# AN OVERVIEW ON THE NEED OF A JOINT DECARBONIZATION AND COMPETITIVENESS PLAN FOR THE FUTURE OF THE EUROPEAN UNION

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**ABSTRACT**

*This document presets and outlines the proposal for a joint decarbonization and competitiveness plan for the European Union (*The future of European competitiveness). *It acknowledges Europe's strengths (strong legal framework, low inequality, high human development) while addressing its challenges (slowing growth, increased competition from China and the US, geopolitical instability, high energy prices). The plan proposes a multi-faceted approach focusing on enhancing competitiveness through innovation, addressing high energy costs via decarbonization and market reforms, and adapting to a less stable geopolitical landscape. Key strategies involve boosting productivity, accelerating renewable energy deployment, securing critical supply chains, and implementing a technology-neutral approach to decarbonization across various sectors (energy, automotive, transport). The plan emphasizes the need for a unified EU strategy, including strengthened institutional frameworks, harmonized policies, and strategic partnerships with third countries to achieve these goals.*

**KEYWORDS:** *competitiveness, energy union, European Union, decarbonization, geopolitics, innovation*
**J.E.L. Classification: Q5, Q51, Q54, Q58**

## 1.INTRODUCTION: A NEW LANDSCAPE FOR EUROPE

Thanks to a robust foundation, Europe is well-positioned to be a competitive global economy. The European model integrates an open economy, strong market competition, and a comprehensive legal framework that, alongside active policies, aims to combat poverty and redistribute wealth. This approach enables the EU to blend high economic integration and human development while maintaining low inequality levels. Europe has developed a Single Market comprising 440 million consumers and 23 million companies, contributing about 17% of global GDP. Its income inequality is around 10 percentage points lower than that of the United States and China.

Moreover, the EU's strategies have led to significant achievements in governance, health, education, and environmental protection. Among the world's top ten countries on the rule of law, eight are EU Member States. In comparison to the US and China, Europe boasts higher life expectancy and lower infant mortality rates. Education and training systems in Europe deliver high educational outcomes, with one-third of adults completing higher education. Additionally, the EU

is a leader in sustainability and environmental standards, advancing towards a circular economy with ambitious decarbonization goals. Europe enjoys the world's largest exclusive economic zone, covering 17 million square kilometres, which is four times its land area.

However, growth in the EU has been slowing, raising concerns about Europe's capacity to achieve its goals. The EU aims to reach targets such as high social inclusion, carbon neutrality, and improved geopolitical stature, all of which rely on sustaining robust economic growth. Yet, over the past two decades, economic growth in the EU has consistently trailed behind the US, while China has rapidly closed the gap. The EU-US disparity in GDP at 2015 prices has widened from just over 15% in 2002 to 30% in 2023 (World Bank, World Development Indicators 2023, 2024).

The benefits Europe experienced after the Cold War have been diminishing. Initially, despite slowing domestic growth, the EU greatly benefited from the expansion of global trade governed by multilateral rules. From 2000 to 2019, the share of international trade in GDP grew from 30% to 43% in the EU, compared to a marginal increase from 25% to 26% in the US. This trade openness allowed Europe to freely import necessary goods and services, from raw materials to advanced technologies, while exporting its specialized manufactured goods to growing Asian markets. However, the multilateral trading system is now facing a severe crisis, and the era of rapid global trade growth appears to have ended.

Secondly, with the normalization of relations with Russia, Europe met its energy demands by importing pipeline gas, which made up around 45% of the EU's natural gas imports in 2021. This relatively inexpensive energy source is no longer available, significantly impacting Europe. The EU has forfeited over a year of GDP growth and redirected substantial fiscal resources to energy subsidies and developing new infrastructure for importing liquefied natural gas.

Finally, the period of geopolitical stability under US dominance allowed the EU to largely segregate economic policy from security concerns, using the "peace dividend" from reduced defense spending to bolster domestic objectives. However, the geopolitical landscape is now in turmoil due to Russia's unwarranted aggression against Ukraine, deteriorating US-China relations, and increasing instability in Africa, which supplies many crucial global commodities.

