital nor green transformation alone are to blame for these tensions, but they expose the **growing friction between the EU's climate and economic ambitions and its long-term social cohesion objectives**. The unequal distribution of costs and benefits highlights the EU's inability to align its three fundamental pillars: competitiveness, sustainability, and cohesion.

Focus on Industry and a Realistic Path Forward

Despite the aspirations of EU green policy architects, the EU's climate successes have been mostly concentrated on **increasing the share of renewables** in total energy consumption and production. However, **overall energy consumption per capita** has followed **contradictory** and imbalanced trends.

The **European Commission continues to neglect energy efficiency in energy-intensive industries (EIIs)** such as metal processing, chemicals, cement, glass, wood processing, paper production, and mining, as well as engineering networks like water supply, district heating, and waste pipelines. The following GARI calculations on the energy intensity of metal processing industries across European countries illustrate how, over the last 15 years, **energy intensity in this sector has either stagnated or worsened** (e.g., Austria, Czech Republic). Structural improvements (Netherlands) or consistently high efficiency levels (Scandinavia) remain exceptions rather than the norm.[6]

A similar pattern is evident in Germany, where, despite being a green transition leader, energy intensity in metal processing has stagnated since 2014, and in the steel sector, it has actually increased since 2018. **The overall trajectory across sectors reflects the secondary importance of industrial energy intensity as an issue in the EU.**



Europe's Internal Weakness in Green Industrial Policies

[6] **It is telling that the European Commission, Eurostat, and the European Environment Agency do not publish specific data on industrial energy intensity, either in general or by individual industrial sectors.** Most publicly available data refers only to the aggregate energy intensity of entire European economies, which appears to be decreasing—but this is primarily due to deindustrialization, the growing role of services, and increased public spending. **The attached tables are therefore the result of GARI's comprehensive calculations.**

This, according to **GARI**, is a **fundamental internal weakness** of EU green policies. They were based on the assumption that **economic inputs** from heavy and energy-intensive industries **could be sourced outside the EU** (through targeted investments, subsidies, and strategically and operationally better-positioned supply chains). **Investing in the efficiency (and future) of these industries was seen as a diversion of necessary support away from green technologies.**

We are therefore in a situation where European **energy-intensive industries (EIIs) are both essential and unwanted**, while also **falling behind globally** due to **high energy costs and years of being underestimated**. Europe's industrial base, once a pillar of its global competitiveness, has been **steadily undermined** by **excessive dependence on global supply chains**.

The Draghi Report correctly calls for renewed attention to industrial competitiveness, but only within the **narrowly defined sector of green industries**. Without addressing the structural problems of European industry as a whole (including EIIs), it is inevitable that **massive support for green industries will increase Europe's external dependencies** and internal disparities.

The European Commission is aware of these industrial challenges, but according to our analysis, the proposed strategies for Europe's future are not only unrealistic but outright dangerous, as they repeat the same failed approaches of the past.

The EU's Industrial Strategy: Vision vs. Reality

The **New Industrial Strategy for Europe (2020)** presents itself as an "ambitious plan" to transform the European economy and industry into a new ecosystem, **which stands out for its sustainability, global competitiveness, role as a driver of innovation, social inclusivity, and contribution to building Europe's economic resilience** (New Industrial Strategy for Europe, European Commission, 2020). It assumes an **industrial base rebuilt for green technology production, powered by renewable energy**, just as it **assumes a leading role of the EU in digital and green technologies**.

This was the EU's vision for the future in 2020: industrial sectors that are not only leaders in decarbonization but also competitive on a global level, producing high-end products and contributing to a circular economy. The **Draghi Report** is more critical of the current state of European industry and its ability to become a digital leader, yet in terms of long-term vision of

the future, **its recommendations hardly differ with the logic of existing industrial strategies.**

The core of this logic is a **commitment to decarbonizing energy-intensive industrial sectors**. This is therefore a **partial departure** from previous assumptions, namely that **EIIs would essentially be relocated outside the EU**. The **cornerstone of the initiative** are **green hydrogen**, which is considered a **clean alternative fuel and raw material**; **carbon capture and storage (CCS), and carbon capture and utilization (CCU),** as tools to mitigate emissions in industrial sectors where direct electrification is not yet feasible.

The Commission has proposed a range of instruments to support this transition, including:

- Financial instruments such as the EU ETS Innovation Fund, focusing on large-scale industrial decarbonization projects
- Carbon Contracts for Difference (CCfD), aimed at reducing investment risks for low-carbon technologies
- The Just Transition Mechanism, with a €100 billion budget, designed to mitigate the social impact of these changes and help regions and vulnerable professions adapt to new socio-economic conditions

The Draghi Report's Approach: A Repetition of Past Failures

It is a grand and on-paper convincing vision, which, as previously mentioned, is also largely adopted by the Draghi Report. For Draghi, *"the decarbonization of industry represents a key opportunity not only to reduce energy prices but also to strengthen the EU's position as a global leader in clean technologies and energy security."* The Draghi Report also highlights that **massive investments in renewable energy will increase Europe's dependence on Chinese technologies**:

