

A Better Deal for Climate and European Competitiveness:

Policy Proposals for the
European Centre–Right

Dimitar Lilkov

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Environmental degradation is a fact. The prevailing scientific consensus is that humankind is directly responsible for most of the rising carbon dioxide emissions in the atmosphere and their related negative effects.¹ Within the EU political mainstream, these findings have positively resonated in policy and resulted in the most ambitious climate agenda globally. Most European citizens also recognise the threats of climate change and the need for our society to adapt and move in a more sustainable direction.²

Decarbonisation is one of the most important political challenges of this century. The goals that have been set for European carbon neutrality by 2050 are laudable but presuppose the mobilisation of huge financial and material resources, as well as fundamental changes in the economic, industrial, transport, agricultural and energy sectors of European states. Climate spending already dominates the EU's Multiannual Financial Framework (MFF) and the post-Covid recovery fund, with hundreds of billions of euros earmarked for the transition. The European Green Deal has a direct bearing on the economic performance of member states and private enterprises, while also becoming ever more present in the lives and pockets of European citizens.

Importantly, the clean energy transition has a direct impact on the EU's competitiveness and geopolitical clout. Consider the complexity of implementing such a transformative effort in concert with the rest of the international actors, which have all the incentives to free-ride on the efforts of others or delay the transition away from fossil fuels as long as possible.

The decarbonisation destination is set, but the policy routes are many and uncertain. Regrettably, the EU is in a completely different financial and geopolitical position compared to 2019, when the European Green Deal was announced. We already see clear signals that the current framework is neither generating 'green growth' nor putting the continent on a fast track towards carbon neutrality. If the EU is serious about its decarbonisation pledges, it needs to rethink its approach.

This paper has two main objectives. First, it briefly addresses the main shortcomings of the Green Deal—the economic costs of the transition and the effect on European energy security and resource scarcity. It also looks into the overly optimistic projections for the renewable energy rollout and the huge investment gap in decarbonisation. More importantly, it puts forward a number of policy recommendations for European policymakers in the new legislative period. Achieving carbon neutrality should remain the long-term goal, but the policy arsenal has to be improved. The European centre–right needs to be actively involved in leading this strategy by crafting a blueprint that is both realistic and achievable and that is shaped by its own vision and political values.

¹ Intergovernmental Panel on Climate Change, *An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above Pre-Industrial Levels* (Geneva, 2022).

² European Commission, Directorate-General Climate Action and Kantar Group Ltd., *Special Eurobarometer, Summary Report no. 538, Climate Change* (Brussels, 2023).

Main deficits of the current European Green Deal

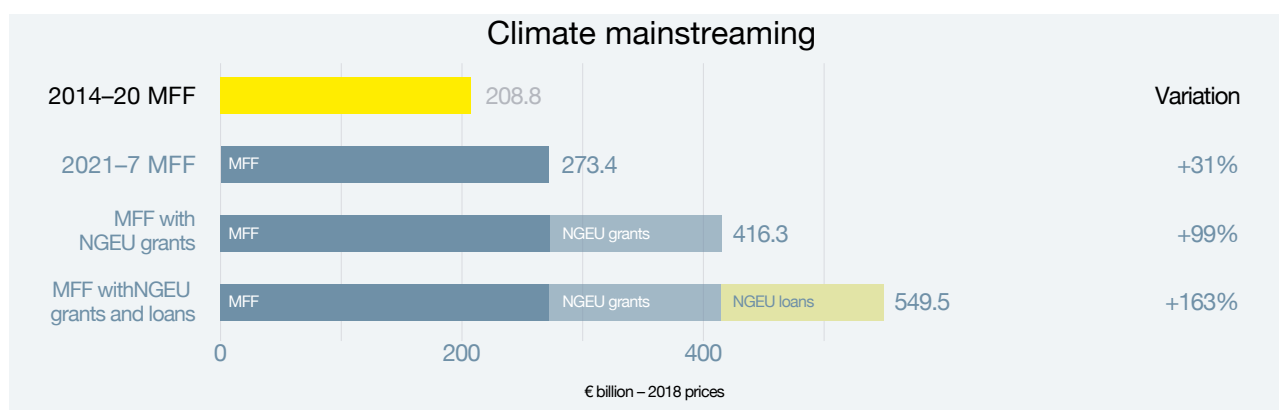
Close to five years after its adoption, the European Green Deal remains one of the EU's flagship policies. If European leaders want to be serious about decarbonisation, they urgently need to address some of the major issues within the current framework. This chapter outlines some of **the most problematic (and costly) aspects of the current climate agenda**. They can be bundled into three major areas of concern: financial unsustainability, energy poverty and de-industrialisation, as well as limitations on renewable energy deployment.

Financial unsustainability and societal impact

How much does the Green Deal Cost?³ This is not an easy question to answer as the pieces of the climate puzzle keep shifting. In 2019 the European Commission pledged at least one trillion euros by 2030 through mobilising public funding and private investment. The subsequent European Climate Law and 'Fit for 55' package drastically increased climate ambition⁴ and tried to deconstruct almost every economic activity of the Union through the prism of decarbonisation. An initial review by Bruegel showed that even if successful, this one trillion euros would represent only a third of the additional investment needed by 2030.⁵ Most of the planned funding was assessed as not new per se, but mainly consisting of reshuffled funds from already existing spending programmes. The analysis concluded that to reach the more ambitious 2030 climate targets, an additional three hundred billion euros per year would be required.

As a result, the EU's **macro spending programmes** have become more and more **dominated by the Commission's climate agenda**. The current MFF for 2021–7 sets an overall target of 30% of its total €1.211 trillion (current prices) budget for climate expenditure.⁶ On top of that, the innovative recovery instrument NextGenerationEU (NGEU) requires that at least 37% of its €700 billion purse be allocated for climate-related projects as part of the national recovery plans of every member state (see Figure 1). The EU27's public and private climate investments have been growing substantially, with approximately €407 billion⁷ spent in 2022 on decarbonisation, the equivalent of 2.6% of EU GDP. As a reference point, the EU is already spending more money annually on climate investment than defence.

Figure 1 Evolution of climate-related expenditure within the MFF and the NGEU temporary recovery instrument



Source: A. D'Alfonso, *Matching Priorities and Resources in the EU Budget*, European Parliamentary Research Service, Briefing PE 690.586 (Strasbourg, 2021).

³ An earlier version of this section was first published in D. Lilkov, 'Climate Realism: Policy Proposals for True Sustainability in the EU', *European View* 22/2 (October 2023), 213–22.

⁴ The EU has elevated its greenhouse gas reduction target to 55% compared to 1990 levels and pledged to have 42.5% of its energy usage through renewables by 2030. In 2019, these targets were 40% and 32% respectively.

⁵ G. Claeys and S. Tagliapietra, 'A Trillion Reasons to Scrutinise the Green Deal Investment Plan', *Bruegel*, 15 January 2020.

⁶ The previous 2014–20 MFF had earmarked 20% of its total for climate-related expenditure.

⁷ C. Claripel, A. Bizien and T. Pellerin-Carlin, *European Climate Investment Deficit Report: An Investment Pathway for Europe's Future*, Institute for Climate Economics (Paris, 2024).