Enhancing the EU's competitiveness is essential to revitalizing productivity and sustaining growth in an evolving global landscape. The primary aim of a competitiveness agenda should be to boost productivity growth, the key driver of long-term economic expansion and improved living standards. Competitiveness should not be narrowly viewed as a zero-sum game of capturing global market shares or increasing trade surpluses.

Also, a contemporary competitiveness agenda must incorporate security. Security is fundamental for sustainable growth, as increasing geopolitical risks can heighten uncertainty and deter investment, while major geopolitical shocks or abrupt halts in trade can cause significant disruptions.

## 2.THREE TRANSFORMATIONS AHEAD FOR EUROPE

Europe currently faces three significant transformations, the first being the urgent need to accelerate innovation and discover new engines for growth. The EU's competitiveness is under pressure from two fronts. On one hand, EU companies are encountering reduced foreign demand, particularly from China, coupled with increased competition from Chinese firms (The ECB Blog, 3 September 2024). On the other, Europe's standing in advanced technologies, which are crucial for future growth, is weakening. Only four of the top 50 global tech companies are European, and the EU's share in global tech revenues has declined, while the US share increased.

By encouraging faster innovation, the EU can boost productivity growth, ultimately leading to higher household incomes and stronger domestic demand. Europe still has the opportunity to redirect its course and seize the potential for renewed growth.

Secondly, Europe needs to lower high energy prices while advancing decarbonization and transitioning to a circular economy. The energy landscape has been permanently altered by the Russian invasion of Ukraine and the consequent loss of pipeline natural gas. Although energy prices have dropped significantly from their peaks, EU companies still grapple with electricity costs that are two to three times higher than those in the US, and natural gas prices that are four to five times greater.

Decarbonization presents an opportunity for Europe to lead in developing new clean technologies and circular solutions and to pivot power generation towards secure, low-cost clean energy sources, for which the EU has abundant natural resources. However, Europe's ability to capitalize on this opportunity relies on aligning all policies with the EU's decarbonization goals.

Thirdly, Europe must adapt to a world with less stable geopolitics, where dependencies are turning into vulnerabilities, and it can no longer depend on others for its security. Years of globalization have created a significant "strategic interdependence" among major economies, making any swift disengagement costly. For instance, while the EU is heavily reliant on China for critical minerals, China depends on the EU to absorb its industrial overcapacity. However, this global balance is changing, with major economies striving to reduce dependencies and enhance independent capabilities (McCaffrey, C., & Poitiers, N., Working Paper 12/2024).

The US is investing in domestic semiconductor and clean tech production and aims to redirect critical supply chains through its allies. Meanwhile, China is pursuing technological self-sufficiency and vertical supply chain integration, covering everything from raw material extraction to processing, manufacturing, and shipping. Although there is limited evidence of these actions leading to de-globalization, trade policy interventions are becoming more common (The ECB Blog, 12 July 2023). With its high trade openness, Europe is particularly vulnerable if these trends were to intensify.

## 3.A JOINT DECARBONIZATION AND COMPETITIVENESS PLAN

High energy costs in Europe pose a significant barrier to progress, while insufficient generation and grid capacity could hinder the spread of digital technology and transport electrification (European Economic Forecast, Spring 2023, Special Issue 4.1, 2023). According to Commission estimates, elevated energy prices have negatively impacted Europe's potential growth. They also have a more pronounced effect on corporate investment in Europe compared to other major economies, with about half of the European companies identifying energy costs as a major investment obstacle, 30 percentage points higher than their US counterparts (EIB Investment Survey 2023).

Without substantial increases in generation and grid capacity, Europe might face challenges in advancing digital production, as activities like training and running AI models and sustaining data centers are energy - intensive. Data centers currently account for 2.7% of the EU's electricity demand, and by 2030, their consumption is projected to rise by 28% (News Energy Economics of Europa, 2024).