> *"China already controls a significant share of global solar panel, battery, and electric vehicle production, and its manufacturing capacity in these sectors is expected to become excessive by around 2030. This dominance has led to a sharp deterioration in the EU's trade balance with China, most notably in the import of photovoltaic products, batteries, and electric vehicles. (...) It is likely that China's surplus capacity will continue to be redirected to the EU market, particularly as other countries, such as the United States, introduce new tariff barriers."*

At the same time, the Draghi Report finally acknowledges that **only a very limited portion of EU funding** (e.g., from emission allowances) **focuses on industry**. Instead, most financial resources are allocated to households, renewable energy subsidies, and energy price reductions.

The majority of funds are *"given to households, support to renewable energy sources, and lowering energy prices. In contrast, energy-intensive industries in other regions, such as China, benefit from significantly higher state support, which is a key factor in their competitiveness"* (*ibid.*). Draghi's Report therefore urges that *"the EU must take a more strategic approach to supporting its energy-intensive industries."*

While all this sounds promising, Draghi's own approach essentially recycles recipes already embedded in the EU's 2020 industrial strategy:

- **Decarbonization**
- **Hydrogen, CCU, and CCS technologies** and massive investments in these technologies
- **Workforce retraining**
- **An ambitious and unified external European economic policy to address geopolitical risks**

DRAGHI REPORT REALITY CHECK

GARI's analysis concludes that this plan is **objectively entirely unrealistic**. The **time and financial infeasibility** of this approach—combined with its **failure to account for real absorption capacities** in individual regions and sectors, as well as its misjudgment of the EU's position in the global technological and geo-economic landscape—makes the **industrial strategy an extremely risky and fiscally unsustainable undertaking**.

A critical mistake, in our view, is that for normative reasons, the European Commission has **deliberately and explicitly chosen not to address the issue of actual thermodynamic energy efficiency in energy-intensive industries** (EIIs)—except for a few isolated exceptions, such as electric arc furnaces in steel mills and recycling. While the language of the strategy is dressed in a cloak of efficiency, the majority of its proposals focus on t**ransitioning to new energy sources and reducing emissions**, while almost entirely neglecting the question of **reducing energy consumption** for the same output.

From a **thermodynamic perspective**—which we consider the **only objectively valid approach in energy policy**—the introduction of **renewable energy sources** simply **changes the energy source rather than reducing the overall energy demand in EIIs. Efficiency, in thermodynamic terms, means achieving the same results with less energy, not merely**

producing cleaner energy. True efficiency involves process optimization, waste reduction, and energy recovery wherever possible. For example:

- **Carbon capture and storage (CCS)**—at least in the short term—**increases energy demand** due to the additional steps required to capture and store emissions.
- **Green hydrogen**, hailed as a transformative technology, requires **significant energy input for electrolysis** — according to the Draghi Report, this process would necessitate nearly tripling solar panel installations and more than doubling wind power capacity (*European Competitiveness, 2024a*).

While even the most basic logic suggests that applying next-generation industrial decarbonization technologies (such as CCU and CCS) will be more accessible and effective **only after maximizing the efficiency of existing systems**. The required investments in further phases of decarbonization will naturally be lower in direct proportion to the reduction of emissions achieved through energy efficiency.

According to **GARI's preliminary calculations**, a **realistic and cautious strategy**, supported by an **annual budget of €50–70 billion** (*compared to the €750 billion annually recommended in the Draghi Report*), could **address Europe's immediate economic, social, and environmental challenges within two to four years**, while still aligning with **its decarbonization goals**. (most of the initiatives suggested by EU policies so far, even in the unlikely event of successful realisation, should count on a time frame of **10 - 25 years**)

With a similar level of investment, approximately **1,000 to 1,400 industrial facilities per year** could undergo **medium-scale energy efficiency improvements**. [7]

[7] These improvements include advanced process control, optimized thermal systems, and enhanced waste utilization technologies—achievable within current technical and manufacturing capabilities. For example, the modernization of a medium-sized steel plant in the EU, incorporating top-gas recycling and high-temperature heat pumps, could achieve **15–20% energy savings** within **3–5 years**, with costs ranging from **€50–150 million**. Similar upgrades in cement plants, such as advanced clinker production methods and improved grinding technologies, could yield **10–20% energy savings**. These measures require **investments of €20–80 million per facility**, depending on complexity (International Energy Agency [IEA], 2021).