Surprisingly, current reporting shows that even this massive amount of money continues to fall short of the 2030 climate targets. In its latest assessment, the Commission put the additional investment required at an astronomical **€710 billion annually to meet its energy transition needs by 2030**.⁸ The missing money on climate is more than three times the annual EU budget or the equivalent of almost **5% of the EU27's GDP**. As an interesting point of comparison, the full costs of the decade-long Project Apollo (1961–72) and numerous space launches cost the American taxpayers a total of \$207 billion (adjusted for inflation).⁹ If the European Green Deal is Europe's 'man on the moon moment', the transition will surely cost much more than setting foot on the moon.

In a matter of several years, the projected €1 trillion of the Green Deal required by 2030 has ballooned to €4 trillion and counting. The constantly increasing 'investment gap' is also an indication that the **private sector is falling short on climate investment**. We already see that major companies are backtracking on their climate commitments due to rising costs and over-ambitious decarbonisation pledges. BP, Shell and Exxon have walked away from their previous 2030 emission reduction promises, while major banks and large corporations are continuously failing on their climate pledges.¹⁰ **'Not realistic'** is the phrase repeated time and again when company representatives are questioned on their climate commitments. In parallel, international institutions are signalling the potential risks of creating green asset bubbles and warning that decarbonisation funding is inherently tied to higher inflation.¹¹

It is obvious that the **European taxpayer will have to cover this expanding need for climate spending**. The extended EU Emissions Trading System will likely lead to higher fuel prices after the new carbon pricing scheme kicks in, in 2027.¹² Major airlines are already planning to introduce environmental fees for consumers to offset the imposed Sustainable Aviation Fuel policy.¹³ Additionally, the revision of the Energy Performance of Buildings Directive puts in place stringent requirements for making buildings more energy efficient and limits fossil-fuel heating installations, which will require substantial investment from homeowners in 2026–7. The recent failure of the German government to impose clean energy alternatives for heating installations shows how difficult it is to put the wished-for climate provisions into practice.

Overall, the EU decarbonisation effort will be **borne mostly by the European middle class** and could put a heavy strain on poorer households, which are already fighting material poverty. Over 40 million Europeans continue to struggle annually with paying their energy bills as energy poverty continues to worsen in the EU.¹⁴ Disturbingly, many European policies underestimate or simply ignore the additional resources needed to address the **societal cost of the transition** (mass redundancies in the fossil-fuel sectors, retraining of personnel etc). The highly anticipated Just Transition Fund, which was supposed to mobilise €100 billion to support a gradual clean energy transition and employee reskilling, has come up short, reaching a total of just €17.5 billion and has been plagued by delays and poor implementation.¹⁵

Unfortunately, the management of these huge public resources leaves much to be desired. The European Court of Auditors has reported that the climate-related spending within the EU's previous MFF **suffered from a flawed methodology, overstated the actual results** and did not factor in spending that had a negative impact on climate.¹⁶ Another sobering official auditing report finds that the **€100 billion of**

⁸ J. Payne, 'EU Needs Over \$760 Bln/Yr to Hit Green Transition Targets – Commission', *Reuters*, 6 July 2023.

⁹ V. Smil, *Halfway Between Kyoto and 2050: Zero Carbon Is a Highly Unlikely Outcome*, Frazer Institute (Vancouver, BC, 2024), 25.

¹⁰ K. Bryan and A. Mooney, 'How Companies Are Starting to Back Away From Green Targets', *Financial Times*, 21 June 2024.

¹¹ M. Jones, 'Central Bank Group BIS Warns of Green Asset Bubble Risk', *Reuters*, 20 September 2021.

¹² J. Pacroff, 'New EU Scheme Could Hike Petrol, Gas Prices Higher Than Expected, Key Lawmakers Admit', *Euractiv*, updated 21 May 2024.

¹³ J. Placinska, I. Wissenbach and T. Hefher, 'Lufthansa Is Adding up to €72 to Ticket Prices to Pay for Sustainable Fuel', *Reuters*, 26 June 2024.

¹⁴ A. Widuto, *Energy Poverty in the EU*, European Parliamentary Research Service, Briefing PE 733.583 (Strasbourg, 2023), 2.

¹⁵ A. Rosengren et al., 'EU's Just Transition Fund: Is It Really Helping Workers and SMEs?', *EUobserver*, 21 June 2023.

¹⁶ European Court of Auditors, *Climate Spending in the 2014–2020 EU Budget*, Special Report (Luxembourg, 2022), 4–5.

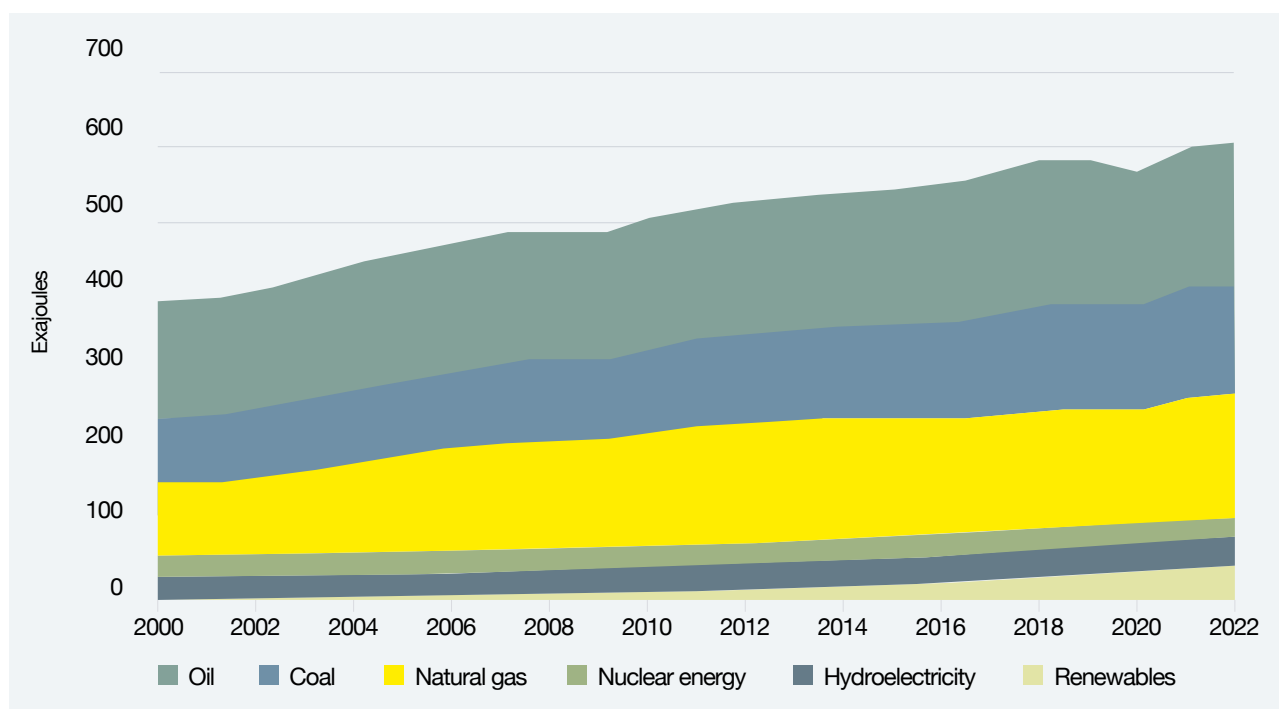
Common Agricultural Policy funds attributed to climate action between 2014 and 2020 had little impact on agricultural emissions and had a low potential for mitigating climate change.¹⁷

European citizens support climate action, but this does not mean that the Commission has a blank cheque on decarbonisation. Even though the whole process is done in good faith, European policymakers seem to have no idea of the ultimate price tag on net zero. Current performance remains unconvincing regarding whether these resources actually bring about the intended results in decarbonisation. The **European quest for sustainability is becoming economically and societally unsustainable**.