Furthermore, the EU's decarbonization goals are more ambitious than those of its competitors, imposing additional short-term costs on European industries. The EU has enacted binding legislation to cut greenhouse gas emissions by at least 55% by 2030 (Climate Strategies targets,

2030) compared to 1990 levels. In contrast, the US has a non-binding target to reduce emissions by 50-52% below the higher 2005 levels by 2030 (Reducing Greenhouse Gases in USA a 20235, pp.5), while China aims for carbon emissions to peak by the decade's end. This disparity creates substantial near-term investment requirements for EU companies that their competitors do not face.

Nevertheless, decarbonization provides Europe with an opportunity to lower energy prices and lead in clean technologies while enhancing energy security. The transformation of Europe's energy system entails the extensive deployment of clean energy sources with low marginal generation costs, such as renewables and nuclear energy. Certain EU regions have high potential for cost-effective renewable energy, including solar in Southern Europe and wind in the North and Southeast. Renewable energy deployment in Europe is already on the rise, composing about 22% of the EU's gross final energy consumption in 2023, compared to 14% in China and 9% in the US. Concurrently, Europe possesses strong innovative potential to meet the growing domestic and global demand for clean energy solutions. While Europe may lag in digital innovation, it stands as a leader in clean tech innovation.

However, there is no assurance that the EU's demand for clean tech will be met by domestic supply, especially with China's growing capacity and scale in this sector. The EU has set a target to have at least 42.5% of its energy consumption derive from renewable sources by 2030. Achieving this goal will necessitate nearly tripling its installed capacity for solar PV and more than doubling its capacity for wind power.

Additionally, the EU has decided to phase out the internal combustion engine by 2035, mandating that all new passenger cars and light duty vehicles registered in Europe have zero tailpipe emissions. Given current policies, Chinese technology might offer the most cost-effective pathway to accomplishing some of these objectives. With rapid innovation, low manufacturing costs, and state subsidies that are four times larger than those in other major economies ( DiPippo, G., Mazzocco, I., & Kennedy, S., 2022), China is currently leading global exports of clean technologies.

To achieve its goals, Europe must adopt a multifaceted strategy employing a variety of policy tools and approaches tailored to different industries. This strategy can be broken down into four broad categories (A Competitiveness Strategy for Europe, pp.41):

1. Industries with significant cost disadvantages: In sectors where Europe cannot compete effectively due to large cost gaps, such as those widened by foreign subsidies, it is economically sensible to import the necessary technology. By diversifying suppliers, Europe can minimize dependencies, allowing foreign taxpayers to shoulder the associated costs.
2. Industries focused on job protection: In sectors where Europe prioritizes job protection against unfair competition, but isn't concerned with the origin of the technology, an effective strategy would include encouraging inward foreign direct investment (FDI) and implementing trade measures to counteract foreign subsidies' cost advantages. This approach is being implemented in the automotive sector, as seen with recent tariff increases and FDI announcements in certain Member States.
3. Strategic industries for know-how retention: For industries where the EU has a strategic interest in maintaining European expertise and manufacturing capabilities, ensuring production can increase in geopolitical crises is crucial. The EU should enhance the long-term viability of European investments, possibly by imposing local content requirements

and maintaining technological sovereignty. This might require foreign firms producing in Europe to form joint ventures with local companies. Security considerations could lead to shifts in which industries are deemed strategically important over time.

4. "Infant industries" with growth potential: In sectors where Europe holds an innovative advantage and anticipates substantial growth, established strategies involve a range of protective measures that can be gradually removed once the industry matures and can stand independently.