"PLAN B" FOR EUROPE – ENERGY EFFICIENCY AS A CAUTIOUS AND REALISTIC PATH FORWARD

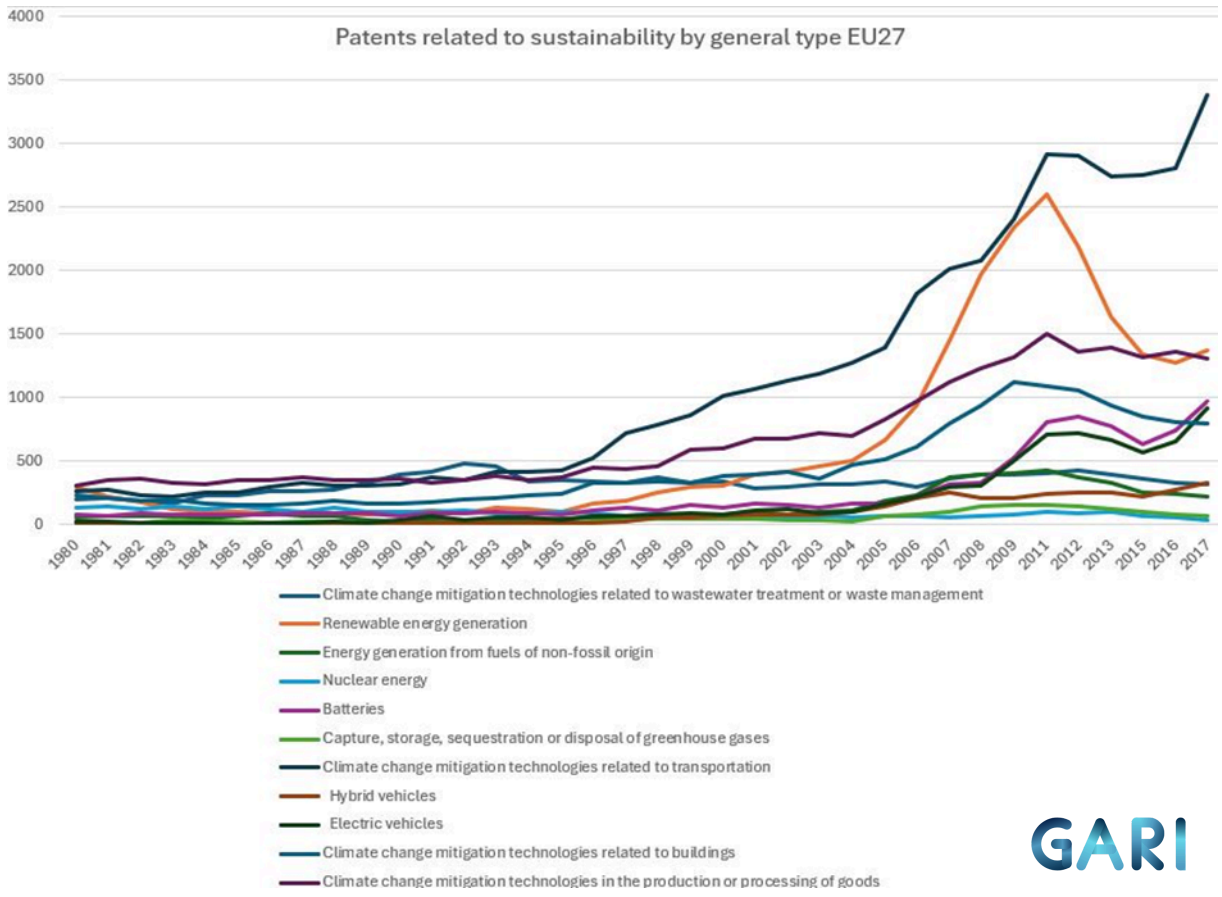
Decades of ambitious but often poorly coordinated strategies have exposed the limits of mainstream approaches to achieving competitiveness, sustainability, and social cohesion. Frameworks such as the **Lisbon Agenda, Europe 2020, and the European Green Deal** brought bold visions, but their **implementation has revealed systemic contradictions, regional disparities, and governance challenges**. After acknowledging these failures, we propose **"Plan B"** as a realistic and pragmatic alternative, focusing on the stabilization and strengthening of Europe's industrial and social foundations. By emphasizing **energy efficiency in traditional industrial sectors, infrastructure modernization, and gradual innovation**, **"Plan B" offers a path to tangible progress and resilience**.

At the heart of this alternative vision is **energy efficiency**, which focuses on **energy-intensive sectors** such as **manufacturing, construction, transmission systems, and waste management**. These industries are the largest consumers of energy in the EU, accounting for more than 50% of industrial energy use, but they also represent a sector with enormous and financially accessible potential for improvement. Industrial processes, particularly in **steel and cement** production, remain highly energy-intensive and are still ripe for technological modernization, which could reduce energy consumption by up to 30%. For example, the **modernization of industrial furnaces with advanced heat recovery systems** can achieve **energy consumption reductions of up to 30%**. These measures, despite being based on existing technologies, offer **quick and visible results** and place Europe at the **forefront of sustainable industrial practices without requiring high upfront costs for greenfield innovation**.