Energy realities, de-industrialisation and European resource poverty

In 2023 global greenhouse gas emissions (GHGs) emissions increased by 2.1% to yet another alarming record, fuelled by rising coal and oil usage internationally. Last year the world met approximately **82% of its total energy needs with polluting fossil fuels** while a mere **8% of the global total came from renewables** (biomass, solar and wind) (see Figure 2). Even though certain geographic regions are making headway on the renewable rollout, most countries are failing in their GHG commitments.

Figure 2 Global energy demand by source

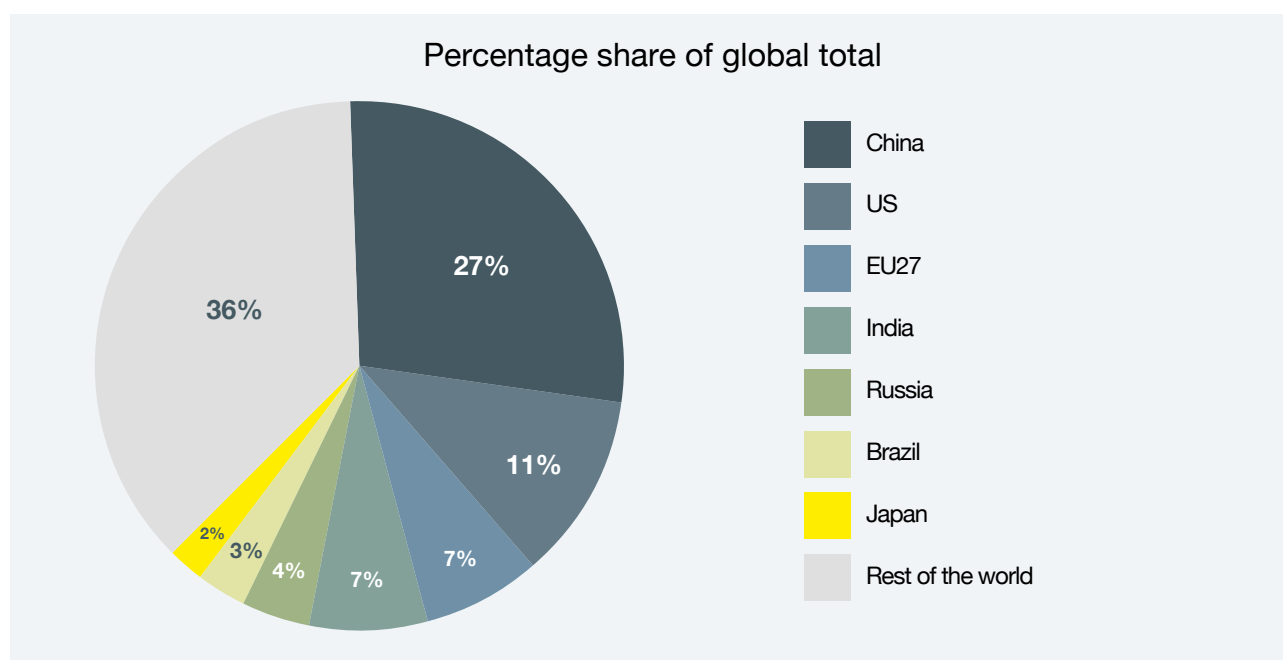


Source: Energy Institute, *Statistical Review of World Energy 2023* (London, 2024).

¹⁷ European Court of Auditors, *Common Agricultural Policy and Climate*, Special Report (Luxembourg, 2021), 3–4.

Looking at the global polluters, we see that China remains at the top, followed by the US and India. **The EU is collectively responsible for around 7% of global GHG emissions** (see Figure 3). Increasing Chinese coal consumption in the last decade has essentially cancelled out much of the effect of EU emission reductions towards net zero. China is making noticeable progress in the rollout of renewables, but many observers underestimate China's record energy needs and overlook the fact that almost 60% of its economy runs on coal.¹⁸ These negative trends are also observed in other parts of the Asia Pacific. For the first time in history, **India used more coal than Europe and North America combined** in 2023.¹⁹

Figure 3 Net GHG emissions from the world's largest emitters (2022)



Source: Data from A. Rivera et al., 'Global Greenhouse Gas Emissions: 1990–2020 and Preliminary 2021 Estimates', *Rhodium Group* (New York, NY, 2022).

The EU is increasing its renewable energy sources, but it still needs oil, gas and coal for more than 70% of its total energy usage. Even after drastically reducing its imports of Russian natural gas, the EU remains extremely energy dependent on deliveries from conventional pipelines (i.e. Norway) or liquefied natural gas (LNG) shipments from the US and Qatar. It makes perfect geopolitical sense for Europe to pivot fully away from fossil fuels to increase its autonomy and improve overall energy security. However, one should not disregard the **complexity and timescale of such an effort**. A sudden shift in energy supply immediately leads to exorbitant prices and a direct shock for businesses and consumers.

The EU experienced both of these shocks in the aftermath of Putin's aggression in Ukraine. Weathering the energy storm meant emergency spending of **€600 billion in national subsidies** to shield households and industry from price shock in 2022–3.²⁰ The simple political message 'use more renewable energy' underestimated the current physical realities of European energy infrastructure and overlooked the fact that industrial output, domestic heating and long-haul transport energy needs cannot be met by intermittent and low-output solar and wind.²¹ As a result, emergency spending for costly gas deliveries and LNG pushed the EU into a **trade deficit of more than €400 billion in 2022**, for the first time in its history (see Figure 4).

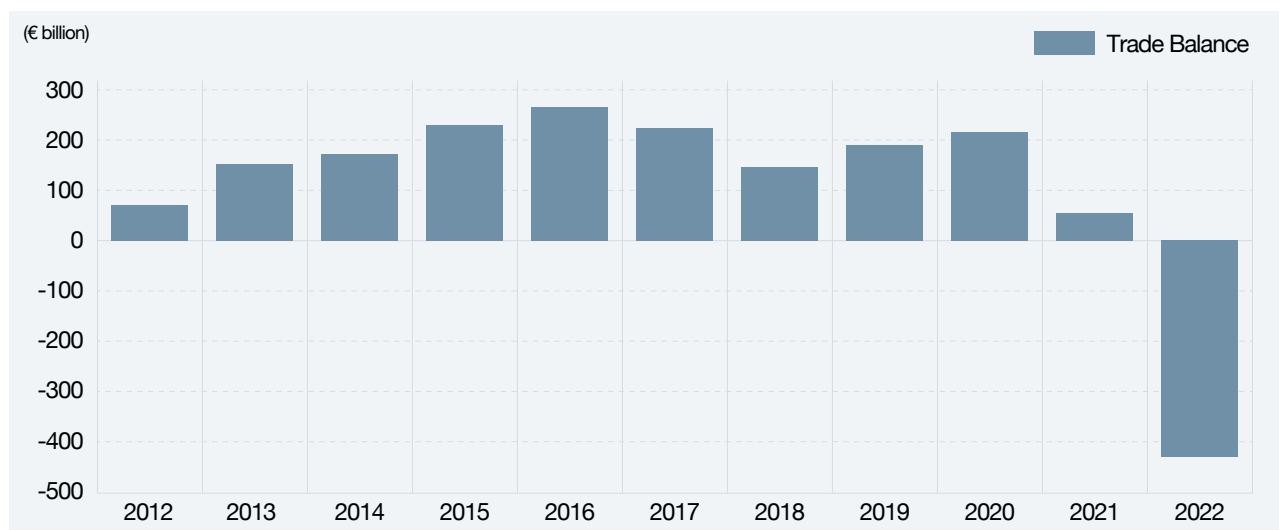
¹⁸ D. Lilkov, *Evaluating China's Energy Outlook*, Wilfried Martens Centre for European Studies (Brussels, 2023), 2.