Implementing this strategy will require a comprehensive plan that integrates decarbonization with competitiveness, ensuring all policies align with the EU's objectives. Key priority areas include, first, reducing energy costs for end users by passing on the benefits of decarbonization and accelerating energy sector decarbonization efficiently, utilizing all available solutions. Second, seizing industrial opportunities offered by the green transition, which involves staying at the forefront of clean tech innovation, scaling up clean tech manufacturing, and capitalizing on circular economy opportunities. Third, creating a fair competitive environment in sectors vulnerable to unfair foreign competition or facing stricter decarbonization targets than international rivals, by using tariffs and other trade measures when necessary

The primary goal for the energy sector is to lower energy costs for end users by harnessing the benefits of decarbonization. Despite expected declines in demand, natural gas will continue to be part of Europe's energy mix in the medium term, with projections indicating a decrease of 8%-25% by 2030. To achieve cost reductions, it's important to mitigate the volatility of natural gas prices.

Moreover, the EU should establish a unified trading rulebook for spot and derivatives markets, ensuring cohesive supervision across energy and energy derivatives markets. Finally, there should be a reassessment of the "ancillary activities exemption" to ensure all trading entities are subject to consistent supervision and requirements.

The primary objective for the energy sector is to reduce energy costs for end users by ensuring that the benefits of decarbonization are effectively passed on. While natural gas will continue to be an integral part of Europe's energy mix in the medium term -projected to decrease in demand by 8%-25% by 2030 - it is important to minimize natural gas price volatility. The report suggests strengthening joint procurement, particularly for liquefied natural gas (LNG), to leverage Europe's market power and forging long-term partnerships with reliable, diverse trade partners as part of a comprehensive EU gas strategy.

Additionally, Europe should diminish its reliance on the spot market by gradually shifting away from spot-linked sourcing, and mitigating market volatility by curbing speculative activities. Adopting a strategy similar to the US, regulators in the EU should be empowered to impose financial position limits and apply dynamic caps when EU energy spot or derivatives prices significantly diverge from global rates.

Furthermore, the EU should establish a unified trading rulebook for both spot and derivatives markets, ensuring coordinated oversight of energy and energy derivatives markets. Lastly, a review of the "ancillary activities exemption" is nec

To effectively transfer the benefits of decarbonization, policies must focus on better decoupling the price of natural gas from clean energy. The EU should separate the remuneration for renewable energy and nuclear from fossil-fuel generation by utilizing tools introduced under the new Electricity Market Design, such as Power Purchase Agreements (PPAs) and two-way Contracts for Difference (CfDs). These should be gradually extended to all renewable and nuclear assets in a

standardized manner. The marginal pricing system should ensure balanced efficiency in the energy system.

To boost the adoption of PPAs in the industrial sector, it is recommended to develop market platforms that facilitate resource contracting and pool demand between generators and offtakers. This initiative can be supported by schemes offering guarantees to reduce financial counterparty risks associated with these platforms, thus broadening market access for SMEs. For instance, the European Investment Bank (EIB) and National Promotional Banks could offer counter guarantees and tailor financial products for small consumers or suppliers without a solid credit rating.

Simultaneously, a crucial aspect of reducing energy costs for end users is lowering energy taxation. This can be achieved by establishing a common maximum level of surcharges across the EU, encompassing taxes, levies, and network charges. While legislative reform in this area requires unanimity, collaboration among a subset of Member States or guiding energy taxation could be viable alternatives.

The second key objective is to expedite decarbonization cost-effectively by employing a technology-neutral strategy. This strategy should encompass a range of solutions, including renewables, nuclear, hydrogen, bioenergy, and carbon capture, utilization, and storage, supported by substantial mobilization of both public and private funding as outlined in the investment chapter. However, simply increasing financial resources for clean energy deployment will not be enough without accelerating the permitting process for installations.

To reduce permitting delays for new energy projects, various options exist. A significant improvement can be achieved by systematically implementing existing legislation. For instance, several Member States have seen significant increases in the volume of permits issued for onshore wind since the implementation of the Article 122 Emergency Regulation. The report suggests extending these acceleration measures and emergency regulations to include heat networks, heat generators, and hydrogen and carbon capture and storage infrastructure.

There should also be a stronger focus on digitalizing national permitting processes across the EU and addressing resource shortages in permitting authorities. Increasing administrative fees could ensure that these authorities have the necessary capabilities to expedite approvals. Another potential approach is for the EU to make renewable acceleration areas and strategic environmental assessments standard practice for renewable expansion, replacing the need for individual project assessments.