Waste management and energy distribution networks are critical for sustainability, representing a neglected potential for energy utilization through advanced recycling technologies and waste-to-energy systems. A focus on these sectors **maximizes immediate impact** while remaining **aligned with long-term sustainability and economic objectives** (European Commission, 2023). GARI has developed cost and savings scenarios for all industrial sectors, and they all present a similar picture.[8] Additionally, in terms of funding for fundamental and applied research, **traditional thermodynamic and material sciences have been chronically neglected** by several orders of magnitude over the past two decades, as opposed to

[8] Available upon request

investments in renewable energy and decarbonization. As a result, the EU now finds itself in a situation where its past bets on global competitiveness in renewables have not delivered the expected results, while in terms of **thermodynamic efficiency, we have not even attempted to expand the upper limits of possibilities through research** (see following graph).



The impact of investments in efficiency could be unprecedented. **Energy savings could reduce the EU's total energy consumption by 5–7.5% annually, equivalent to 150–210 million MWh**—a deciding numberfor **reducing dependence on imported energy sources**. This is particularly urgent given ongoing geopolitical challenges and unstable energy markets. Furthermore, implementing these measures could create 250,000 to 350,000 jobs annually in industries such as construction, engineering, and technology deployment. This approach promises a **natural solution to** interregional and broader **social disparities**, providing job opportunities in both urban centers and economically struggling regions.

The economic impact goes beyond energy savings. Investments in energy efficiency have an estimated **fiscal multiplier of 1.3**, meaning that every euro spent generates €1.30 in economic activity. An **annual budget of €50–70 billion could increase the EU's GDP by €65–91 billion per year**, directly supporting industrial competitiveness and economic stability. This stands in

stark contrast to **speculative strategies** that require **unprecedented loans** to finance new technologies, where the EU is unlikely to achieve global competitiveness in the medium term anyway.

Investments in energy efficiency would not only **bring immediate benefits** but also strengthen the **EU's technological autonomy** by reducing reliance on external suppliers and reinforcing its industrial base. Most of the **necessary technologies, expertise, and materials are already available within the EU**. Gradual modernization efforts, such as digital twins, advanced heat exchangers, and AI-driven process optimization, rely on established European manufacturers and research outputs. However, a lack of coordination has prevented these innovations from being integrated into comprehensive industrial strategies.

Energy efficiency thus serves as a **cost-effective bridge to the goals of sustainability and resilience**. Unlike the **uncertain, leap-frog**, and widespread rollout of green industrial technologies, which requires immense capital investments and a significant restructuring of supply chains—often with a realization horizon of more than five years (actually more than ten years in most cases)—efficiency measures **utilize and enhance existing infrastructure and workforce capacities**, leveraging and **advancing Europe's existing technological capacities and strengths**, such as its highly innovative,precise manufacturing industry, also supporting the construction sector and related fields.

This approach reduces Europe's dependence on fossil fuel and critical raw material (CRM) imports and enhances strategic autonomy in times of geopolitical uncertainty without creating new dependencies. It is precisely through this natural reduction of dependencies that "Plan B" addresses one of the clearest weaknesses exposed by recent crises, including the COVID-19 pandemic and the 2022 energy shock.

Infrastructure modernization forms another critical pillar of "Plan B". This is particularly urgent in regions such as Central and Eastern Europe, where **outdated water distribution systems and district heating infrastructure** are still in use. Decades of insufficient investment in basic public infrastructure—including water distribution, waste management, district heating systems, and transmission networks—**have left many EU regions unprepared for the demands of a sustainable future**. Addressing these deficiencies is not just an environmental necessity but also a **socio-economic imperative**.

For example, in countries such as Bulgaria and Romania, water leakage rates exceed 30%, while the EU average stands at an unsustainable 25%. Infrastructure modernization should be carried out both to integrate renewable energy sources and to improve energy efficiency, benefiting both urban and rural populations.

- **Upgrading district heating networks** with better insulation and smart demand prediction tools **could reduce heat losses by up to 20%**
- In the **water management sector**, replacing old pumps and modernizing wastewater treatment plants with anaerobic digesters **could reduce energy consumption by 10–20%** while also supporting circular economy goals.
- In energy infrastructure, **modernizing transmission and distribution networks** with high-voltage direct current connections (HVDC), digital twins, and smart substations could reduce grid losses from 5–8% to 3–5%.

Ultimately, annual investments in energy efficiency amounting to €50–70 billion (compared to the €750 billion per year proposed in the Draghi Report) represent not only a practical alternative but an **essential course correction**. This approach balances immediate needs with long-term goals, ensuring that the **EU's decarbonization strategy remains economically viable, socially fair, and environmentally sustainable**. Without this shift, the EU risks deepening its dependency and vulnerability, thereby undermining the strategic autonomy and industrial resilience that its policies are meant to secure.

The contrast between these more immediately and more affordably attainable benefits and the speculative focus of the Draghi Report is indeed stark. While the report proposes massive investments in technologies such as green hydrogen, these **solutions require long-term development and an increase in external dependencies**. By contrast, energy efficiency measures provide **rapid and scalable benefits** that strengthen Europe's industrial base, create jobs, and enhance energy security. By focusing on advanced yet easily implementable technologies, the EU can reduce energy consumption and emissions while also **fostering public support for the green transition**.

