



JANUARY
2024



How Can the Green Deal Adapt to a Brutal World?

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ISBN: 979-10-373-0825-2

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How to quote this publication:

Marc-Antoine Eyl-Mazzega and Diana-Paula Gherasim, "How Can the Green Deal Adapt to a Brutal World?", *Ifri Studies*, Ifri, January 2024.

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Executive summary

The European Green Deal has not been planned for the current extraordinarily deteriorated internal and external environment. Russia's war in Ukraine, higher interest rates, inflation, strained public finances, weakened value chains, and lack of crucial skills pose unprecedented challenges. Additionally, insufficient global decarbonization efforts and a global economic and technological confrontation, notably via the weaponization of interdependencies and trade distortions, as well as the multiplication of malign actions, are profound game changers that require a strategic rethink and readjustments.

The outlook is dire: while in the past, the European Union (EU) has been ultimately reinforced through crises, this pattern could now be disrupted as the EU could be increasingly overwhelmed by a succession and multiplication of overlapping crises, leading into uncharted territory. The EU will have overspent well over 600 billion euros (bn€) in energy imports that could have been allocated for the energy transition, and governments spent roughly the equivalent on energy crisis alleviation measures. Both numbers are overwhelming. The risk is that the EU continues to slip into a situation where it effectively decarbonizes, yet not due to modernization and effective policies but as its energy-intensive industries shut down further, in having low Gross Domestic Product (GDP) growth figures, growing import dependencies, non-functioning institutions, eroding support, fragmented markets.

The European Commission (EC), the Parliament and Member States (MS) need to face several realities:

- Targets were raised, and there is progress in key areas such as solar photovoltaics (PV) deployment, heat pumps, and energy savings due to price signals, but meeting them is extremely difficult. Costs for mitigation investment (at least +30% due to inflation and interest rates) and adaption (as 1,5°C is out of sight) are soaring. Investment is not following suit because value chains are weakened, projects are too risky or not profitable enough, and they require large subsidies. The strategic energy-intensive industries may well erode further. Governments have fewer financial resources when they need to spend massively. Citizens were unprepared for war-related inflation and now have to cope with the energy transition inflation, and governments have no viable plan for effectively implementing an accelerated and just transition.

- Leading powers now jeopardize the EU's competitiveness. China's exports to Europe have been growing in a tsunami fashion, with the trade disbalance increasing from 200bn€ to nearly 400bn€ in two years,¹ in a context of massive over-capacities building up in China and its large direct and indirect subsidies, a situation that could get worse giving EU's looming industry and value chain crisis. At the same time, policies by the United States of America (USA) are increasingly aiming at building resilience (*Chips Act, Infrastructure Bill*), economic security (Foreign Entities of Concerns) and localizing low carbon value chains in the USA (*Inflation Reduction Act [IRA]*, tariff barriers), with decarbonization and targets coming second. The IRA has its limits but sets standards for simplifying state aid schemes. China's lead in raw materials, batteries, solar PV, and digital systems is simply breathtaking and may well be replicated in hydrogen, offshore wind, and nuclear. Transitioning without China is impossible. Transitioning while embracing China is potentially deadly if insufficient safeguards are put in place. EU's resilience will depend on its ability to establish and implement precise, predictable, and reciprocal rules of the game. Meanwhile, the USA has a much stronger potential for economic growth and concentrates global savings and venture capital. It is striking that the EU's trade advantage with the USA has been shrinking to 150bn€ in 2022 (while having a population larger by over 100 million).
- The EU is at a fundamental economic disadvantage because it imports all its hydrocarbons, does not produce enough low-carbon technologies, and does not deploy them quickly and massively enough.
- Industries are facing high energy and carbon prices, stringent non-financial disclosure requirements, and Environmental, Social, and Governance (ESG) constraints. Despite efforts to adopt cleaner practices, the transition is not yielding a distinct competitive edge against international counterparts. Many energy-intensive industries, banks, and energy companies are already shrinking, and leading automotive companies and low-carbon equipment suppliers are at risk. The EU is now a price taker for all commodities and has almost no capacity to influence them. In turn, China, the USA, Saudi Arabia, and the security of maritime routes matter decisively. The EU will always be at a cost disadvantage compared to its main competitors, which are also its current and future energy suppliers (notably low-carbon hydrogen [H₂] products). It also faces a risk with industries in its mainland being at an energy disadvantage versus those at the peripheries and coasts. These risks could be overcome through a thriving economy and demography, renewed productivity gains, best-in-class infrastructure, reinforced education and skills, innovation, and a deeper internal

1. "China-EU – International Trade in Goods Statistics", Eurostat, 2021-2022, available at: www.ec.europa.eu.

market. Hence, all these factors need to stop eroding. Germany's constitutional and political bottlenecks not only put Germany's transition in jeopardy at a time of negative growth but also have already very problematic impacts on the EU.

Current responses demonstrate an evolving understanding of the issues. Yet, there is a notable shallowness in recognizing their systemic nature, magnitude, and the potential existential threats they pose to the EU. Citizens are right to become nervous but make the wrong choices in increasingly supporting populist leaders, not least because others are not convincing anymore. EU's decarbonization must go hand in hand with resilience and public acceptance, hence why the traditional energy policy trilemma has a quintuple dimension.

This study has identified ten key points that need to be addressed with priority to adjust the Green Deal to a brutal world, bearing in mind that much lies in the hands of governments who need to get their act together to implement what has been decided in the *Fit for 55* package and beyond:

- 1. Develop a genuine external strategy for the Green Deal to enable a more proactive and effective engagement with the rest of the world.** Critical priorities for developing countries are access to competitive finance in de-risking low-carbon technologies, electrification with low-carbon energy systems and expansion of grids, energy efficiency, sustainable critical raw materials extraction and processing, deploying adaptation strategies and investments, developing infrastructures and improving market access. This could be best embodied in reinforcing the role of the Executive Vice-President for the Green Deal to make it also the High EU Representative for the Green Deal in the World, relying on the transversal cooperation and expertise of DG CLIMA, DG ENER, DG ENV, DG GROW, DG INTPA, DG NEAR and the European External Action Service. The objective is to provide a “one-stop shop” for external players interested in the Green Deal and for the EU to conduct effective and coherent goeconomic and climate diplomacy.
- 2. Transforming the neighborhood policy into a “Green Deal +” area** by focusing with priority on boosting energy security and interconnections, funding for Capital Expenditure (CAPEX) intensive projects (grids, Renewable Energy Sources [RES] deployment, Electric Vehicle [EV] infrastructure, building renovation, etc.), strengthening the skills base and the just transition, enhancing physical and cyber security of networks.
- 3. Enhance governance mechanisms in the EU to actively support implementation.** This involves establishing precise indicators and reporting templates, including for accelerated permitting, but also strengthening the Technical Support Instrument, facilitating peer-to-peer support, creating platforms for

sharing best practices among MS, and implementing accountability mechanisms, including at sub-national levels. An EU-level database should be created to follow as closely as possible in real-time (3-6 months) the progress on the key indicators in the 2030 framework, including projects and funding, which could be jointly managed by the European Climate, Infrastructure and Environment Executive Agency, the European Environment Agency under the supervision of DG ENER.

- 4. Engage with the civil society more efficiently and proactively.** The European Climate Pact Ambassadors must be high-visibility, high-impact personalities, able to raise the profile and the understanding of the Green Deal across Europe. The role of the Covenant of Mayors and the European Committee of the Regions should be reinforced in this respect, as well as the EU's relationship with the media.
- 5. For the Green Deal to succeed, the way forward cannot be less spending and more limits to the EU and national budgets.** The EU budget and climate-related spending need a boost in the context of low growth, higher debt reimbursement costs, and military spending. EU and MS financial capacities need to grow through further integration of the Single Market, economic security policies, new tax resources, the mobilization of domestic savings, a more resolute fight against fiscal evasion and the criminal economy, and strategic use of state aid. Fighting over good or bad technologies, instead of fighting emissions cost-efficiently and resiliently, must stop once and for all. Agreeing on a robust EU Sovereignty Fund is also paramount. It should be designed to prevent the fragmentation of the Single Market (providing funding mechanisms for those stakeholders that prove they are at a disadvantage compared to peers in a different European MS benefitting from national support schemes) and to finance common needs – for example, securing Critical Raw Materials (CRM) supplies, manufacturing of low-carbon technologies, EU skill academies, etc. At the same time, national state aid schemes should be targeted to support strategic projects for the resilience of the European value chains and the achievement of the green and digital transition within the timelines.
- 6. Simplify the existing funding framework within the EU** to make it both more visible and comprehensive for private actors and to ensure ease of access, especially for Small and Medium-sized Enterprises (SMEs). At the same time, harness the firepower of the European Investment Bank (EIB), for instance, by setting up a dedicated EIB financing facility for grids.

- 7. Improve coordination and breaking silos between DGs at the EU level**, between ministries at the national level, as well as between local, regional, and national levels in terms of planification and implementation of the 2030 framework. Enhance coordination among MS by surpassing the minimum requirements and strive to improve the comparability of data and procedures.
- 8. Mainstream the value chain view in policy making** (both in issues of energy transition and industrial policy) to prevent and mitigate inconsistencies, bottlenecks, and inefficiencies.
- 9. Develop a comprehensive approach to the decarbonization of energy-intensive industries.** Whereas the objectives for these industries under the 2030 framework are clear, the tools to achieve them must also be developed coherently with particular attention to the industrial timeframes (ex., availability of H₂/RES Power Purchase Agreements; industrial cycles, etc.). Such a framework is also essential to boost the business viability of extraction, processing and recycling industries, and gigafactories. The priority should be to push electrification as fast as possible, notably to produce industrial heat, as there is a significant potential here. The hydrogen ramp-up will be slower due to the crises and much more targeted and selective in the coming years before picking up after 2030.
- 10. Establish concrete action plans and coordination mechanisms among MS** to address issues related to adaptation, skills development, energy demand moderation, critical raw materials, battery waste collection, storage, and recycling, as well as the flexibility in the electricity system, which is a critical battle going forward.