¹⁹ *Energy Institute*, "A Year of Record Highs in an Energy Hungry World", *EI Statistical Review Reveals*, 20 June 2024.

²⁰ G. Sgaravatti et al., 'National Fiscal Policy Responses to the Energy Crisis', *Bruegel*, 26 June 2023.

²¹ The next section, on renewable energy, looks at these issues in more depth.

Figure 4 Extra-EU trade in goods (2012–22)



Source: Eurostat, 'Highest Ever EU Trade Deficit Recorded in 2022', 31 March 2023.

The combination of the energy price shock and Europe's rigorous climate commitments has dealt a heavy blow to the EU's energy-intensive industrial sector. European iron and steel production have taken a noticeable hit, with 50% of aluminium and 70% of ammonia production in the EU having been curtailed.²²

Industrial production in the eurozone has been in constant decline in the last 12 months with more than a 6% overall slump compared to 2023.²³ Even though the price for natural gas in Europe has normalised, the latest averages are still more than double the usual gas price in the previous decade.²⁴ In a worrying trend, a number of European companies are considering moving to other continents due to the **tight regulatory requirements and vulnerability of energy prices** in the Union.²⁵

The unsettling reality is that the EU has the world's most ambitious decarbonisation commitments but the security of neither energy supply nor price. At the same time, it has one of the toughest regulatory burdens globally, together with high labour costs and sluggish economic growth. As a result, the only viable way for Europe to move close to its own climate targets is through less manufacturing output and a shrinking economy, which leads to less energy usage. Europe is on the perilous road to **achieving decarbonisation through de-industrialisation**.

Problematically, most solar panel production, next-generation battery capacity and processing of rare earth elements is dominated by China. The EU is currently importing 93% of its magnesium and 86% of rare earths from the People's Republic of China, while the Asian giant also holds a quasi-monopoly on the processing of almost all raw materials.²⁶ The current dynamic makes the EU systemically reliant on Beijing and thus embeds additional vulnerabilities for our trade and national security policies. China already signalled in 2023 that it might weaponise these exports by introducing restrictions on gallium and germanium shipments.²⁷

One might conclude that the notorious grip held by the Organization of the Petroleum Exporting Countries (OPEC) on the crude oil supply (40% of global production) pales in comparison to China's near dominance in lithium, cobalt and rare earths exports, as well as mineral processing.²⁸ This is not to mention the EU's

²² European Round Table for Industry, *Competitiveness of European Energy-Intensive Industries* (Brussels, 2024), 6–7.

²³ *Trading Economics*, 'Euro Area Industrial Production', Database found at <https://tradingeconomics.com/euro-area/industrial-production>.

²⁴ *Trading Economics*, 'EU Natural Gas TTF' Database found at <https://tradingeconomics.com/commodity/eu-natural-gas>.

²⁵ A. Zachova, Companies Switching From Europe to US Amid High Energy Cost, *Euractiv*, 12 June 2023.

²⁶ O. Noyan, 'Critical Raw Materials: China 15 Years Ahead, Expert Says', *Euractiv*, 9 June 2023.

²⁷ A. Liang and N. Marsh, 'Gallium and Germanium: What China's New Move in Microchip War Means for World', *BBC*, 1 August 2023.

²⁸ V. Smil, *Halfway Between Kyoto and 2050*, Frazer Institute (Vancouver, BC, 2024), 10.

growing dependency on Chinese imports of solar panels, batteries and electric vehicles (EVs). As it stands, Europe's climate agenda is becoming a huge wealth transfer to the People's Republic of China.

Limitations of renewable energy

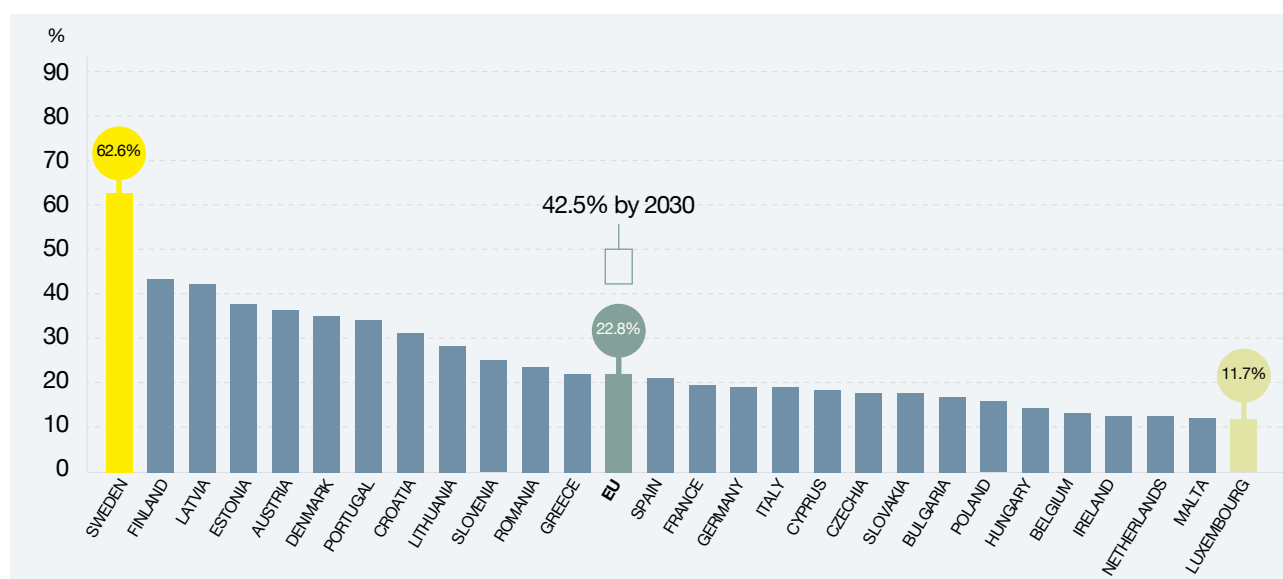
Renewable energy is an essential part of the global clean energy transition. The current section does not question the importance of renewables for Europe's decarbonisation goals but briefly highlights some of the most pressing difficulties with their deployment within the EU. Over-optimism on renewables will not bring the EU closer to net zero unless member states address the **main problems and bottlenecks**.