"Plan B" acknowledges the **diverse strengths of European industry** and supports targeted investments in workforce retraining and skills development to align with the evolving demands of modernized industrial sectors. Similarly, **localized research and development (R&D) centers** can focus on the **industrial strengths specific to a given region**, fostering innovation without deepening regional inequalities. The emphasis on gradual progress **prevents the social**

and economic pathologies that often accompany sudden, large-scale transitions, thereby laying the foundation for long-term stability.

The real impacts of "Plan B" then naturally, realistically, and attainably address all three long-term pillars of EU strategies: competitiveness, sustainability, and social cohesion, while also limiting the growth of import dependencies. **Increased competitiveness** stems from **increased productivity and decreased operational costs** in industrial sectors. By prioritizing efficiency, European businesses can remain competitive **without relying on subsidies** or unproven new approaches that increase dependencies on an external environment. In essence, all that is needed is a political signal that EIIs (energy-intensive industries) are not industries to be discarded (as they are implicitly categorized in the Draghi Report), thereby paving the way for restoring confidence in the future, along with encouraging investment.

A focus on **energy efficiency directly contributes to emissions reduction while also conserving limited resources**. Unlike transformation strategies that often require major trade-offs, such as reliance on critical raw materials (CRM) for renewable energy technologies, Plan B's prioritization of efficiency **minimizes environmental impact within the existing industrial framework.**

By reducing overall energy demand, this approach also facilitates the transition to renewable energy, alleviates pressure on supply chains, and accelerates the shift to a low-carbon economy. Perhaps most importantly, "Plan B" prioritizes social cohesion in a way that previous strategies have failed to consider and does not require massive social transfers, such as the €100 billion social fund. Instead, improved infrastructure directly **enhances quality of life, strengthens trust in public institutions, and counters populist narratives,** which have gained strength in recent years and are likely to continue doing so.[9]

At the same time, this plan **avoids the need for new, overly ambitious regulatory and legislative frameworks**, which in the past have **increased unpredictability, confusion, lack of transparency, and general systemic entropy**.

Finally, "Plan B" limits rather than increases the EU's dependence on external supply chains. Geopolitical and geo-economic risks will understandably not disappear, and reliance on imported CRMs will persist. However, unlike existing strategies, **"Plan B" acknowledges**

[9] For example, **modernizing waste management systems in less developed regions** not only creates jobs but also addresses long-term public health issues and fosters a sense of inclusion and shared progress across all member states.

these risks, actively mitigates their impact, and does not build the EU's future on the unrealistic assumption—present in the Draghi Report—that after three decades of failed attempts, the EU will suddenly develop a more unified external economic policy.

Challenges and Political Realities

Although "Plan B" offers a realistic and balanced path forward, it is not without challenges. One of the key issues is the low and long-term return on investment, combined with an uncertain future for **energy-intensive industries, as they lack political support within the EU**. This makes them unattractive to investors, who tend to follow the path of least resistance in pursuit of the highest and fastest returns.

In this regard, competing with digital and new green technologies is not feasible, as the investment world and market are riding the wave of existing interest in these technologies, regardless of their actual socio-economic impact (though Plan B could help disrupt this bubble).

This is why **banks, insurance companies, tax incentives, and direct financial support for efficiency-oriented technologies** must play a central role. However, here lies a major obstacle: deeply ingrained European resistance to heavy industry, which also affects banks' willingness to finance EII-related projects.

In the specific case of the Czech Republic, where **most banks are foreign-owned subsidiaries**, maneuvering space will be limited. For such an approach to function, a **fundamental shift in the EU's mentality and the philosophy of the European economic-political ecosystem is truly necessary.** Achieving such **political consensus among member states** with differing priorities may be an unrealistic expectation, as it requires skilled diplomacy and compromise. However, it is in the vital interest of the Czech Republic—and the entire Central European region, including Germany (!)—to make every possible effort in this direction.

Reconstruction of Ukraine and the European Economy

Russia's aggression against Ukraine represents a failure of the global order, a human and humanitarian tragedy, and an unprecedented threat to European security. For this reason, we are reluctant to view the (hopefully) post-war reconstruction of Ukraine as an "opportunity." **Supporting Ukraine's recovery** and its integration into the European community[10] is both a **moral and strategic imperative**. Nevertheless, Ukraine's economic recovery must be seen as not only a means of better integrating the Ukrainian economy with Europe but also as a way to **address some of Europe's structural economic challenges**.

At this stage, it is impossible to estimate the scope, timeframe, or cost of Ukraine's reconstruction. However, it is already evident that European industry will have two significant opportunities: **directly participating in reconstruction efforts** and, in the long term, **capitalizing on trade relations with a revitalized Ukrainian economy**. Key sectors such as construction, energy, and manufacturing will require significant investment, creating opportunities for the EU to implement advanced technologies and sustainable practices (World Bank, 2023). Similarly, investments in digital infrastructure and transportation networks can leverage the expertise of EU industrial sectors while accelerating technological integration across the continent.