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Introduction

The recent 2010s period was an ideal one to engage in the energy transition in Europe and around the world: low fossil fuel import costs, low electricity prices, low-interest rates, low maritime freight costs, high energy security, moderate electricity prices, low inflation, high borrowing capabilities, high liquidities, still functional global governance (see the ambitious September 2009 G20 Pittsburgh declaration)² and crucially, continuously decreasing deployment costs of low carbon technologies and significant Gross Domestic Product (GDP) growth in the European Union (EU) and beyond. The EU progressively adopted ambitious and accelerated decarbonization targets, and all Member States (MS) ultimately lined up with the carbon neutrality objective. The systemic transformation was not only necessary but feasible, and a 1,5°C global warming limitation ultimately became embraced. Yet during this period, MS chose to progress slowly and unevenly, at low costs, so as not to overburden public finances, and cherry-picking technologies. This has contributed to weakening supply chains and to insufficient progress in the transition.

Four years after its introduction, the European Green Deal has made spectacular progress in its design and adoption. EU institutions have seen unprecedented mobilization, and the EU has been physically resilient to the energy crises and the significant decoupling from Russia. Moreover, it has been recently embarked on an industrial policy and economic security agenda.

In 2023, the world has changed, very much for the worse, and much worse can be further expected. Overall, many MS are fragilized with weak or negative economic growth, higher debt reimbursement costs, higher military spending needs, growing energy poverty and higher energy prices. Most MS now agree that changing times require asserted policies and stronger European actions but still disagree on the scope of the response. Companies that operate in the EU market and that are to invest in making the transition a reality typically concur with a view that EU's policies were too driven by wishful thinking and target setting and not enough by realism, understanding of realities on the ground and focus on achieving targets, bearing in mind that markets alone cannot deliver such a systemic transformation.

2. "G20 Leaders Statement: The Pittsburgh Summit", G20 Information Center, September 24-25, 2009, Pittsburgh, available at: www.g20.utoronto.ca.

Another risk is that climate populism rises further and that, ultimately, populist leaders come to power in a growing number of capitals, derailing the Green Deal and blocking EU institutions and integration. Citizens who become skeptical about the transition must be understood. They certainly see the consequences of climate change, yet often do not see any benefit of the Green Deal or have not even heard about it; they see growing constraints and burdens and do not understand where all this is going. So are workers and company executives in crisis-hit sectors. This is partly because the EU and most of its governments have utterly failed here, both in the explanation and accountability. What happens in Brussels still tends to stay in a bubble, national governments play the love-and-hate relationship with Brussels, and the level of understanding and attention given to EU topics, and the Green Deal in particular, remains relatively superficial among national parliaments, local elites, and media.³ Yet energy, health, education, security, and trade are the backbones of the EU's stability and prosperity, and coherent, effective, and accountable approaches to these issues are paramount.

Ahead of European elections in June 2024, four years after the start of the Green Deal and ahead of a critical implementation phase over the period 2024-2030, this study analyses some of the implications of an energy transition in the age of geopolitical turmoil, growing instability and scarcity of time, of competitive and low carbon electricity, of metals, of adequate budget resources, of cheap access to capital, of deteriorating public support and international cooperation. It takes a satellite view of how changes in the world affect the European energy transition and a helicopter view of progress and shortcomings in Brussels policies. It aims to suggest policy adjustment options for adapting the EU Green Deal to a brutal world and to rising internal fragilities and fragmentation.

3. The study "Live from EU Capital. A Study of the Brussels Press Corps" by the General Secretariat of the Council of the EU (available at consilium.europa.eu) stresses that the Brussels Press Corps has been decreasing compared to a peak in 2013, there is an unequal representation among MS, and only 20% of them declared in 2021 to cover exclusively EU affairs, most of them covering other foreign affairs and general topics, and having a focus on underlying conflicts in Brussels.

The stocktake: a hyper-crisis world blowing up all the knowns, magnifying the unknowns

The great disillusion: it is a brutal world getting worse by the day

The EU's strategic culture and institutions are still a mirror of the advantages the EU has been enjoying for a long time in a world where cooperation, free trade, and fair competition predominated, rather than confrontation and distorted competition. For a long time, the EU has benefited from its large integrated market, good levels of infrastructure, strong agriculture, good levels of Research and Development (R&D)/innovation, strong productivity, a strong Euro, relatively low energy prices, abundant workforce and limited inflationary pressure, a very stable and predictable regulatory environment, and its control over key technologies.

Yet, these advantages are eroding fast, and the level of confrontation in the external environment is worsening by the day. Shocks typically come as a surprise: the Trump election, the pandemic, Putin's invasion of Ukraine, the Sahel's geopolitical U-turn, China's technological edge, the Hamas attack, the Houthis actions...

The EU is now surrounded by a ring of instability and insecurity. Russia, Iran, and North Korea directly impact the EU's security. The EU's stability depends on actions by China, Saudi Arabia, and India, but also Israel, Türkiye, the United Arab Emirates (UAE), Algeria, Morocco, Egypt, Brazil, Indonesia, Mexico, Columbia, Nigeria and South Africa. Some of these countries' interests, internal development, and behavior are not aligned with what the EU stands for, that is integration through trade, rules-based order, fair competition, democracy, human rights, or Environmental, Social, and Governance (ESG) norms. Several of these regimes invest in natural resources, fertilizers and petrochemicals, demography, military force, space, digital and biotechnologies, and gold reserves. Powerful sovereign wealth funds and state-owned enterprises are used to develop natural resources and invest in equities, technologies and dependencies. Territory and hard power often matter to them, alongside regime survival, and many of these regimes are willing to resort to power to

reach their core objectives. Engaging with them is paramount but requires a consistent strategy. The transatlantic relationship could also erode further as trade tensions, industrial policy issues, and a possible return of Trump, which is seen as potentially isolationist and revengeful, could deteriorate ties permanently, pushing Europe to either make the strategic autonomy a reality or shrink further and erode.

The EU has been designed to strive for a cooperative world where public goods and a rules-based system operate and where its most significant MS retain power. Yet, it is not adapted to a world of growing imbalances and polycrises, where actors with opposed interests go on the offensive, be it visible or invisible, and target our economies, technologies and institutions, and no more refrain from manipulating or hitting the very grounds of our system: freedom and quality of information, free movement of capital, persons, financial flows, elections, digital security, infrastructures, and peace. Several regimes can buy or develop by themselves what we took decades to build and what is still very unevenly developed among EU countries: access to space, to the seabed, sophisticated weapons, digital technologies, and artificial intelligence. Conversely to what many expected, rentier states are not losers and collapsing; many of them are wealthier, more central, and more willing to deploy power than ever before. It is no coincidence that after the UAE, Azerbaijan will host COP29. Last but not least, drug cartels now seem to bear a more substantial destabilization potential than Islamic terrorists.

China is no longer a manageable competitor and an expanding market where opportunities outweigh risks and interdependencies effectively operate in both ways, building stability. Within just a few years, against all odds, it has become a technological frontrunner with a state-driven capitalism that builds significant market distortions. China is increasingly indispensable to the European and global energy transitions as only China can deliver the scale and cost decreases for key equipment, low-carbon technologies, and raw materials. But fair competition is simply no longer possible, and a level playing field is required.

The expanded alliance of Brazil, Russia, India, China, and South Africa (BRICS) has been largely understated because there is so little in common among these countries. Several features they actually share can be distinguished: a standard view that the West is in decline and needs to be downsized in its strategic ability to set and implement the international agenda; strategic opportunism; very little common trade and investment among its members, which can only be expanded to generate growth, notably in the field of commodities; a view that the EU's energy transition largely lost credibility. There is also among them no hurry to reach climate

neutrality (perhaps except for Brazil)⁴ and a view that both the fossil and low-carbon world should coexist. In addition, they are on the lookout for opportunities: supply Europe with low-carbon products and resources alongside fossil fuels, displace European energy-intensive industries, buy into key sectors and companies, and develop hydrocarbon and metals cooperation and investment.

Finally, the rest of the world has not yet aligned with the same course of action as the EU. Despite a landmark agreement on transitioning away from fossil fuels, COP28 gave a sobering assessment of the global state of play: poor and insufficient implementation and insufficient climate finance, even if progress is undeniably happening. The world has heated up already by 1,2°C, and 1,5°C is totally out of reach. The landing zone is at best between +2°C and +3°C; that is a devastated world where adaptation needs to become equally central as mitigation efforts.