Renewable rollout in the EU27

The EU has made slow but steady progress on expanding renewable capacities. In 2020, it reached its flagship goal of having at least 20% of total energy usage covered by renewable sources. Since then, the EU has **increased the share of renewables by roughly 1% per annum** to reach 22.8% of the total energy mix in 2022.²⁹ In the same year, we saw a record expansion in the deployment of wind and solar energy, which are increasing their roles in clean electricity generation.³⁰

After continuous political pressure from the Greens and the centre-left to raise the level of ambition, the EU has committed itself to a renewable target of 42.5% by 2030. Two things are immediately obvious. First, going from 23% to 42.5% means that member states need to **triple the current rate of renewable deployment**. In six years EU countries need to roll out the amount of clean energy infrastructure equivalent to what was accomplished in more than two decades. Second, we find that more than half the member states have not even reached the 20% target. The EU average is driven mostly by the frontrunners in the Baltics and Nordics (see Figure 5). In reality, many EU countries are confronted with spending restrictions, expiring subsidy schemes and ageing clean energy infrastructure in need of replacement.³¹

Figure 5 Overall share of energy from renewable sources in the EU, 2022



Source: Eurostat, '23% of Energy Consumed in 2022 Came From Renewables', 22 December 2023.

It is important to note that the EU's renewable deployment is not a success story solely driven by modern

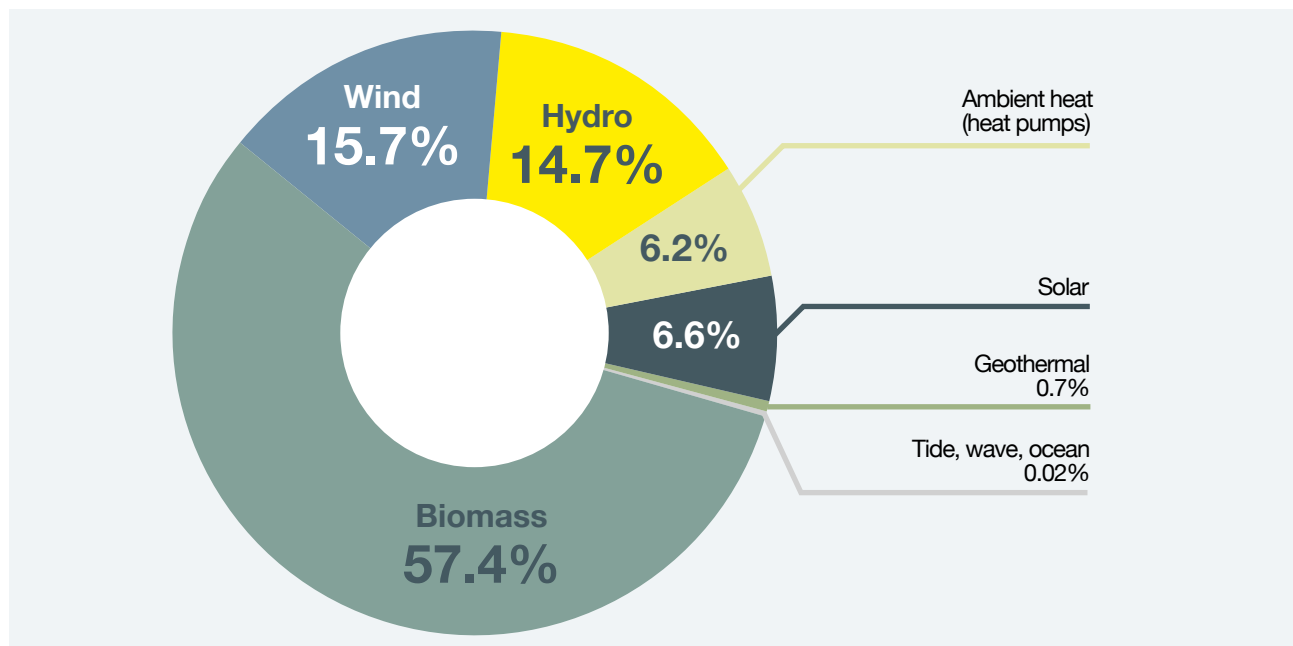
²⁹ European Environment Agency, *Share of Energy Consumption From Renewable Sources in Europe* (Copenhagen, 2024).

³⁰ European Commission, *State of the Energy Union Report 2023*, COM (2023) 650 final (24 October 2023), 3.

³¹ B. Jopson, 'The Problem With Europe's Ageing Wind Farms', *Financial Times*, 22 February 2024.

solar and wind. Looking at the actual breakdown, we find that **the majority of the EU's renewable energy comes from biomass**, that is, using wood, biogases and organic waste as sources of 'clean' energy. Strikingly, almost 60% of the EU's renewable energy comes from burning wood and waste while a far smaller share comes from wind turbines, solar panels and hydroelectric dams (see Figure 6). Even though there are concerns within the scientific community about the true carbon footprint of wood-burning, EU member states have been reluctant to declassify woody biomass as a renewable source.³² By keeping all sorts of biomass resources classified as 'clean energy', national administrations are **de facto using an accounting trick** to bump up their renewable energy shares and boost their track record on renewable deployment.

Figure 6 Distribution of renewable final energy consumption in EU27 (2022)



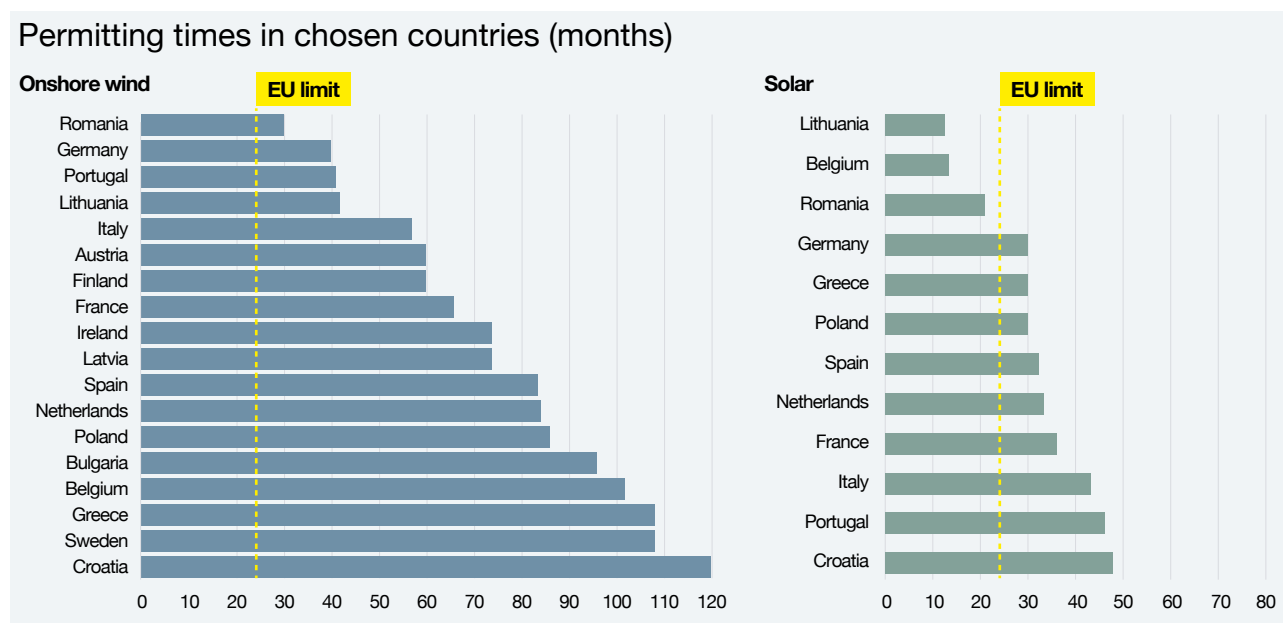
Source: European Commission, *Union Bioenergy Sustainability Report, Annex to the State of the Energy Union Report 2023* (Brussels, 2023).