Moreover, Ukraine's reconstruction aligns with the **EU's strategic goal of reducing reliance on external supply chains by strengthening regional economic ties**. The rebuilding effort provides a **platform for European industry to diversify its production base**, particularly in energy-intensive and critical material sectors. For instance, Ukraine's mining and agricultural industries could complement EU industrial sectors, thereby reducing the vulnerability of raw material supply chains (European Commission, 2023). By integrating Ukraine into the EU's economic framework through targeted investments and public-private partnerships, the **EU must simultaneously support a key ally**, expand its industrial base, and address urgent challenges such as deindustrialization and supply chain resilience.

Of course, the feasibility of this plan is constrained by well-known European realities, such as the **preference for national champions** and **specific economic interests**. Investment in Ukraine's reconstruction is also contingent upon the EU's highly uncertain ability to ensure the long-term stability of a post-war "New Ukraine" for decades ahead—without which, revitalizing Ukraine's economy and industry would be of little purpose. Obstacles will also arise from Europe's limited capacity—in terms of workforce, capital, and production capabilities—as well as Ukraine's own limited absorption capacity. However, by adopting the logic of "Plan B," Ukraine's reconstruction takes on a more realistic shape.

[10] The issue of **Russia's aggression against Ukraine** in the context of transatlantic relations is deliberately omitted from this analysis for two reasons: the topic of energy dependencies, sanctions, and their development during Russia's aggression is already well covered in EU materials, Czech policy, and secondary analyses and research. Therefore, this text focuses solely on the economic aspects of Ukraine's potential reconstruction.

KEY PRIORITIES OF PLAN B

—ENERGY EFFICIENCY FIRST—

- Focuses on **reducing industrial energy consumption** before committing to leap-frog green technologies.
- Supports **cost-effective, measurable improvements** in **energy-intensive industries (EIIs)** such as steel, cement, and chemicals.

—INFRASTRUCTURE MODERNIZATION—

- Upgrades **power grids, district heating, and water systems** to **reduce losses and improve efficiency**.
- Encourages **localized industrial modernization** to **reduce external dependencies**.

—ECONOMIC AND INDUSTRIAL RESILIENCE—

- Shifts focus from **technology-first decarbonization** to **efficiency-driven competitiveness**.
- Supports **domestic production capabilities** instead of reinforcing **dependence on foreign supply chains** (e.g., Chinese solar panels and batteries).

—GEOPOLITICAL CONSIDERATIONS—

- Suggests **leveraging industrial policy** to **navigate transatlantic tensions**.
- Acknowledges that **securing political consensus in the EU is difficult**, but Central Europe, including Germany, has a vital interest in pursuing this approach.

—A PRAGMATIC ALTERNATIVE TO EXISTING EU STRATEGY—

- **Avoids the pitfalls of speculative, high-risk investments.**
- **Provides a credible path to energy security, economic stability, and industrial competitiveness.**
- **Represents a necessary course correction** for Europe's **long-term sustainability and autonomy**.

SUMMARY: PLAN B FOR EUROPE - A PRAGMATIC APPROACH

"Plan B: for Europe" **does not** represent a **departure from global climate ambitions**, but rather a **cautious recalibration** focused on **economic and industrial resilience** while maintaining sustainability goals. By **prioritizing energy efficiency, workforce resilience, and infrastructure modernization**, it offers a **pragmatic and achievable alternative** to current EU strategies, which often rely on **overly ambitious and speculative technological transitions**. Instead of committing **unprecedented financial resources to high-risk green technologies**, *Plan B* redirects investment **toward efficiency improvements in existing industrial sectors**, ensuring that decarbonization efforts are **cost-effective, scalable, and aligned with economic competitiveness**.

A key element of this strategy is **reducing Europe's dependence on external supply chains**, particularly in **energy-intensive industries (EIIs)** and **critical raw materials (CRM)**. Instead of reinforcing vulnerabilities by **outsourcing industrial production and relying on China for renewable energy components**, *Plan B* encourages **localized industrial modernization** to strengthen **domestic production capabilities**. This includes **energy infrastructure upgrades, digital integration of industrial sectors, and regulatory reforms that support efficiency-driven innovation**.

Given the **geopolitical uncertainties ahead**, particularly with the **return of Donald Trump** and the **likelihood of trade conflicts**, the EU will need to **navigate transatlantic relations carefully**. One **hypothetical tactical option** (*though not highly realistic under the current European Commission*) would be for the EU to **find internal consensus on a pro-industrial approach**, while presenting this shift as **an alignment with Trump's economic logic**. In **his transactional worldview**, this would be **a political win**, while simultaneously allowing the EU to **strengthen its industrial base**.

Ultimately, *Plan B* represents a **necessary course correction**, prioritizing **economic and industrial realism over speculative policies**. By focusing on **efficiency, resilience, and strategic autonomy**, it provides a **credible and achievable alternative** to the EU's current industrial and energy strategies.