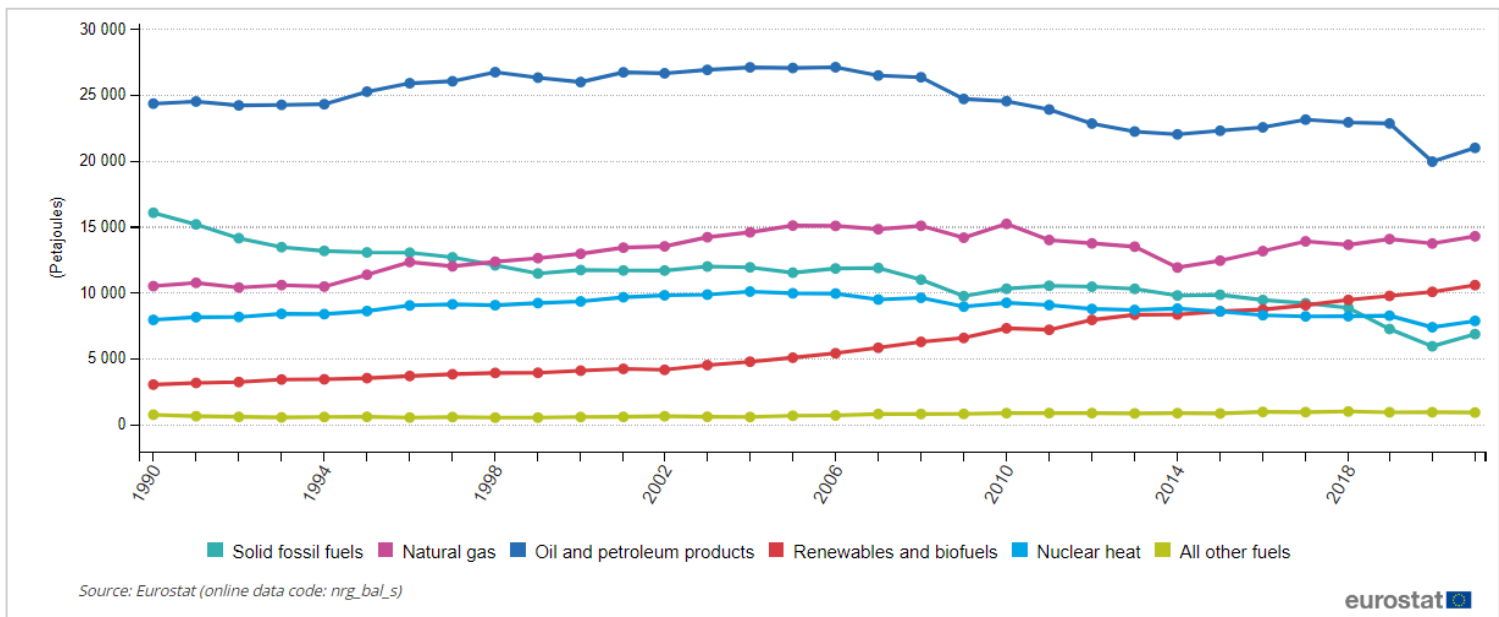
This should prompt a fundamental question: why focus only on reducing carbon dioxide (CO₂) emissions in Europe at a cost that will soon be well above several hundred euros per tonne when the abatement costs are in a range of dozens of euros/tonne elsewhere, but not realized to their full potential? For sure, the EU reaching climate neutrality by 2050 is an irrevocable strategic leadership endeavor; many countries worldwide are legitimately asking developed nations to accelerate their emissions reductions, and the EU now has an interlinked legislative framework to support its transition to 2030. Nevertheless, developing a comprehensive strategy to address greenhouse gas (GHG) emissions in regions with lower carbon abatement costs would significantly impact both the climate and geopolitics. This includes mobilizing EU companies and establishing partnerships beyond Just Energy Transition Partnerships (JETPs), as exemplified by initiatives like the Global Gateway. This would also give the EU a central role in making Article 6 of the Paris Agreement a functional global tool to fight against climate change. Lastly, by being too EU-centric, the EU's decarbonization approach misses out on the fact that major players are now developing their own standards and approaches towards carbon offsets, notably through forests, in a manner that raises many concerns. Thus, the EU should consider better combining science-driven policies and geopolitical strategy.

4. J.-L. Martin, "First Year of Lula: Overview of the Political Situation in Brazil", *Ifri Memos*, Ifri, January 2024, available at: www.ifri.org; D. Gherasim, "Climate in US–China Relations – A Lost Sense of Public Good", available at: www.ifrimaps.org; T. Gomart and M. Hecker (eds.), "China/United States: Europe Off Balance", *Études de l'Ifri*, Ifri, April 2023, available at: www.ifri.org.

Europeans become spectators of energy commodity trends affecting them

The share of renewable energy sources has continuously increased in the past years, but the EU's overall energy supply still remains very dependent on oil and gas, as illustrated below.

Figure 1: Gross available energy in the EU, 1990-2021



Source: Eurostat.⁵

This means that the EU mainly depends on energy imports from third countries, with an energy import dependency rate that has been declining since its peak in 2019 (60.5%) but remains too high (55.5% in 2021). This leaves the EU in a strategically challenged and weakened position as China, the United States of America (USA), and Saudi Arabia are determining market trends and prices in the coming years:

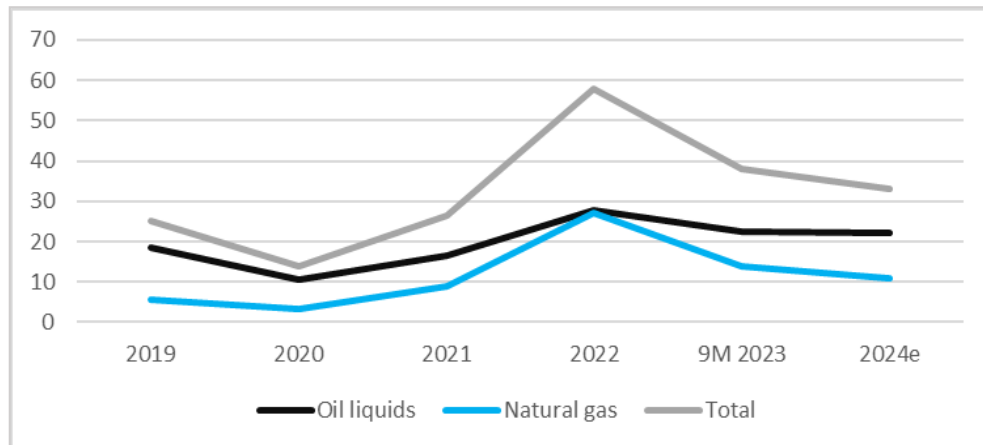
- ▀ The energy import bill has soared in 2021-2024e versus 2015-2020, meaning that well over 600 billion euros (bn€)⁶ that could have been spent by European countries on the energy transition will be used to finance fossil fuels imports at inflated prices. This is almost equivalent to the entire EU energy import bill of 2022, three times the 2023 EU defense spending, or equivalent to the entire cost of deploying grids in the EU to meet the 2030 target. At the same time, the financial

5. "Energy Statistics' an Overview", Eurostat, May 2023, available at: www.ec.europa.eu.

6. "EU Imports of Energy Products – Latest Developments", Eurostat, December 2023, available at: www.ec.europa.eu.

performance of companies in clean energy businesses has deteriorated, with the S&P Global Clean Energy Index showing a negative annualized performance over the past three years.⁷

Figure 2: Monthly EU energy import bill, billion EUR, 2019-2024e



Source: Eurostat, Ifri estimates.

- Oil prices will be structurally higher following a trend of underinvestment, continued increasing global demand, and reinforced cartels around OPEC+ and BRICS, even if non-OPEC production has been growing at surprising levels recently and if OPEC+ sees some internal tensions. The impact of higher oil prices on global interest rate levels and economic growth levels will remain strong. This does not imply a recommendation to reinvest in oil production. Instead, the viable path for the EU is to decrease reliance on oil products while recognizing that this transition will take time. Currently, the total global Electric Vehicle (EV) fleet has perhaps displaced some 300 kbd⁸ of oil demand so far. Nevertheless, the EU will need to keep some refinery capacity, notably diesel, gasoline, and jet fuels, but also AdBlue⁹ and petrochemicals, in a world where Asia and the Middle East will increasingly concentrate the bulk of capacities and expose Europe to disbalances and geopolitical risks as oil will continue to play a role for decades to come, not least for the military, aviation, agriculture, or emergency services.¹⁰
- The volatility in gas markets will continue amidst a systemic downward trend in prices as more Liquefied Natural Gas (LNG) supplies come to markets. However, technical outages, weather, strikes, and geopolitics

7. S&P Global Clean Energy Index, available at: www.spglobal.com.

8. Thousand barrels per day.

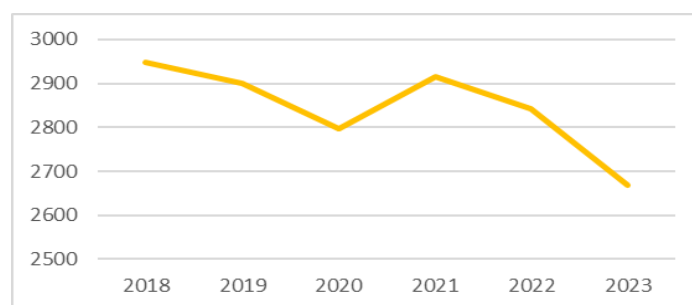
9. AdBlue is a registered trademark for a diesel exhaust fluid used in modern diesel engines equipped with selective catalytic reduction technology to reduce nitrogen oxide (NOx) emissions.

10. "Oil 2023 – Analysis and Forecast to 2028", IEA, June 2023, available at: www.iea.org.

will continue to affect markets. But the EU will always pay a higher price for its gas than the USA, Canada or Australia. That is the problem: Russia was supplying large volumes of gas to Europe but was not a competitor of Europe, with a few exceptions, but the USA are in the opposite position. A wrong assumption is that gas demand and imports will decline rapidly, especially if coal is to be phased out and if renewables, competitive low-carbon hydrogen, and nuclear don't expand as needed. It will take time to reduce gas demand in the absence of competitive alternatives, and with collapsing internal production, import levels, notably of LNG, but also pipeline gas from Norway or Algeria, will remain strong. So far, there are no serious alternatives to gas peaker plants to ensure the seasonal flexibility of the electricity system, nor to blue hydrogen if a rapid and local ramp-up is to be achieved. And the EU is more exposed to global shocks as it lost much supply-side flexibility in past years.