Permits, grids and costs

Even if EU countries had the necessary financial resources, critical minerals and technical equipment for a successful transition, **bureaucratic and physical realities are standing in the way**. The EU legislative frenzy on clean energy was slow to account for the tremendous wait times to receive national permits from the respective administrations for rolling out renewable infrastructure. While European legislation calls for a maximum waiting period of 24 months for receiving approval, the realities on the ground indicate extreme delays. Most member states need **five to eight years to issue permits for onshore wind**, while for solar it can be up to four years (see Figure 7). This has been a major obstruction to more ambitious renewable deployment and places an additional question mark over the EU's 2030 goals.

³² F. Simon, 'Biomass Fight Leaves EU Renewable Energy Talks in a Deadlock', *Euractiv*, 16 February 2023.

Figure 7 Average wait time for permitting of new onshore wind or solar capacities



Source: H. Fox, P. Czyżak and A. Candlin, *Ready, Set, Go: Europe's Race for Wind and Solar*, Ember, 27 July 2022.

Leaving bureaucracy aside, there is the additional challenge of **grid capacity**. States cannot just take a 'plug and play' approach to energy infrastructure. Physically connecting new clean energy to the electricity grid takes a lot of time due to the lack of investment at both the transmission and the distribution levels. Close to half of Europe's distribution grids are over 40 years old and in dire need of modernisation. In late 2023 the Commission made an official call to improve grid capacities by 2030 that would cost up to **€580 billion**.³³

Additionally, there is the **issue of costs**. There is a widespread narrative that solar and wind energy are the 'cheapest form[s] of energy' compared to fossil fuels.³⁴ This is due to the usage of the 'levelised cost of electricity' metric when comparing different energy sources. Levelised cost of electricity is **a misleading indicator as it does not feature the full costs of renewable infrastructure**—investment in transmission lines, backup thermal power (usually from gas or coal) required when the sun is not shining and the wind not blowing, as well as the capital costs for maintenance of related battery storage.³⁵ A case in point is Germany, which had one of the highest electricity bills in the EU in the last decade even though renewable energy is a substantial part of their electricity mix.

Renewable deployment has also suffered from supply-chain shortages, lack of technical personnel and **rising costs due to inflation**. Major offshore wind developers are scaling down their deployment targets, as even a few percentage points of extra inflation can drive up the overall costs of a renewable energy project by 20%.³⁶

Left unaddressed, these problems are already stifling the rollout of renewables across the EU. It is easy to forget that **fossil fuels have the natural advantage** of existing energy infrastructure, and also that they are much more energy-intensive and reliable as energy sources compared to solar and wind power (see

³³ European Commission, 'Commission Sets Out Actions to Accelerate the Roll-out of Electricity Grids', 28 November 2023.

³⁴ *The Economist*, 'Renewable Energy Has Hidden Costs', 21 September 2023.

³⁵ M. Cembalest, *2022 Annual Energy Paper*, Eye on the Market, 12th edn., J. P. Morgan (New York, NY, 2022), 2.

³⁶ R. Millard and M. Moore, 'Ørsted Boss Warns on High Prices for Renewable Energy', *Financial Times*, 2 May 2024.

Figure 8). Renewables will be essential for the EU's decarbonisation efforts, but today's realities show that **successful renewable deployment is neither exponential nor guaranteed**.

Figure 8 Power generation of selected energy source per square metre

Energy source	Watts per metre
Fossil fuels	500 - 10,000
Nuclear	500 - 1,000
Solar	5 - 20
Hydropower (dams)	5 - 50
Wind	1 - 2
Wood and other biomass	Less than 1

Source: B. Gates. *How to Avoid a Climate Disaster* (London: Allen Lane, 2021).

Policy recommendations for improving the European Green Deal

1. Fiscal prudence and flexibility

Public budgets are already under strain from growing deficits and are unable to answer the call for more climate spending. The private sector will not be able to support the clean energy transition if it is continuously restrained by never-ending new rules and legal unpredictability.³⁷ In its new term, the Commission should focus on implementing and fine-tuning the dozens of climate-related legislative files coming into force. It should consider **limiting new climate proposals** and dedicate its time and internal resources to accomplishing the existing decarbonisation agenda. **Review or reconsideration** should be a possibility if certain files prove extremely burdensome or unachievable in terms of goals.

Additionally, the Commission should limit the financial unpredictability and poor accounting within its climate legislation, as recommended by the European Court of Auditors. The European executive should be obliged to provide a rigorous assessment of the total costs, on top of an extensive impact assessment, for all its legislative proposals. The upcoming negotiations on the new MFF (2028–34) should be a good opportunity for European leaders to **audit some of the current macro spending programmes** and reallocate European funds with proven low impact on climate mitigation for other more pressing spending items.

2. Energy security

Climate change cannot be the only driver of Europe's energy policy. The immediate priorities should be balanced with **energy security and price stability**. Europe weathered the storm of the energy crisis, but long-term volatility and high energy prices remain the norm. The EU's traditional pipeline imports from non-Russian sources should be bolstered, whereas LNG imports should be diversified globally, with long-term contracts providing the best price. The EU should remain committed to completely phasing out Gazprom deliveries and incentivise member states to stop importing Russian LNG.

³⁷ A. Pnev, *Climate Litigation vs. Legislation: Avoiding Excessive Judicial Activism in the EU*, Wilfried Martens Centre for European Studies (Brussels, 2021).

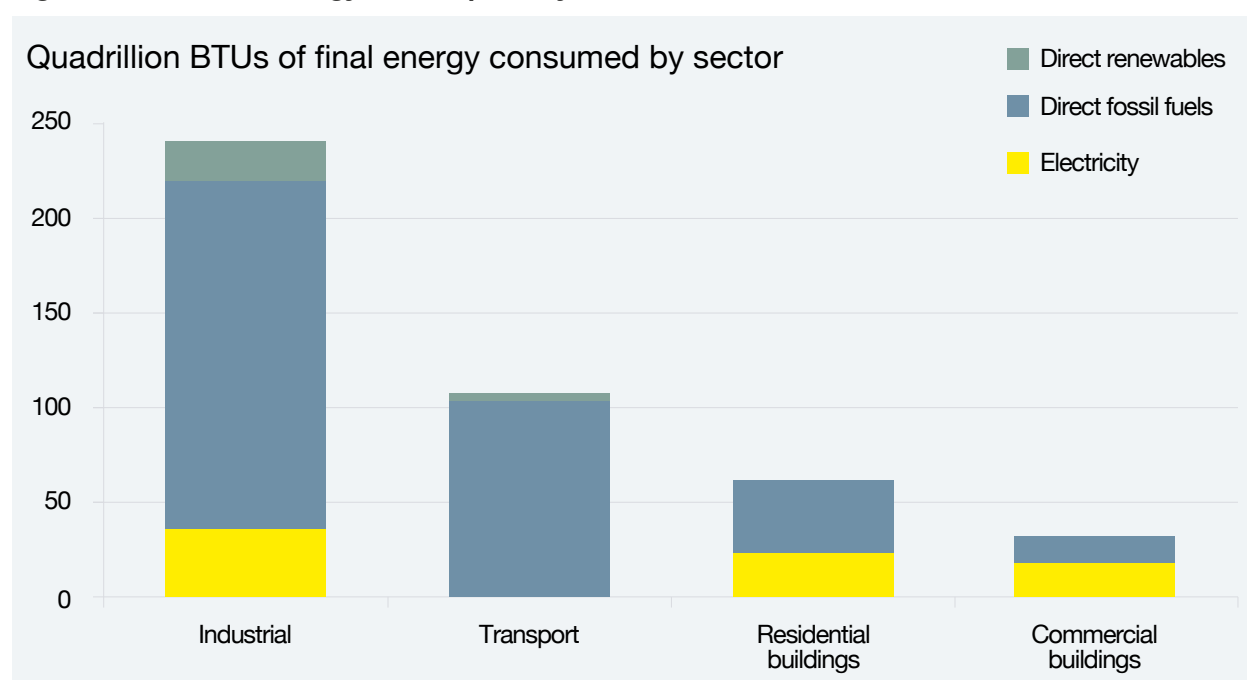
Nuclear energy is part of the EU's taxonomy for green investment and should benefit from dedicated supranational funding as a critical clean technology. Half of the EU member states currently have nuclear power stabilising their electricity demand with constant, carbon-free electricity. The European nuclear industry is essential given the importance of expanding the clean electricity supply in all decarbonisation scenarios by 2050. Long-term support should be provided for advanced research and small modular reactors (especially given Russia's and China's attempts to dominate nuclear technology and profit from reactor rollout in Eurasia).