GARI's RECOMMENDATIONS

The GARI team, in conducting this analysis, has mapped out a **critical mass of recommendations** originating from EU institutions, academia, think tanks, and policy circles. We have concluded that the **overwhelming majority of proposed measures are highly aspirational**, reflecting European ambitions, but they fall into a **"cyclical deadlock of interdependent solutions",** where success in one area is entirely contingent on success in another, rendering the recommendations as a whole practically unworkable.

This is not to suggest that the EU should abandon its long-term aspirations for global competitiveness, a just society, and a sustainable future. Nor do we argue that ambitions such as broad deregulation, an ambitious EU external economic policy, or the support of advanced technologies are without merit.

However, we propose that these aspirational recommendations be complemented—and, in the current context, prioritized—by short-term, incremental, and realistic objectives, which align with a "crisis management" approach and promise immediate results. These recommendations do not increase external dependencies and have positive economic, environmental, and social impacts.

Support Data-Driven Scenario Planning

- Utilize data simulations and predictive models to analyze the impact of trade conflicts and geopolitical disruptions, such as tariff changes and supply chain restrictions.

ENERGY

1. Prioritize Energy Efficiency in Industrial Policy

- The EU should shift its decarbonization strategy from a technology-first approach to a demand-reduction-first approach by maximizing efficiency in energy-intensive industries (EIIs) before investing in new, high-risk energy solutions.

- Efficiency investments should precede large-scale decarbonization projects such as CCS and green hydrogen, as their effectiveness depends on minimizing existing energy consumption.

2. Redirect Energy Investment Toward Immediate Gains

- Instead of committing €750 billion annually as proposed in the Draghi Report, an investment in the region of €70 billion per year in efficiency-driven modernization, would generate faster, more scalable returns.
- These investments should focus on energy-saving upgrades in steel, cement, glass, and chemical industries, as well as fundamental energy infrastructure, including heat, water, and waste, as a precursor to leap-frogtechnologies that increase external dependencies.

3. Reduce Dependence on Imported Energy and Raw Materials

- Prioritize domestic supply chain resilience by investing in recycling and resource recovery to reduce reliance on imported critical raw materials (CRM).
- Shift focus from substituting fossil fuel dependency with dependency on imported renewables and batteries, particularly from China, where solar panels, batteries, and electric vehicle components dominate global markets.

4. Strengthen Energy Infrastructure Modernization

- Modernizing power grids, transmission networks, and distribution systems should be a core priority, including:
  - Expansion of high-voltage direct current (HVDC) transmission lines to reduce grid losses from 5–8% to 3–5%.
  - Upgrading district heating systems through better insulation and smart demand prediction to reduce heat losses by up to 20%.
  - Replacing old pumps and modernizing wastewater treatment plants with anaerobic digesters to cut energy consumption by 10–20% while supporting circular economy goals.

5. Recognize Nuclear Energy as a Bridge to Sustainable Decarbonization

- Advocate for nuclear energy, including fusion research, as a realistic and stable component of the EU's low-carbon transition strategy.

- Shift political and regulatory narratives to frame nuclear energy as an energy security measure, ensuring long-term European self-sufficiency rather than reliance on intermittent renewables and battery storage.

6. Reform Permitting for Energy Efficiency and Industrial Decarbonization

- Accelerate permitting processes for energy-related industrial innovation, particularly for:
  - Modernization of energy-intensive industries (EIIs).
  - Raw material extraction and refining within the EU to reduce CRM dependence.
  - Construction of efficiency-focused infrastructure projects such as energy-efficient industrial zones, modernized heating networks, and advanced grid technology.

7. Create Incentive Structures for Energy-Saving Technologies

- Establish financial incentives and regulatory frameworks to promote efficiency investments in industries before pushing high-risk decarbonization projects.
- Develop energy efficiency-based contracts (similar to carbon contracts for difference) to de-risk investments in high-efficiency industrial processes.

8. Integrate Energy Efficiency into EU's External Economic Strategy

- Tie energy infrastructure investments to broader trade agreements, ensuring EU-funded energy projects contribute to domestic industrial security rather than reinforcing foreign dependencies.
- Focus EU-supported Ukraine reconstruction on modern, energy-efficient infrastructure, creating regional supply chain integration for energy-intensive sectors such as steel and cement.

9. Address the Structural Weakness of the EU's Industrial Energy Policy

- The Draghi Report and existing EU industrial strategies have largely ignored energy efficiency in favor of technology-based decarbonization, which fails to reduce overall industrial energy demand.
- "Plan B" proposes a fundamental shift, prioritizing process optimization, waste reduction, and industrial-scale energy recovery before investing in speculative green energy projects.

10. Strengthen Public-Private Partnerships (PPP) in Energy Efficiency

- The EU should mobilize private-sector capital for energy efficiency investments, ensuring:
  - Banks and insurance companies provide financial mechanisms to support low-risk efficiency projects.
  - Governments facilitate PPPs in industrial modernization and smart energy grids.
  - Efficiency-focused tax incentives make energy-efficient industrial upgrades financially attractive.