- Gas prices are set in the interplay between weather patterns (from hydro availability due to heat or cold waves to hurricanes in the Gulf of Mexico), oil production levels in the USA (for the associated gas), Chinese demand levels, and LNG import needs, and geopolitics surrounding the straits and sanctions. Oil prices are set in Washington (through land lease and ESG regulation), Riyadh (which has the world's most considerable supply flexibility and investment plan), and Moscow (through taxation levels and level of currency depreciation) and are heavily impacted by the security of maritime transportation.
- Be it for oil, gas, or coal, Europeans will remain heavily import-dependent for the foreseeable future. Electrification has not progressed much, and electricity demand has been even decreasing in past years. No explosion is visible. The situation in the USA is very different...

Figure 3: EU electricity demand, 2018-2023 (TWh)



Source: Ifri, based on data from Eurelectric Elda.¹¹

11. "Electricity Demand", Eurelectric, available at: www.electricity-data.eurelectric.org.

- With regards to critical raw materials, the EU has woken up to the evidence of Chinese domination of key critical raw materials supply chains, and its ability to influence market dynamics through export restrictions, stockpiling, oversupply, industrial overcapacities, increasing or reducing subsidy levels for technologies. This means that for the moment, the wave of gigafactories that are being built or already in operation across Europe operate primarily thanks to Chinese inputs, and it will be very long, costly and challenging to Europeanize these value chains.

Brussels and Member States become central but are increasingly fragilized

Facing the polycrises, the call on MS and Brussels to act has been growing by the day, but the right balance between market and state intervention in what will be hybrid systems still needs to be improved.

The positive trend from the crises was that governments and the EU understood that spending levels for the transition must be increased, that market forces alone will not deliver on the investment needed, and that CO₂ price levels have increased (while remaining volatile), providing better investment signals, although too dramatically. Governments also understood that they could act to facilitate permitting and provide competitive finance. However, their financial capability is now consequently reduced.

- Governments spent roughly 2,5% of GDP to alleviate the energy crises¹² until June 2023 (540bn€), not to mention the huge debts from the pandemic. This adds to the rising energy import bills. Governments have massively intervened in energy and economic markets during the crises, with fossil fuel subsidies, revenue caps, price floors, redistribution policies, and various state aid schemes to industries. While needed, these interventions were not always coordinated or equally implemented and are raising questions about the investment framework, the cohesion of the internal market, and EU's image abroad.
- Five years ago, governments could have spent massive amounts to unleash the energy transition, but they did not. Today, when needed, governments face a dire situation of flat and low GDP growth, flat fiscal revenue collection, a sharp growth in borrowing costs, and past debt reimbursement. They must increase military expenditures, fund the escalating social expenses associated with an aging population, and prioritize not only investments in GHG mitigation but also in adaptation, recognizing the pressing need for both.

12. "National Fiscal Policy Responses to the Energy Crisis", Bruegel, June 26, 2023, available at: www.bruegel.org.

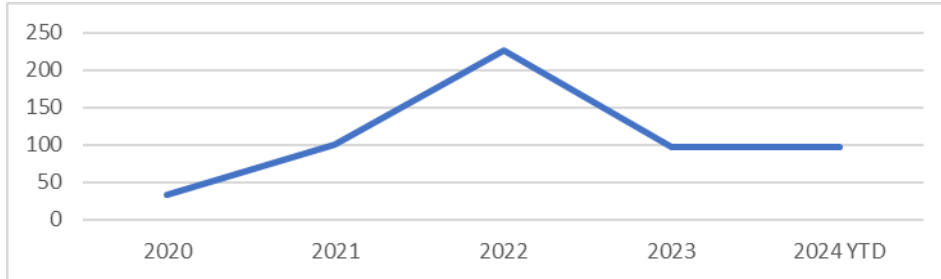
- With stagnating FDIs,¹³ higher energy costs, high carbon prices (both marked by volatility and currently on a downward trajectory), positive but limited productivity gains,¹⁴ low demographic growth perspectives, inflationary pressures, and insecurity at the Southern and Eastern borders, and the Arctic, the EU's investment attractiveness has been reducing.¹⁵ EU's record trade deficit in 2022, topping 432bn€, was a one-off due to high oil, gas, and coal prices. Nevertheless, this raises serious concerns. The trend could well be a continued weak euro, which would increase the cost of energy imports.
- Decisively, the EU's ability to retain its energy-intensive industries, notably those producing basic materials, is in jeopardy due to high energy prices, much higher CO₂ prices compared to the rest of the world (and decreasing free allowances), unclear future perspectives, and the fact that Europe will always be at a cost disadvantage compared to competing production locations and will struggle to be in a position to create an adequate level playing field. The energy cost difference between Europe and the USA has reduced from roughly five or six times higher in 2022 to three times higher in 2023. Still, even a further improvement will not bridge the gap sufficiently. According to Eurostat, in September 2023 compared with September 2022, industrial production decreased by 6.1% in the EU, as the consequences of the war in Ukraine on energy prices and supply chains increasingly hit EU industries. Steel, aluminum, glass, and petrochemicals are particularly affected. Attracting the low-carbon technology value chains will also be a challenge as higher electricity prices mean higher operating costs in industries where the differences in labor costs matter less and less and where the scale of production and low-carbon and competitive electricity can be better secured outside Europe as opposed to inside Europe.

13. "EY European Attractiveness Survey: Foreign Direct Investment in Europe Stalls Amidst Economic Uncertainty, France Remains Top Destination for Investors", Press release, EY, May 12, 2023, available at: www.ey.com.

14. "Productivity Trends Using Key National Accounts Indicators", Eurostat, March 2024, available at: www.ec.europa.eu.

15. "Foreign Direct Investment, Net Inflows (BoP, Current US\$) – European Union", The World Bank, available at: www.data.worldbank.org 16. "Industrial Production, Capacity, and Utilization", Federal Reserve, available at: www.federalreserve.gov.

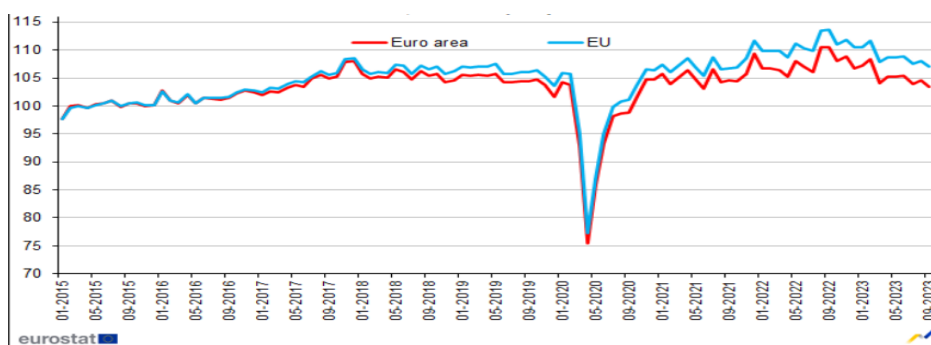
Figure 4: EU Annual day-ahead power prices in €/MWh, 2020-2024 ytd



Source: Ifri, based on data from Eurelectric Elda.

- While the EU’s industrial production has been going down in past years (with notable differences among sectors, as steel, fertilizers and aluminum are severely hit), the USA has not experienced such a dip (but no significant increase so far).¹⁶ It will soon see the benefit of the major manufacturing expansion wave triggered by several pieces of legislation in past years, notably the IRA. The threat for the EU at this stage is to start falling back irreversibly, especially as it is by far not leading in the ease of installing large industrial facilities or building electricity interconnections.

Figure 5: EU Industrial production, 2015-09M 2023 (100=2015)



Source: Eurostat.¹⁷

16. “Industrial Production, Capacity, and Utilization”, Federal Reserve, available at: www.federalreserve.gov.
17. “Euroindicators”, September 2023 compared with August 2023, Eurostat, November 2023, 128/2023, available at: www.ec.europa.eu.

Figure 6. Actual manufacturing investment in the USA by year of announcement



Source: Clean Investment Monitor¹⁸

- Overall, the EU and its MS, notably after Germany’s constitutional court ruling, have less and less the capacity to sustain a transition based mainly on subsidies and must now rationalize their approaches, based on a down-to-earth assessment of energy technology cost trajectories, cost-efficient options, and opportunities from improved cross border coordination.

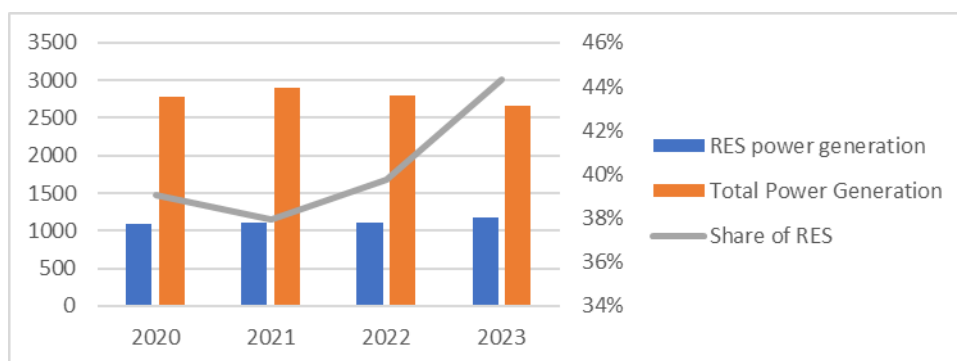
18. “Overview of Clean Investment in the U.S.”, Clean Investment Monitor, available at: www.cleaninvestmentmonitor.org.