Even though Europe is poor in oil and gas energy resources, it still has a potential supply of iron ore, cobalt, lithium and other traditional materials in certain geographical areas. Member states should be encouraged to open new mining sites, abiding by high European environmental standards, even if this requires at least five to seven years in preparation and permitting. **Refining and processing capacities** also need to be bolstered. An increase in domestic production and processing could bring the EU closer to curtailing its reliance on autocracies. Such an approach could be coupled with more serious efforts to transition to a **circular economy and an improved reuse and recycling regime** for critical minerals.

3. A new deal for European industry and rural Europe

There is already a near consensus in pro-European political circles that Europe's climate ambitions need to be accomplished through a proactive **industrial strategy**. This means providing European industries and businesses with affordable energy and regulatory certainty. It ultimately means EU businesses profiting internationally from the transition and exporting affordable and efficient European clean tech globally. Special consideration must be given to the fact that industrial production in Europe is one of the hardest sectors to decarbonise due to its **energy-intensive needs** that cannot be met with traditional low-yield renewables such as solar and wind (see Figure 9).

Figure 9 Global final energy consumption by sector and fuel



Source: M. Cembalest, *Growing Pains: The Renewable Transition in Adolescence*, Eye on the Market Annual Energy Paper, 13th edn., J. P. Morgan (New York, NY, 2023).

The EU's **rural and exurban areas** account for over 80% of its total area and are home to over 30% of its population. Yet across Europe many of these communities feel excluded from political decision-making. In their view, the primary consequences of the Green Deal have been the introduction of additional standards and requirements with little consideration for actual realities in non-urban areas.³⁸ Without the support of rural Europe and farmers, the objectives of the Green Deal will not be achieved. Sustainability legislation should factor in whether new measures limit the overall **competitiveness of European agriculture** internationally and endanger European food security. The next MFF negotiations should also evaluate the true net effect of 'greening' financial schemes under agricultural or cohesion spending and whether these monies add value.

4. Funding technological excellence and embracing a narrative shift

In a way, the money is actually there. Immense fossil fuel subsidies are polluting national budgets. In 2022 these escalated to more than €120 billion for the EU27, even though the G7 and G20 EU member states have committed to gradually reducing them. Problematically, only a few percentage points of our overall climate funding are allocated for **breakthrough research and development on clean tech** or energy innovation. The subject of '**own resources**' expansion should be considered more comprehensively for the reformed European budget to support the digital/green transition.

Urgently directing European funds into critical technologies, clean tech and advanced energy research is crucial for keeping the EU globally competitive. There are already comprehensive proposals for a **European Strategic Investment Fund** to mobilise considerable investment that would generate European added value and serve geopolitical objectives.³⁹ Streamlining is essential as European companies report that current grant schemes are patchy, administratively burdensome and time consuming.

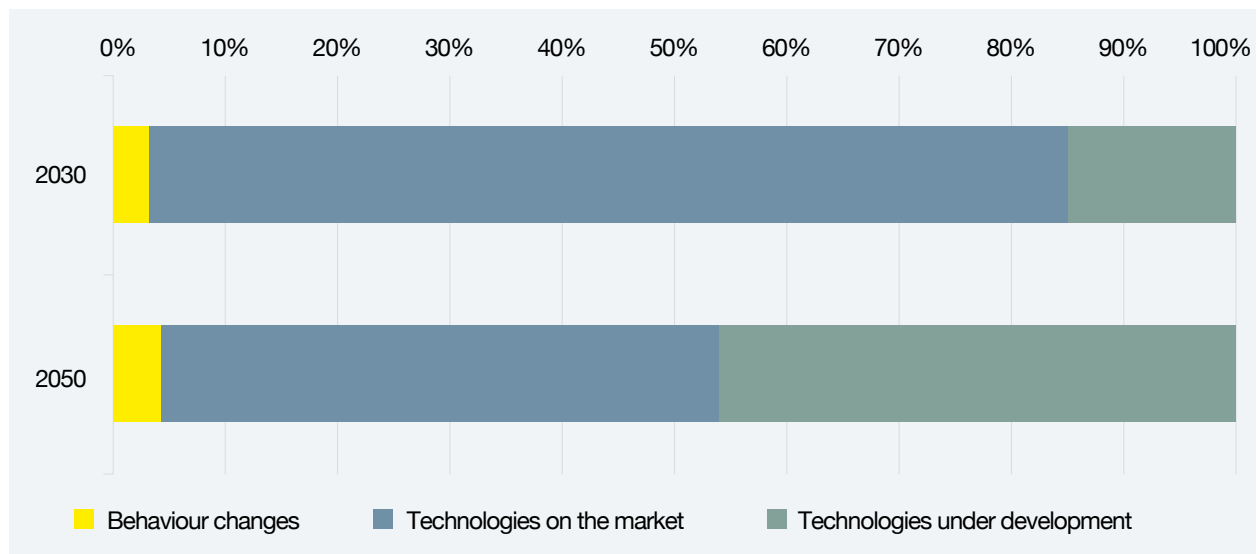
It is important to highlight that **technological breakthroughs** are one of the reasons to **remain somewhat optimistic** in the fight against climate change. The major progress towards a net-zero economy will most likely come from scaling the technological solutions of today and tomorrow rather than drastically altering people's lifestyles (see Figure 10). European citizens are bombarded with negative messaging about doomsday climate projections and a sense that each individual is to blame. This has extremely **demotivating effects, especially for the younger generation**, who register high levels of climate anxiety for the future and even hesitate over whether to have children.⁴⁰ European politicians should remain sober about the challenges ahead but offer citizens more optimism about the role of breakthrough technologies.

³⁸ E. Drea and J. Daul, *Rural Europe: Our Contract with Rural Europe*, Wilfried Martens Centre for European Studies (Brussels, 2023).

³⁹ M. Demertzis, 'Accelerating Strategic Investment in the European Union Beyond 2026', *Bruegel*, 24 January 2024, 3.

⁴⁰ R. Harrabin, 'Climate Change: Young People Very Worried – Survey', *BBC*, 14 September 2021.

Figure 10 Annual carbon dioxide emissions savings on the net-zero pathway, relative to 2020



Source: International Energy Agency, *Net Zero by 2050: A Roadmap for the Global Energy Sector* (Paris, 2021).