Targeted updates to relevant EU Environmental legislation could allow temporary exemptions in certain directives until climate neutrality is reached. This updated legislation should designate last-resort national authorities to ensure projects are permitted if local authorities fail to respond within a set timeframe.

A key factor in accelerating decarbonization is unlocking the potential of clean energy through a unified EU focus on energy grids. The significance of the EU's energy grids cannot be overstated as a foundational aspect of the energy sector. Achieving a significant enhancement in grid deployment will necessitate a new approach to planning at both the EU and Member State levels, which includes the capacity to make effective decisions, expedite permitting, mobilize sufficient public and private financing, and innovate grid assets and processes.

From a European standpoint, prioritizing the rapid installation of interconnectors is essential. The report recommends establishing a "28th regime," a specialized legal framework distinct from the 27 existing national legal frameworks, for interconnectors identified as Important Projects of Common European Interest (IPCEIs). This regime should streamline national procedures into a

single process, minimizing the risk of projects being obstructed by individual national interests. Large renewable energy projects, such as significant offshore wind initiatives in the North Sea, might also leverage this procedure to sidestep local permitting delays.

Additionally, the next Multiannual Financial Framework should strengthen the EU instrument dedicated to financing interconnectors, known as the Connecting Europe Facility. Furthermore, a permanent European coordinator should be appointed to assist in securing the necessary permits. This coordinator will monitor the progress of the permitting process and foster regional cooperation to ensure political support for cross-border infrastructure from all relevant Member States.

Simultaneously, the EU should establish the governance necessary for a genuine Energy Union, ensuring that decisions and market functions with cross-border implications are managed centrally. A more robust institutional framework would involve enhancing monitoring, investigation, and decision-making powers at the EU level, enabling comprehensive regulatory oversight over all decisions and processes that directly affect cross-border activities. A true Energy Union should guarantee that essential market functions relevant to an integrated market are executed centrally and subjected to appropriate regulatory scrutiny.

To leverage the decarbonization momentum, Europe should refocus its support for clean tech manufacturing, emphasizing technologies where it has a competitive edge or where developing domestic capacity is strategically important. The next Multiannual Financial Framework (MFF) should consolidate the various funds dedicated to clean tech manufacturing, concentrating on areas where the EU holds advantages and significant growth potential - such as battery technology.

Support from the EU budget should provide companies with a single point of access that features a standardized application process and consistent awarding criteria, covering both capital and operational expenditures. To entice more private sector investment in clean tech, particularly in innovative firms, dedicated financing schemes should be developed using new strategies.

At the national level, to ensure a reliable demand for EU clean tech products and counteract trade-distorting policies abroad, it would be recommended to establish a clear minimum quota for local production of selected products and components. This quota should apply to public procurement, Contracts for Difference (Cf Ds), and other mechanisms for local production off-take. It should also be linked to EU-level criteria that promote local production of the most innovative and sustainable solutions.

This initiative could benefit from fostering joint ventures or cooperation agreements for knowledge transfer and sharing between EU and non-EU companies. For "infant industries," it is advised that Member States design upcoming auctions and public procurement processes to serve as a "launch customer" for new technologies, providing essential support during their initial stages.

Trade policy will play a crucial role in aligning decarbonization with competitiveness by securing supply chains, developing new markets, and countering state-sponsored competition. Given that the supply chains for certain clean technologies are highly concentrated, the EU has the opportunity to establish strategic partnerships with other regions involved in specific segments of the clean technology supply chain. Collaborating with like-minded neighbouring regions that have access to low-cost renewable energy and raw materials can help Europe achieve its energy and climate targets more affordably while also diversifying its supply sources.

Simultaneously, the EU should capitalize on its strong position in cleantech by seeking investment opportunities in other countries, thereby expanding the market for technologies it develops, such as near-zero-emissions materials production processes. To facilitate these objectives, the report

recommends that the EU create industrial partnerships with third countries through offtake agreements along the supply chain or co-investment in manufacturing initiatives. The EU's Global Gateway can be utilized to support the necessary investments.