The strategic repositioning of the Green Deal

Past and ongoing crises have already pushed the Green Deal towards a strategic repositioning

The key achievements of the European Green Deal have been discussed in our previous work¹⁹ on this topic. Positive signs emerge on the ground, with a record increase of RES share in electricity generation, as well as of EVs and heat pumps sales. The Green Deal strategic agenda has also brought the possibility for MS to get access to direct funding for key sectors like renovation, electric mobility, and renewables, namely via the Recovery and Resilience Facility, but also through the Temporary Crisis and Transition Framework, the Innovation Fund, and other new tools such as the Just Transition Mechanism or the Hydrogen Bank. The external dimension has also been developed, notably via adopting the Carbon Border Adjustment Mechanism or the Deforestation Regulation, which has fueled tensions with emerging and developing economies.²⁰

Figure 7: Evolution of RES annual generation in total generation (in TWh) and share in EU power generation (in %), 2020-2023



Source: Ifri, based on data from Eurelectric Elda.²¹

19. M.-A. Eyl-Mazzega and D.-P. Gherasim, “The European Green Deal, Three Years On: Acceleration, Erosion or Fragmentation?”, *Briefings de l’Ifri*, Ifri, November 2022, available at: www.ifri.org.

20. G20 New Delhi Leaders’ Declaration, September 9-10, 2023, available at: www.g20.org.

21. “Electricity Generation by Fuel”, Eurelectric, available at: www.electricity-data.eurelectric.org.

In response to the IRA and to the effects of the *Made in China 2025* plan, the EU's Green Deal suffered a substantial change in its core fabrics at the end of 2022, as it became increasingly turned towards industrial policy aspects, intending to stay in the race for the clean tech, hence adding a second leg to the first one which was focused on a normative approach to the energy transition.

Throughout 2023, after key decisions were taken in support of semi-conductors in 2022 (the 43bn€ of the *European Chips Act*), the industrial dimension became central at the point of being instrumental in the discussions for reaching a compromise on the revision of the electricity market design (EMD), with marked oppositions among MS, namely between France and Germany. The *Critical Raw Materials Act* and the *Net Zero Industry Act* have been put at the core of the industrial pillar, with a focus on accelerating the deployment of net-zero technologies by tackling issues related to permitting, skills, funding, innovation and partnerships as well as ensuring a sustainable and secure supply of strategic raw materials for the energy and digital transition (mainly through underground exploration, stress tests, increased European coordination, recycling, mining diplomacy and partnerships, etc.). All these valuable elements will now need to be implemented all across Europe. To these two central pieces, the EC has added the creation of a "Hydrogen Bank" to scale up renewable H₂ production and proposed an EU Wind Power Package to respond to the turmoil in the wind energy sector severely hit by inflation, supply chain issues and vivid competition from third-markets players, namely Chinese. Lastly, the EC has finally started to reintegrate nuclear power into its policy spectrum, bowing to the reality that 16 European countries are forming a Nuclear Alliance, aiming to reach 150 gigawatts (GW) of nuclear capacity by 2050, which is a vital asset. Nevertheless, this comes with many challenges that need to be addressed, from regulation, access to funding, skills, expanding the value chains, and fostering the Made in Europe components.

The focus on industrial policy led to a more assertive approach to economic security, a symbolic milestone for the EU being the publication of its first Economic Security Strategy, which aims at: promoting the EU competitiveness (more resilience, innovation, industrial capacity), protecting EU from economic security risks (primarily via trade defense tools, investment screening and export restrictions) and partnering with like-minded countries.

The next phase of the European Green Deal will need to be substantially different from what we have seen in the past four years if it is to be successful. Based on the EC's assessment of the draft National Energy and Climate Plans (NECPs), the EU is not on track to reach any of its key 2030 targets (a 4% gap between the EU 2030 GHG emissions reduction ambition and the NECPs, a 3-4% gap in RES, the most preoccupying difference being in the energy efficiency field, where the EU targets a

reduction of -11.7% of the final energy consumption whereas measures in draft NECPs would only allow to reach a -5.8% decrease if implemented).²² The root cause of these results is especially concerning as MS propose a shallow planning of their national energy transition, and most of them have not worked out concrete measures and details on how they plan to phase out fossil fuels and their subsidies, to build and modernize grids, to tackle energy poverty and adaptation works. Nor have they seriously evaluated investments needs and mechanisms available, the implications of the energy transition on poor communities and levers to support them on the ground. Solid ground-based planning, cooperation, transparency, constant evaluation and monitoring for building effectiveness and resilience are essential for the next phase of the Green Deal. A few years ago, a risk was to have carbon walls erected at the EU's borders. The risk is now to have carbon walls within the EU and increasing fragmentation of access to competitive low-carbon electricity between inland EU and its peripheries and coastal areas, which can have privileged access to imports of energy products and offshore wind. Interconnections, close coordination of the development of electricity systems among MS, and a technology-neutral approach to generation and storage are now required to avoid the worst.

The fundamentals of the Green Deal need to be reinforced

End the feud between European policies and adopt the value chain approach

Despite the Green Deal's recognition that a holistic transformation and coordination are needed to achieve the emissions reduction targets for 2030 and 2050, siloed ways of working and policy-making still prevail across the institutional and political setup. Renewables and grids' deployment are still perceived as a threat to biodiversity or agriculture, and searching for ways in which they can mutually support each other is rather the exception than the norm. The necessary reform of EU's EMD became the core of a dispute between those who saw it as a tool of energy policy and those who relied on it as a tool of industrial policy. The temporary relaxation of state aid rules to avoid painful discussions around the issue of joint borrowing, far from reconciling everyone, led to a situation where industrial policy is conceived as a national policy, by default in a mode of competition with EU peers, ignoring the external situation of EU's dependencies and the necessity to rely on the firepower of the single market to remain relevant in the world. The same contradictions are visible

22. "EU Wide Assessment of the Draft Updated National Energy and Climate Plans. An Important Step Towards More Ambitious 2030 Energy and Climate Targets under the European Green Deal and REPower EU", European Commission, available at: www.europa.eu.

between supporters of a “Buy European” mantra, which encourages a greater role being given to non-price criteria in public auctions, and those who support the principles of economic efficiency and optimizing the use of public finances.

A balance needs to be found between state aid policy and competition policy, where MS’ national financing capacity is harnessed towards financing projects that can prove they are strategic for the resilience of the European value chains and for achieving the green and digital transition. In addition, the European funding pillar could be reinforced with a grid-dedicated funding facility backed by the EIB, complementary to Connecting Europe Facility – Energy (CEF-E) in that it should support national grids’ modernization or deployment, especially at the distribution level and the deployment of offshore renewables infrastructure. This could be paramount, notably to foster the development of an integrated offshore grid in the North Sea, which is much needed. More broadly, an EU Sovereignty Fund is a *sine qua non* condition for preventing the fragmentation of the Single Market: it needs to provide funding mechanisms for those stakeholders that prove they are at a disadvantage compared to stakeholders in a different European MS benefiting from national support schemes, as well as finance common needs such as the securing of CRM supplies, manufacturing of low-carbon technologies in the *Net Zero Industry Act* (NZIA), the deployment of offshore RES capacities, the EU skills academies.

From silos to tight coordination across the board

For the European Green Deal to work in practice, policies must complement and support each other instead of competing for the spotlight.

Concretely, the EC should create instances of tight coordination between DGs and mutualization of skills wherever possible to ensure coherence between targets and policies in different fields. In their turn, MS should improve coordination among ministries not only in the policy-making step but also when it comes to implementation.

Coordination between MS and also EU neighbors is necessary when it comes to the deployment of grids, capacity mechanisms, offshore renewables, H₂ production and imports, capacities and pipelines, district heating and cooling networks, and mining and refining ecosystems, all of which are more relevant at a regional scale to avoid duplication of costs, exploit the synergies of the single market, use cross-border basins of resources.

Focusing on the supply chain and a holistic approach to sectors’ transformation

An apparent repositioning that needs to happen in policymaking is embracing the supply chain view.

The struggles of the offshore wind sector²³ illustrate that although targets on renewable energy and reinforced carbon pricing are vital for giving the direction of travel, for the implementation step, the EU needs to focus on the value chains of low carbon technologies, identify their weaknesses and take action to reinforce them. Meanwhile, MS must adapt auctions to the new market conditions and non-financial criteria. Offshore windmills are the tip of the iceberg: power electronics and cable connections are the new bottleneck to reach targets, aluminum, copper, and magnets will matter increasingly, port enlargement and ship construction too. 2024 must witness a reboot of this key industry which needs to reach 300 GW by 2050, that is multiplying by three annual deployment levels.

One other example is transport. The *Fit for 55* package focuses on reducing GHG emissions in transport, namely by concentrating on the issue of fuels used in this sector. Initiatives such as ReFuelEU Aviation and FuelEU Maritime aim to boost the adoption of alternative sustainable fuels in the aviation and maritime sectors. Simultaneously, legislations like AFIR and REDIII support the shift towards electrification by facilitating the installation of recharging stations, implementing provisions for smart charging, and setting targets for using RES, etc. Although necessary, this approach remains partial as it fails to support the increase in alternative mobility means and the building of their dedicated infrastructures, considering cross-border synergies, sharing of best practices, and involving local authorities. Also, from a different perspective, while encouraging the shift to electric mobility, little to no consideration was given to moderating the demand for batteries and critical raw materials, in the sense of encouraging sales in smaller and lighter vehicles rather than SUVs and avoiding that each internal combustion engine (ICE) car is replaced by a similar type EV car. This should be considered thoroughly, as Ifri's work shows that in a scenario of lower seized batteries and diversified chemistry, the pressure in terms of CRM needs would decrease substantially.²⁴

The decarbonization of energy-intensive industries is also lacking a comprehensive approach. Whereas obligations on emissions reductions are reinforced via the review of the EU Emissions Trading System (EU ETS) and the Industrial Emissions Directive, it remains challenging for some of these industries to project their decarbonization pathways and identify the right levers. It is a positive evolution that the Renewable Energy Directive obligation regarding the 42.5% consumption target for renewable hydrogen in the industry by 2030 is now accompanied by the launch of the Hydrogen Bank to scale up RES H₂ production in Europe. Nevertheless, it is unclear

23. E. Beeker, "Après le boom de l'éolien offshore en Europe : quelles conditions pour un redémarrage ?", *Notes de l'Ifri*, Ifri, October 2023, available at: www.ifri.org.