5. Supporting European companies

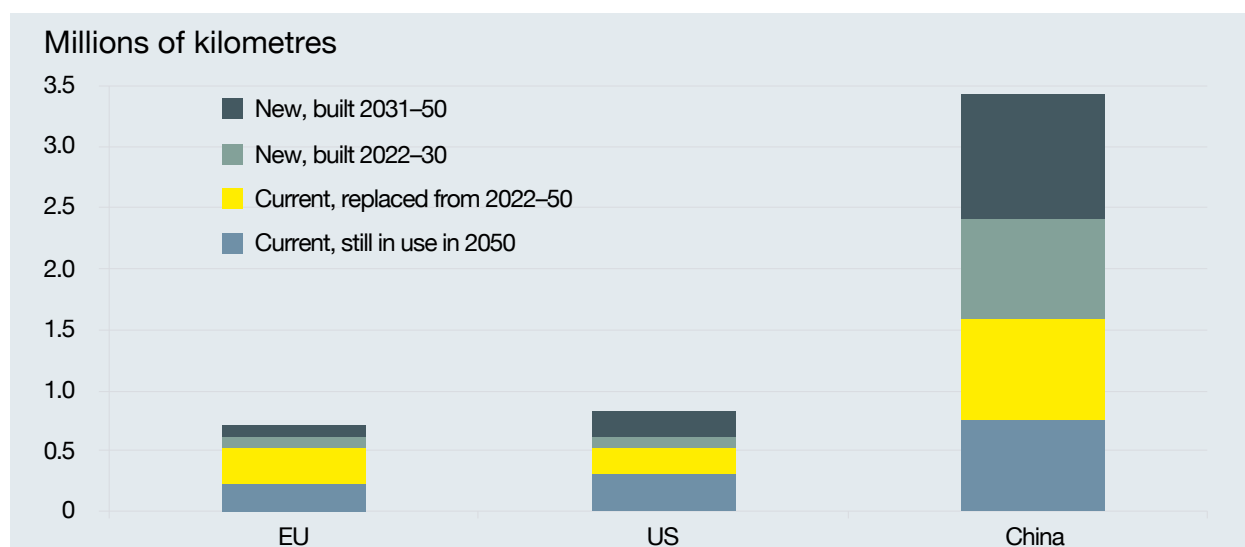
Europe's response to China's continuous international clean tech dumping and the US's pivot towards protectionism through the Inflation Reduction Act has been mostly on paper, not in action. The hastily drafted European Net-Zero Industry Act does not provide direct subsidies for manufacturing and does little to actually mobilise fresh funding. The **EU cannot match China's illicit state subsidies nor its cheap labour**, but it needs to bet on its own **comparative advantages when it comes to human talent and scientific excellence**. It is pivotal that European countries invest in the specialised skills and technical expertise of their workforces so they can accommodate the clean energy transition. There are huge opportunities for strategic investment in improved **wind-generation design, carbon capture and storage, electrolyzers** and next-generation nuclear capacity.

In its next term, the European Commission should continue its active **anti-dumping provisions** and restrict Chinese imports that benefit from exorbitant state subsidies. New **countervailing duties** on Chinese EVs, batteries and other clean tech imports should be imposed where there is clear evidence of illicit support. Special consideration should be given to tightening rules to ensure that dedicated **EU funding for clean energy projects benefits European companies** and has explicit criteria that favours local industries. The Commission's recent proposal on bolstering economic security and strengthening foreign direct investment screening should be adopted and implemented with specific consideration for the clean energy supply chain.

6. Electrification and enabling renewable infrastructure

The electrification of economic activity is one of the best ways to pursue the clean energy transition due to the **high decarbonisation potential of the electricity grid**. However, without infrastructure connectivity and grid investment and modernisation, new clean energy capacities will not be able to feed power into the systems. Current grid developments and long-term ambitions are not ideal in either the EU or the US (see Figure 11). Member states should urgently address the question of **grid investment in transmission and distribution networks**. Consideration should also be given to ultra-high voltage lines and sufficient storage capacity to compensate for the intermittency of renewable power. Digital solutions and 'smart' grids should improve real-time supply-and-demand adjustments and optimise overall performance.

Figure 11 Transmission grid development



Source: Cembalest, *Growing Pains*.

Renewable technologies also need to be enabled through the necessary infrastructure, such as **charging stations for EVs, smart meters and secure software**. There is huge innovative potential in this space given that smart systems should allow for both flexibility and efficient electricity demand management as clean power needs will grow substantially. European governments should devise the **needed household support schemes and incentivise** citizens to make EV purchases, electrify residential heating and switch to domestic heat pumps in a realistic timeline.

7. International climate coalitions and boosting European resilience

The lacklustre implementation of the 2015 Paris Agreement and the painstakingly slow progress made through the annual Conference of the Parties summits suggest that the EU should also be active in more ambitious and more flexible climate coalitions. The US remains a key ally through expanding progress within the EU–US Trade and Technology Council and achieving progress on the creation of a **transatlantic green marketplace**,⁴¹ which would boost trade and the supply chains for key technologies. Eliminating tariffs between transatlantic partners and promoting joint technological standards internationally should be a key goal. The EU should redouble its efforts to conclude a **critical minerals agreement** with the US and make more progress on the global arrangement on sustainable steel and aluminium.

The **UK** is a natural partner in expanding **climate diplomacy efforts internationally and scaling climate finance** commitments for developing countries. There is ample opportunity for expanding international partnerships in Africa, Latin America and Asia through leveraging Global Gateway projects while also promoting European companies and ‘made in Europe’ clean tech ready for export. Climate goals and overall sustainability provide an important opportunity for the EU to reconsider some aspects of its development cooperation and suggest new approaches to development aid.⁴²

⁴¹ A. Mettler, ‘Europe Lost to China on Solar—Now It’s About to Do the Same With Wind’, *Politico*, 11 August 2023.

⁴² P. Hefe and S. Crooks, *The Future of European Development Cooperation: A Centre-Right Perspective*, Wilfried Martens Centre for European Studies (Brussels, 2024).

Last but not least, European member states should invest sufficient resources in their own **resilience and climate adaptation**. Investing in preparedness to limit the impact of floods, wildfires or extreme weather events has immensely reduced the death toll globally. Making progress in early-warning systems, climate-resilient infrastructure and overall climate adaptation will be essential. Europe's cities and regions will be key here, as local authorities are responsible for more than 70% of climate change adaptation measures.⁴³ Enhancing **subsidiarity** and fostering stronger political engagement with the various local political stakeholders are necessary to build a solid backbone for climate governance across the EU.

About the author

Dimitar Lilkov is a Senior Research Officer at the Wilfried Martens Centre for European Studies. His research focuses on energy and climate as well as digital policy. His specific fields of expertise cover the European Energy Union, energy security and decarbonisation policies. On the digital front, his research topics include novel European regulation in the online domain, privacy and disinformation, as well as technological competition with the People's Republic of China. Dimitar has an MA in Politics and Government in the EU from the London School of Economics and holds a BA in International Relations from Sofia University.

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Wilfried Martens Centre for European Studies

Rue du Commerce 20
Brussels, BE 1000

For more information, please visit www.martenscentre.eu.

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⁴³ *European Committee of the Regions, 'World's Cities and Regions Unite in the Battle on Climate Change', 11 November 2017.*



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