However, when otherwise competitive EU companies face threats from state-sponsored competition, the EU should be prepared to implement trade measures consistent with the principles outlined earlier.

As part of its decarbonization strategy, the EU should create an industrial action plan for the automotive sector. In the short term, the primary goal for this sector is to prevent a significant relocation of production outside the EU or a swift takeover of European plants and companies by state-subsidized foreign producers, all while continuing the decarbonization process. The countervailing tariffs recently implemented by the Commission against Chinese automotive companies manufacturing battery electric vehicles will help create a more level playing field while acknowledging genuine productivity improvements in China.

Looking ahead, the report recommends that the EU develop an industrial roadmap that addresses both horizontal convergence - including electrification, digitalization, and circularity - and vertical convergence - which encompasses critical raw materials, batteries, transport, and charging infrastructure - within the automotive ecosystem.

To enhance competitiveness, scale, standardization, and collaboration will be essential for EU manufacturers, especially in areas like small and affordable European electric vehicles, software-defined vehicles, autonomous driving solutions, and the circular economy. A coherent digital policy that includes the data ecosystem should facilitate these advancements. In crafting this roadmap, the EU should adopt a technology-neutral approach to defining pathways for reducing CO2 emissions and pollutants while remaining attuned to ongoing market and technological developments.

The broader EU strategy for cross-border and modal integration, as well as sustainable transport, must prioritize competitiveness in addition to cohesion. Transport planning should adopt a new, unified approach at both the EU and national levels, emphasizing harmonization and interoperability alongside cohesion. This strategy should be complemented by enhanced coordination with related network industries, such as energy and telecommunications, as well as new incentives in the EU budget for Member States to eliminate barriers to EU integration and foster interoperability and competition across all transport sectors, especially when these objectives exceed the scope of EU legislation.

Moreover, the EU should continue to strengthen its leadership in innovative transport by initiating industrial innovation projects that address decarbonization challenges. This could involve establishing an industrial demonstrator as part of a new Competitiveness Joint Undertaking, which would replace current public-private partnerships, or implementing an Important Project of Common European Interest (IPCEI) aimed at achieving zero-emission flight in the future.

## 4.CONCLUSIONS

Two key conclusions emerge:
First, if the EU carries out the strategy outlined and productivity rises, capital markets will be more responsive to the flow of private savings, and it will be much easier for the public sector to finance its share. Faster productivity growth could reduce the costs for governments by one-third.
Second, to lift productivity, some joint investment in key projects – such as breakthrough research, grids, defence procurement – will be critical, and these projects could be funded through common debt.
Europe's current trajectory, marked by slowing growth, heightened global competition, geopolitical instability, and high energy costs, is unsustainable. The proposed plan offers a multi-faceted approach to revitalize the EU's economic engine, prioritizing innovation, efficient decarbonization, resilient supply chains, and enhanced security. Success hinges on coordinated policy action at both the EU and national levels, including substantial investment, strengthened institutional frameworks, and strategic partnerships. The plan's call for unity and decisive action is critical, as the alternative - paralysis or disengagement - presents far greater risks to Europe's future prosperity, security, and democratic values. Failure to implement a comprehensive plan risk exacerbating existing challenges and undermining Europe's position on the global stage.
It is natural that these problems create worries about rising debt levels. It is also legitimate to be concerned about common debt issuance. But it is important to remember that this debt is not for general government spending or subsidies. It is to carry out the objectives that are critical for our future competitiveness, and that we have all already agreed upon.
On many key questions, we are divided about what to do. There is discontent in large parts of Europe about the direction in which we are heading. And there is considerable unease about the future. We will only overcome division in Europe if the will to change receives broad democratic backing. The choices we face are too important to be settled by technocratic solutions. Our elected institutions must be at centre of the debate on Europe's future – and on the actions that will shape it.

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