24. M.-A. Eyl-Mazzega, D.-P. Gherasim, C. Vannier and A. Contu, "How to Meet the Industrial Challenge of Electric Mobility in France and in Europe", *Étude de l'Ifri*, Ifri, November 2023, available at: www.ifri.org.

which and how many industries will be able to access these H₂ supplies by 2030. In the same vein, the EMD reform aims to favor the signing of Power Purchase Agreements. Yet, these are highly dependent on expedient permitting, internal capacities of managing PPAs, being able to secure baseload capacities and storage, and grid connections. In addition, the *Net Zero Industry Act* (under discussion) is focused on incentivizing the deployment of low-carbon industries and, except for the objective of 50 million tons (mt) of CO₂ storage by 2030, which could support the deployment of Carbon Capture and Storage (CCS) for unabatable emissions in industries, no other provision aims at transitioning to net-zero the existing EU energy-intensive industry. Such issues, connected with the broader issues of competitiveness in a market with high energy prices, not only contribute to eroding the presence of existing energy-intensive industries in Europe but raise a more essential question about the EU's capacity to provide a suitable ecosystem for new industries like extraction and refining of critical raw materials.

The industrial strategy is paramount but now requires the implementation of decided policies and legislation, funding, and a more robust approach to building an environmental and economic security fence to ensure a level playing field and protect against unfair practices. Hence why, eco-design legislation, non-financial criteria in tenders, and extra financial reporting are paramount. Governments that ramp up transition and military funding should have flexibility regarding EU budget deficit rules.

Governments must get their act together and foster the low carbon technology supply chains through competitive credits and non-financial criteria and reinforce the raw material supply chains. Often, this also includes reinforcing administrative capacities and having a more mature and inclusive approach to the energy transition. While governments must raise taxes in a spirit of just transition (especially in brown and digital and financial sectors) and have more targeted and effective social policies, citizen savings need to be geared towards financing the mitigation and adaptation efforts.

Strengthen all delivery mechanisms and tools

Stakeholders generally agree that the progress made on the energy and climate agenda of the Green Deal has been fast and impressive, with the level of ambition being overall maintained throughout the *Fit for 55* files and beyond (except for the case of the Energy Taxation Directive), despite crises and institutional difficulties. But national administrations accuse a certain “negotiations fatigue” after four years of intensive legislative activity on all Green Deal texts, the emergency regulations and meetings, and numerous trilogies sessions. In addition, a lot of work must be done to clarify their interpretation and ensure the implementation is advancing on all fronts.

There are concerns that the resources to implement are not there and that the local and regional administrations are not sufficiently involved.

Dealing with capacity constraints in public administrations

Capacity constraints are also a vital issue when disbursement of funds – for instance, the Just Transition Fund suffers delays in deployment. Public authorities' speed is essential; more capacity-building is needed at the local level. This is even more necessary as energy poverty has increased in Europe against the backdrop of the energy price crisis. At the same time, the Just Transition Plans have taken more than a year and a half to negotiate, whereas the deadline to spend an important share of the money is 2026. Much of the action is on paper at this stage, and whereas the Just Transition Fund was an essential and necessary step in the right direction, it is too early to claim its effectiveness.²⁵ The work delivered on the transition of coal regions is not sufficiently convincing in terms of job reconversion.

Improving the governance mechanisms, with a focus on accompanying the implementation in a constructive way and preempting situations of deficient delivery

The main mechanisms at the EU level intended to ensure the enforcement of Green Deal legislations are, on the one hand, the National Energy and Climate Plans, part of the Governance Regulation, which are not always sufficiently detailed to assess whether the EU is on the right trajectory,²⁶ and, on the other hand, the ex-post mechanism of infringement by which the EC takes action against countries that fail to implement EU law. Clearly, mainly relying on the “stick,” that is, the threat of infringement, is far from ideal.

Given how time-sensitive the implementation of the Green Deal agenda is, Europe needs to boost and multiply tools that constructively support the implementation work at national, regional and local levels, be it the Technical Support Instrument, organizing peer-to-peer support, setting up instances for sharing best practices and moments of accountability among MS (including subnational levels), providing support with the interpretation of legislations, with drafting decarbonization plans for economic sectors and putting in place data gathering and analysis systems to inform the design of national mechanisms. The EC should create a dedicated central database to follow in real-time (updates every three or six months) the progress on the key indicators in the Green Deal legislations (going beyond the *Fit for 55* package), which could be an initiative managed jointly by the European Climate, Infrastructure and Environment Executive

25. “EU Support to Coal Regions – Limited Focus on Socio-economic and Energy Transition”, Special Report 22/2022, European Court of Auditors, available at: www.eca.europa.eu.

26. “EU Climate and Energy Targets – 2020 Targets Achieved, But Little Indication That Actions to Reach the 2030 Targets Will Be Sufficient”, European Court of Auditors, available at: www.eca.europa.eu.

Agency and the European Environment Agency (EEA), under the supervision of DG ENER. This could be based on the most recent report of the EEA monitoring the 8th Environment Action Program.²⁷

At the same time, the crises, growing populism, and complexity of the envisaged transformation are biting into the momentum surrounding the digital and energy transition. On the eve of European elections, there is a lot of pressure to prove that the Green Deal works, although its key legislations have been barely adopted over the past months. However, it must be understood and accepted that implementation is a learning-by-doing process. Processes must be continuously adapted to integrate feedback from the ground, adjust the monitoring, reporting and verification, and better calibrate incentives and obligations. This explains why results do not show up overnight, why it's important to be patient yet persistent in following the targets, why collaboration between countries is of utmost importance for sharing experiences and best practices, why data collection and its use is a primary condition for success, why we need to invest in public administrations to make sure we attract the best people, given that regional and local public administrations implement 70% of all EU legislation, 90% of climate adaptation policies and 65% of SDGs.²⁸

For instance, feedback provided during a workshop with representatives of national administrations and other stakeholders²⁹ shows that acceleration now depends on quickly solving many concrete issues: poor access to statistics, insufficient data collection, monitoring, reporting and verification tools; insufficient understanding of policies, schemes, support mechanisms, sometimes too important bureaucratic costs dissuading from action; inadequate human resources in the administration; supply chain issues preventing timely delivery on energy efficiency measures (ex. renovation works) or making delivery more costly, hence budgets constrained; striking the right balance between quantity and quality (ex. deep retrofits) of energy savings.

A more proactive and substantial engagement with society is necessary to improve the chances of producing a transformational shift in the economy and society.

Finally, despite the Climate Pact, which was launched at the very beginning of the Green Deal as a means to engage with the broader society to deliver the energy transition, in practice, the discourse and debate on the green transition are not shaped by EU's Climate Pact Ambassadors but increasingly by the detractors of the Green Deal forming a movement of

27. "Monitoring Report on Progress Towards the 8th EAP Objectives 2023 Edition", European Environment Agency, available at: www.eea.europa.eu.

28. "Communication on Enhancing the European Administrative Space", European Commission, October 2023, available at: <http://ec.europa.eu>.

29. "Energy Efficiency Obligation Schemes and Other Market-based Instruments: Scaling Up to the 2030 Targets!", Ensmov, December 7, 2023, available at: www.energysavingpolicies.eu.

climate populism which takes different forms, from the rejection of the pathway set in legislation to building a reductive discourse around the solutions for delivering the transition, questioning the European pillar or even mounting scaremongering campaign linked to the Green Deal. Similarly, the local and regional levels have been largely left aside from the exercise of communication, promotion and engagement of the population in delivering the Green Deal. The role of the Covenant of Mayors and of the European Committee of Regions is paramount in this respect.

The missing pieces of the Green Deal should be priorities of the next phase

Improving the business case of investing in Europe and boosting EU funding

According to the EC estimates,³⁰ 620 bn€ of additional annual investments are necessary to achieve the Green Deal and RepowerEU objectives, which are likely to be understated. Whereas it is a standard expectation to believe that the bulk of this investment will have to come from the private sector, the economic and international context, mixing poor economic fundamentals, uncertainties over supply chains and their politicization at the expense of economic efficiency, as well as a growing competition over attracting capital between the biggest world economies are factors that will weigh on the investment performance. In this context, long-term predictability over the legal framework, leveraging the EU's and national funding capacities, and improving the attractiveness of EU's business ecosystems (ensuring the right skills, access to low-carbon energy supply and resilient value chains, etc.) are essential, as well as putting in place labels, certifications, public procurement rules, GHG benchmarks, and other green premiums to value socially and environmentally responsible products.

Regarding the EU's financing capacity, the financial pillar of the Green Deal has so far been the Recovery and Resilience Fund. Yet, this will come to an end in 2026, and while it's urgent that MS deliver on the absorption of this pocket of money through the completion of the milestones and reforms in their Recovery and Resilience Plans, the reflection must already start in 2024 about the follow-up. Yet, the Strategic Technologies for Europe Platform (STEP) proposal, currently in discussion, is headed towards a further cut, from 10bn€ to 1.5bn€. In parallel, it becomes increasingly difficult to understand the adequate amount of money available for the green transition in Europe due to the repackaging of funds.

30. "State of the Energy Union Report 2023", Report from the EC to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions", European Commission, October 24, 2023, available at: eur-lex.europa.eu.