11. Shift Energy Research Funding Toward Thermodynamic and Materials Science

- Redirect EU research funding from an overwhelming focus on renewables toward efficiency-focused thermodynamic research, which has been underfunded for decades.
- Prioritize advanced materials for energy efficiency, particularly in heat recovery, industrial process optimization, and waste-to-energy technologies.

ECONOMIC Context with a Short- to Medium-Term Implementation Horizon and Immediate Impact

- Establish incentives to support energy efficiency in energy-intensive industries, emphasizing immediate and measurable reductions in energy consumption.
- Promote investment in industrial infrastructure modernization through financial incentives, such as low-interest loans for upgrading energy-efficient technologies.
- Integrate European industry and other economic sectors vertically and horizontally through data and cloud technologies.
- Find a balanced approach between supporting domestic cloud industries and ensuring access to necessary technologies (Draghi Report).
- Accelerate permitting processes for innovation in energy-intensive industries, including the mining sector.
- Ensure transparency by engaging industrial associations in shaping future EU strategies, ensuring they reflect real market conditions.
- Invest in infrastructure modernization, prioritizing loss-prone sectors such as water distribution, waste management, and district heating systems, particularly in underdeveloped regions.

- Support localized R&D initiatives that leverage regional industrial strengths while addressing innovation gaps between EU member states.
- Create new regional innovation funds to reduce disparities and support equitable development.
- Improve cross-border transport and energy infrastructure.
- Invest in railway and road infrastructure between EU member states and establish smart logistics hubs.
- Expand workforce retraining programs to align with the evolving needs of transitioning industrial sectors.
- Advocate for nuclear energy, including fusion research, as a bridge to sustainable low-carbon solutions.
- Develop public-private partnerships (PPP) to accelerate infrastructure modernization, combining private-sector expertise and capital with public oversight and responsibility.

INTERNATIONAL Context with a Medium- to Long-Term Implementation Horizon and Return on Investment

- Advance the EU-Mercosur agreement, accelerate its implementation, and reject current recommendations that prioritize German interests in pharmaceuticals and environmental technologies.
- Support Ukraine's reconstruction and integration into European structures while preparing the EU for long-term geopolitical conflicts.
- Create trade missions and simplify logistics to facilitate supply chain diversification.
- Increase funding for fundamental research in physics, chemistry, pharmaceuticals, and material sciences, alongside high-risk, high-reward research projects (e.g., CERN) with breakthrough potential.

TRANSATLANTIC context

Develop a rapid response mechanism for trade conflicts.

- Monitor U.S. policy developments and ensure quick and coordinated EU reactions.

- Strengthen the EU's ability to track and respond to political and trade policy changes in the U.S..
- Create frameworks for fast, coordinated action among EU institutions and member states.

Enhance ties with U.S. states, the private sector, and business representatives with key economic interests.

- Establish trade and investment offices in key U.S. states, such as California, Texas, and Illinois, to support business relations and bypass federal protectionist policies.
- Organize dialogues between U.S. state officials, business leaders, and EU representatives to build alternative channels of cooperation.
- Prioritize sectors where the U.S. faces major challenges, particularly the aerospace industry:
    - Component manufacturing, aircraft maintenance, air traffic control systems, and personnel training are areas where European aerospace not only matches but currently surpasses U.S. capabilities.
    - The U.S. aerospace sector is on the brink of a deep structural crisis, affecting safety, production, and operational capabilities.
    - This is one of the few competitive advantages Europe holds, and it must be leveraged strategically.

GLOBAL ARENA RESEARCH INSTITUTE

In today's world, where **foresight is the most valuable currency**, GARI offers an **analytical tool that goes beyond traditional forecasting**. Our **AI-powered digital twin of the globalized world**, enhanced by **machine learning**, provides **deep strategic insights that turn uncertainties and challenges into opportunities**.

We specialize in **transforming complex global and local data into actionable recommendations** that directly impact **strategic decision-making**. Our models integrate **publicly available data**, encompassing **billions of data points across thousands of socio-economic, political, and environmental dimensions**. This also allows us to **incorporate your own data** to create **customized, tailored analyses** that fit your specific needs.

GARI's models are not only data-driven but rigorously tested and validated, ensuring **reliable and up-to-date insights**. We provide **full transparency in our analyses**, so you don't get lost in numbers—you receive **precise, targeted, and understandable intelligence** that enables you to make the best strategic decisions. Let us show you how our insights can add value to your challenges.

Our analyses cover a **wide range of strategic topics**, tailored to decision-makers navigating today's complex global landscape. We can customize our work to your needs, with insights on topics such as:

- **The EU at the Threshold of Trump 2.0 – The Future of Transatlantic Relations**
- **Socio-Economic Disparities and Opportunities for Europe's Future**
- **Supply Chains, Logistics, and Transportation**
- **Commodity Price Projections**
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Reach out with your specific inquiry or a topic of interest. We will tailor our expertise to your strategic needs.

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