At the same time, subsidies for fossil fuels increased in 2022 due to the energy crisis, reaching 123bn€, far outpacing energy subsidies for renewables, which stood at 87bn€. ³¹ The progressive phasing out of fossil fuel subsidies needs to be better planned at the EU level, and money should be redirected toward low-carbon solutions. In this sense, the deadlock on the revision of the Energy Taxation Directive is a negative signal for the energy transition. In addition, one of the critical lessons to be learned from IRA is the importance of simplicity: the EU needs to put its house in order when it comes to the diversity of funding programs and schemes available, each one with its specific requirements and long processes which are difficult to decode and get access to, especially for SMEs.

The role of the EIB is crucial going forward for important infrastructure and industrial projects that can benefit from InvestEU guarantees, favorable loans, and access to advisory support. EIB's role can be particularly relevant for setting up a dedicated facility to support the deployment and modernization of electricity grids in Europe, with standardized and simplified access procedures, knowing that mobilizing over 500bn€ that would be required to make EU's grids fit for the accelerated energy transition will be a significant challenge and that keeping borrowing costs as low as possible will be essential to make this viable.

Planning for adaptation on the ground with a strategic European mindset

Adaptation has been little considered in the current plans and policies; whereas climate disasters multiply in Europe, some areas worldwide are becoming uninsurable, and others uninhabitable. Based on the EC assessment³² of the state of play in this field, monitoring, and evaluation frameworks for adaptation goals that are either recent or under development in MS and are focused on the national dimension, rarely considering synergies with the EU level. Whereas a dozen of MS reported clear progress on implementing adaptation actions, this remains largely unsatisfactory. A European framework of action is needed to determine the key priority indicators to be followed on adaptation, establish instances of mutualization of resources and experiences, organize the financing of adaptation measures, and ensure cross-border coherence of measures. Working on adaptation can also be a positive agenda for supporting innovative technological solutions and businesses and becoming a frontrunner in creating an international market for them, including by leveraging public procurement.

31. "State of the Energy Union Report 2023", European Commission, October 2023, available at: <http://eur-lex.europa.eu>.

32. "EU Wide Assessment of the Draft Updated National Energy and Climate Plans. An Important Step Towards More Ambitious 2030 Energy and Climate Targets under the European Green Deal and REPower EU", European Commission, available at: www.europa.eu.

Providing a clear strategy and action plan on skills

Europe has recently recognized the imperative of acquiring the necessary skills for the energy transition and the deployment of clean technologies. The bad signals have been around, nevertheless, for quite some time: in its 2021 report on labor shortages and surpluses, the European Labour Authority was already pointing out shortages in many EU countries for key occupations related to the energy transition: plumbers and pipe fitters, civil engineers, electricians, electrical mechanics and fitters, civil engineering technicians, etc. In 2023, the situation is already dire: according to representatives of the German business sector, despite the economic stagnation in Germany, 1.8 million jobs remain vacant in the overall economy,³³ with many green industries facing recruiting difficulties.

The EU started to look into the issue of skills as part of its Green Deal Industrial Plan, foreseeing in its *Net Zero Industry Act* the creation of Net Zero Academies dedicated to training in the field of clean technologies. Despite these evolutions, it remains largely unclear how alarming the lack of skills is for Europe and country by country, what can be done, what is the role of migration, how to make the industry and energy sector more attractive for young people and women, and finally how much money is needed and where it could come from. It also must be acknowledged that the human capital market can be very illiquid as some highly skilled professions take up to 6-8 years to train, whereas the needs are pressing.

Promoting demand moderation for energy and critical raw materials

The energy crisis was a test for Europe's collective ability to mobilize on delivering energy savings on gas and electricity. Against the backdrop of mild weather, and thanks to the price signal (lowering industrial demand) and dedicated measures, gas demand dropped by 18% in 2022 and about 8-10% in 2023. Hence, Europe managed to fulfill its voluntary 15% gas demand reduction target, which was extended until March 2024. The 5% electricity demand reduction during peak times was also successfully achieved. These achievements are notable, especially as some preliminary data from transmission operators show that the whole-of-society mobilization was necessary.³⁴ The EU and the MS need to capitalize on this increased awareness and response to price signals (while ensuring that people are not driven into energy poverty or companies into bankruptcy),

33. N. Alipour, "Germany's Skilled Labour Shortage Puts Vital Industries at Risk", Euractiv, November 30, 2023, available at: www.euractiv.com.

34. "Bilan électrique 2022 – Un système électrique français résilient face à la crise énergétique", RTE, February 14, 2023, available at: www.rte-france.com.

keep incentivizing energy savings and building an energy demand moderation culture. They also need to transpose it to other sectors, such as the critical raw materials one.

Indeed, an Ifri study on the industrial challenge of deploying electric mobility in Europe shows that Europe and France will face severe constraints in the supply of certain critical raw materials necessary for the EV battery sector. These will be exacerbated if sales of large EVs take off in the coming years. Producing large batteries for large vehicles makes no sense in terms of the effects of immobilizing large volumes of raw materials, the footprint associated with extracting them, the worsening security of supply risks, and consequently, the potential effects of slowing down the switch to electric mobility and increasing pressure on the environment and communities living near mining sites. Bonus-malus car-pricing strategies based on battery power are relevant and deserve to be tightened up and extended to the whole of Europe, as well as to all G7 and G20 countries, but with exceptions, such as for short-term rentals, to favor backup solutions. By the same token, limiting freeway speeds to 110 kilometers per hour (km/h) or 120 km/h as in Belgium and Portugal, as well as stepping up speed controls, will reduce fuel consumption not only by internal combustion vehicles but also by EVs, which would then require less autonomy. More generally, societies need to think more about the cost of immediacy and the need to optimize occupancy rates and journeys (for example, for deliveries).

Doubling down on boosting flexibility options

Studies³⁵ show that flexibility requirements in the EU will more than double by 2030 compared to today and could be seven times larger by 2050, representing 80% of today's power demand at that point. The EU has a gargantuan task to ensure renewable energy sources are efficiently integrated into the power system. Interconnectors are found to be the first pillar for addressing flexibility needs in 2030. Yet, some countries have not even achieved the 2020 interconnection target (10% of the electricity produced on their territory to be transported across its borders to neighboring countries), while others are not yet in line with the 2030 interconnection target of 15%.³⁶ More broadly, the energy system must go through a holistic transformation, meaning digitalization, sector coupling, enhanced demand-response, and tight articulation of national flexibility strategies within the European energy union, moving away both from “free-

35. “Future EU Power Systems: Renewables’ Integration to Require Up to 7 Times Larger Flexibility”, European Commission, June 26, 2023, available at: www.joint-research-centre.ec.europa.eu.

36. “State of the Energy Union Report 2023”, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions”, European Commission, October 24, 2023, available at: eur-lex.europa.eu.

riders” attitudes and from duplication of capacity market mechanisms, which pose the question of prolonged subsidies for fossil fuels.

The reform of the EMD does not bring the needed change of pace in addressing the issue of a two-times increase in flexibility needs by 2030. The recourse to capacity mechanisms, although relevant especially for long-term flexibility, remains uncoordinated between MS, and the definition of flexibility targets at the national level is, on the one hand, very soft (only indicative) and, on the other hand, lacks a European coordination view. Moreover, except for isolated provisions in the Renewable Energy Directive related to bidirectional and smart charging, it is difficult to determine whether any progress is being made with respect to enabling the energy system integration. Such a situation could turn an opportunity (i.e., important amounts of flexibility that EVs and heat pumps could offer, especially at the district level) into a challenge (for instance, power supply outages, oversizing networks, disconnections, etc.). Flexibility strategies and clear action plans coordinated between MS, both on storage and demand response, are critical to make sure that capacity remuneration mechanisms are efficient and support not only energy security but also the decarbonization goal, that interconnections multiply quickly, as well as that work on the synergies between energy grids, EVs infrastructure and heat pumps is taking place in a coordinated manner, and price signals are effectively channeled using digital technologies.

The EMD reform is a step forward in providing incentives for long-term contracts, yet the issue of deployment of renewables PPAs remains still dependent on the acceleration of permitting, rapid connections to the grids, and a better understanding of these types of contracts, as well as de-risking them, especially for SMEs. State guarantees backing PPAs, pooling demand together to build collective PPAs, explaining the virtues of collocated storage and 24/7 matching of clean energy consumption to debunk fears of intermittency and unpredictability are needed. Boosting hedging strategies, notably among big energy consumers, and active management of energy consumption by final consumers are equally important.

The EU needs a genuine external strategy for the Green Deal

A more proactive and effective engagement with the world

The inclusion of precise targets on tripling renewable energy sources deployment and doubling energy efficiency improvements around the world by 2030 in the final statement of COP28, two of the EU’s key demands for this COP’s negotiations, is one of the many proofs that the EU is and remains a driving factor for the low carbon transition at the international

level. This is supported by the EU being a top performer in terms of delivering GHG emissions cuts, having achieved so far a 33% GHG emissions reduction compared to 1990 levels and aiming at doubling down on decarbonization measures to reach -55% GHG emissions by 2030 (and potentially -90% as of 2040). However, the EU's external action on the green transition comes in bits and pieces and lacks clarity over its governance, resources, timeline, and objectives. The EU successively added to its external toolbox the JETPs, the Global Gateway, the strategic partnerships with third countries on critical raw materials (*Critical Raw Materials Act*) and on net-zero industries (*Net-Zero Industry Act*), in addition to being the main provider (together with its MS and the EIB) of public climate finance to developing countries (23 bn€ in 2021) and the largest provider of official development assistance (67bn€ in 2020).³⁷ All these now need to be delivered visibly and at scale.

Working on a coherent external narrative on the EU's energy transition and a genuine external communication strategy is vital. EU's race around the world for secure LNG supplies during the energy crisis at the expense of emerging countries (due to Russia's gas curtailment), its fossil fuel subsidies as well as the increase in coal use for power generation (overemphasized mainly by third parties compared to reality),³⁸ the large subsidies to industries, its divisions over nuclear power, contributed to eroding EU's credibility in the eyes of the developing world. The growing "North-South" divide, in the context of the escalation of tensions between the USA and China and of the war in Ukraine, has also been fueled by policies like the EU's Carbon Border Adjustment Mechanism (CBAM) or the IRA, both being perceived as green protectionism by many emerging and developing countries. A growing number of EU legislations pertaining to the Green Deal are intended to and will most likely have an impact outside its borders: the Methane Emissions Reduction Regulation, the Regulation on deforestation-free products, the Corporate Sustainability Reporting Directive, the Corporate Sustainability Due Diligence Directive, etc. This increases the EU's relevance in the world as a normative power with concrete and almost immediate effects but could prompt third countries into finding other trade partners, boost fear of protectionism, or overburden European companies and banks, which at first does not build strength and attractiveness, but possibly, weakness.

While continuing to display a more assertive attitude (e.g., Regulation on Foreign Subsidies, the International Procurement Instrument, etc.), a critical dialogue should be resumed with China on issues such as enhancing transparency and accountability standards to guarantee a level playing

37. "International Climate Finance", European Commission, available at: www.climate.ec.europa.eu.

38. Coal-based power generation increased temporarily by approx. 6%, most of the heavy lifting being done by an increase in solar power of 25% and in wind power by 8%. See Acer, "Wholesale Electricity Market Monitoring 2022", February 28, 2023, available at: www.acer.europa.eu.

field, adopting early standards for reducing energy consumption in the digital sector, moving to sustainable aviation fuels, fighting imported deforestation, seriously addressing fugitive methane emissions, and developing an effective carbon market in China. China's equipment and low-carbon technologies should be welcomed in the EU, provided that there is reciprocity in market access, that they comply with EU's regulation (which needs to be toughened and enforced), notably on the environmental footprint, and that they do not benefit from trade distortions.

The CBAM needs to be enhanced to address the issues of a level playing field for intermediate and final products entering the EU and make sure there is a level playing field for EU's exports to third countries that do not have the same high environmental standards while ensuring close monitoring and verification of emissions declarations submitted by obligated parties. The ongoing discussions with the USA on a Global Arrangement on Sustainable Steel and Aluminum could enhance transatlantic action against non-market production overcapacities. Still, they should not create a difference of treatment in the application of CBAM between the USA and other countries.

It is now time to systematize all these initiatives and funds into a clear external strategy for the Green Deal, which considers the main concerns and needs of emerging countries on their own transition pathways and provides credible and efficient solutions. The EU must be more visible, concrete, and quick in its external support actions and needs to be more agile in its ability to finance projects in these regions and not be tied up by strict norms and standards. Expanded and accelerated engagement by the EIB and European Bank for Reconstruction and Development (EBRD), alongside multilateral lenders, will be key to engaging pragmatically in the true value proposition for these countries.

Key priorities include:

- 1. De-risking low-carbon technology projects:** The EU, through EIB and other funds, must be able to engage more courageously with countries with low investment ratings, especially in those sectors that are key to the energy and climate agenda. The high cost of debt, the foreign-exchange hedging costs, the unstable currencies, and high insurance costs are rendering investments in developing countries very difficult. The Net-Zero Industry strategic partnerships must be an operational tool for supporting the de-risking of clean technologies in third countries, providing both opportunities for funding as well as concrete support for ESG mainstreaming (ex., assistance with the implementation of more ambitious ESG standards over a certain period).
- 2. Electrification with clean energy, including expansion of power grids** and supporting the electrification of end uses (including cooking). In parallel, the EU could provide peer-to-peer support when it comes to improving the independence and the

governance of public utilities in these countries and the integration of regional power systems. These actions can be undertaken via the JETPs, whose primary goal has been, so far, the phasing out of coal power, but which could gain impact from pursuing clear key performance indicators based on a positive and holistic agenda. Regular exchanges of experiences and best practices could further enhance the EU's capacity to create a "community of destiny" between countries participating in the JETPs. The EU also needs to further live up its game in the field of offshore electricity interconnectors within the EU and with its neighbors, not least through a beefed-up Connecting Europe Facility. Greece is already a frontrunner, and several projects make strategic sense in the Mediterranean.

- 3. Energy efficiency, eco-design, and circular economy:** The EU's mobilization around the goal of doubling energy efficiency improvements by 2030 was successfully reflected in the COP28 final agreement. Yet, statistics show that progress is most difficult to make in this field. The EU must now be a force of proposition and cooperation in the implementation of this agreement in developing countries by promoting systems such as energy savings obligation schemes, energy audits, energy management systems, smart meters, energy performance standards for buildings, etc. It can also further promote its eco-design standards and, overall, incentivize a circular economy (reusing, recycling, reincorporation).
- 4. Clean critical raw materials extraction and processing:** The Critical Raw Materials Club and the CRM strategic partnerships are new elements that the EU has just added to its toolbox. The challenge here is making them operational and impactful in the short term, as the EU already has a 15-year delay compared to China's external outreach in this field. But this has created a momentum as it matches partner countries' appetite for diversifying their partnerships and working with Europeans, provided this is effective. Hence, first of all, there needs to be a systematic link to concrete financing mechanisms via the Global Gateway. The EU needs to use its market weight and normative influence to mainstream ESG criteria in the global mining industry, not through ideological lenses but through a pragmatic approach. This means that the EU financial institutions will need to get involved in the decarbonization and modernization of existing mines, which face difficulties in finding alternative sources of financing because of the focus placed on past performance instead of transformation plans. This also means it makes more sense to have two or three European metals fund (given that most MS will need critical raw materials for their low-carbon industries) than to multiply national funds (e.g., France already set up its national metals fund). At least, cooperation

among several MS should be favored and effective, notably to fund processing industries. The EU also needs to be a global force in pushing for energy and resource sobriety, especially in discussions with enormous consumers like the USA, who must also deploy a holistic framework on climate action.

- 5. Building adaptation strategies and practices:** The EU needs to make improvements on this issue, but given the discussions at COP27 and COP28, there is a clear need to support developing countries most affected by climate change's consequences to take action on this topic. The EU has successfully managed to put in place systems of mutual help in case of emergency (ex., the rescEU tool part of the EU Civil Protection Mechanism) and to deploy advanced monitoring systems through its Copernicus Emergency Management System, which can provide on demand detailed information on emergency situations, early warnings, etc. The EU can leverage these tools to contribute to prevention and adaptation actions in third countries.

In addition, the EU should reinforce the role of the Executive Vice-President for the Green Deal to make it also the High EU Representative for the Green Deal in the World, relying on the transversal cooperation and expertise of DG CLIMA, DG ENER, DG ENV, DG GROW, DG INTPA, DG NEAR and the EEAS. The objective is to provide a “one-stop shop” for external players interested in the Green Deal and for the EU to conduct effective and coherent geoeconomic and climate diplomacy.

Transforming the neighborhood policy into a Green Deal and area

The Energy Community has been making meaningful progress towards greater integration with the EU. Nevertheless, the EU is accelerating its transition, namely through the *Fit for 55* package and the adjacent legislation, also putting forward level-playing mechanisms such as the Carbon Border Adjustment Mechanism, which could have an impact on the electricity flows with the closest neighbors.

As the EU has taken the historic decision of opening accession negotiations with the Republic of Moldova, Ukraine and Bosnia-Herzegovina and giving the candidate status to Georgia, it is the perfect moment to further enhance the neighboring pillar of the Green Deal as a value proposition towards building new integrated value chains, enhancing the physical and cyber security of networks and energy systems in these countries, supporting the development of the skills base and the just transition away from coal activities, modernizing their buildings, public transport networks and public procurement procedures.

An absolute priority is providing help for a successful transposition of the Electricity Integration Package, boosting their energy security and market interconnections, but also channeling money towards CAPEX intensive projects like grids deployment and modernization, renewable and low-carbon energy capacities deployment, EV recharging infrastructure or the renovation of the building stock and centralized district heating systems. Metals, notably in Ukraine, should be fully part of the strategic project approach. Finally, there is an excellent opportunity for further promoting and supporting cooperation between civil society actors and local/regional authorities from Energy Community countries with those based in the EU on issues related to sustainable cities, environmental and biodiversity protection, strengthening public acceptability for renewable energy deployment, industrial and mining projects.

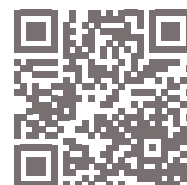
Conclusion

A strategic reassessment and adjustment of the Green Deal to a brutal world is paramount. As the EU has fewer and fewer tools to influence the world, it should focus on becoming more effective and resilient internally and more strategic externally. While Brussels needs to simplify and streamline policies and beef up its economic security agenda, MS have a lot of implementation homework to do, and fast, as many are not fit for 2030.

Overall, the next EC should seek to identify strong measures in the first six months to simplify and accelerate EU regulation and procedures and foster their coherence.

The worst-case scenario for the European energy transition is a pathway whereby fossil fuel import costs remain high, where imported technological equipment for low-carbon technologies grow, where raw materials are supplied and weaponized by China, where energy-intensive industries shut down production, where most governments cannot offset the rising energy and economic costs on citizens and companies, where innovation is not scaled up, and R&D budgets shrink and deliver less and less. Some may argue here that GHG emissions would at least be reduced. The problem is that they would increase elsewhere, Europe would most likely need to prolong its coal-fired plants, and populists would logically be elected in most MS.

This would be the scenario of a disintegrating Europe, which would leave Europeans and the climate as the absolute and irreversible losers and other authoritarian climate skeptic rulers as the winners. The rest of the world would look with relative indifference or seek to pick up pieces – companies, energy systems, technologies, and skills.



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