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THE EUROPEAN GREEN DEAL - A PARADIGM SHIFT WITH OBSTACLES

In 2019, the EU Commission announced the European Green Deal, the most ambitious and comprehensive project in global environmental policy. This issue of the Future of Europe Observer looks at implementation, how environmental policy is being integrated into all EU policies and whether economic growth and sustainability are fundamentally compatible. It also looks at the factors that determine the success of the Green Deal and how the EU is positioning itself internationally with its environmental policy.

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accompanies the debate on governance and regulation in the European Union. Authors are ZEI Scholars, Master of European Studies Fellows, and Alumni.

In this Commission's term, there is an all-encompassing project that permeates every policy issue - the European Green Deal. It aims not only to achieve the climate neutrality of the European continent but also to restructure the entire economy, decouple growth from resource use, drive innovation, establish sustainable energy supply, create numerous new jobs, advance modernisation and digitalisation, and additionally, ensure social balance. It represents a profound structural transformation, in the form of a newly established European eco-social market economy that is meant to serve as an example for the entire world. Or as Commission President von der Leyen expressed it: "[T]his is Europe's 'man on the moon' moment" (von der Leyen, 2019). Even if the Commission President's choice of words is not devoid of pathos, it vividly illustrates the scope of the Green Deal, which requires a continental effort.

Under the current Commission, structural change is being shaped by 97 legislative and non-legislative acts, of which 57 have been adopted so far, 33 are still in progress and 7 have only been announced (ZEI Monitor). The sheer number of measures illustrates the effort the EU has made in the last four years to breathe life into the Green Deal. However, the number of outstanding initiatives also reflects the amount of work that must be accomplished by the next European Parliament election in the summer of 2024. At its centre is the completion of the Fit for 55 Package, expected by the end of the year, which includes more than a dozen directives and regulations. More than two-thirds of them have been adopted so far. Together, they are meant to set the essential course to achieve the main goal of climate neutrality by 2050. The first intermediate goal on this path is the reduction of greenhouse gases by 55 per cent by 2030. The debate on the next intermediate targets for 2035 and 2040 is imminent, and with each five-year step, the issue of EU internal burden-sharing will become more pressing. This is not only because the commitment

levels in Central and Southeast Europe are still relatively low, but also because the goal of climate neutrality by 2050 applies to the EU as a whole, so it does not necessarily have to be achieved by each member state if other member states exceed this goal. The net emissions reduction target of 110 per cent by 2050, announced by Denmark's government a few weeks after COP 27, could be ground-breaking in this context (Feist & Geden, 2023).

Contrary to the ambitious goals, developments in the wake of the recent crises have been somewhat divergent. The current multiple crisis situation has, at the latest, with the Russian war of aggression in Ukraine, led to a short-term shift in the priorities of many European climate policy leaders. Geopolitical tensions, armament for one's own defence capability, new waves of refugees, the difficult situation of supply security for numerous goods, high energy costs, and consequently high inflation rates, faltering European economies, and fears of losing the EU's international competitiveness are currently absorbing much attention and fiscal resources (EC, 2023). For example, the focus of many countries has recently been more on energy supply security and reducing energy prices, which has led to a slowdown in coal phase-out (Feist & Geden, 2023). This not only endangers the coherence and credibility of the EU but also the goals of the Green Deal as a whole.

Considering the enormous challenges, it is easy to get the impression that the EU's ambitions and reality are still far apart. How consistently the EU implements its political goals despite multiple crises and how effective its actions are will be the measure of the current Commission's success when its term ends next year at the latest. Whether the "moon landing" is actually achievable and what could still cause it to fail is explored in this issue of the Future of Europe Observer.

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MORE GROWTH THAN GREEN: A CRITICAL ANALYSIS ON THE VALIDITY OF THE DECOUPLING AND GREEN GROWTH NARRATIVE OF THE EUROPEAN GREEN DEAL

Is it possible to grow and be green? This is what the European Green Deal (EGD) has promised with its narrative of green growth – a hopeful perspective that an ever-growing economy could be decoupled from increased rates of CO2 emissions, resource use and pollution. The following article explores the underlying assumptions for green growth as a sustainability strategy and takes a deep-dive into empirical evidence challenging its validity. It critically analyses the capacity of key policies to drive sufficient decoupling rates, concluding with a discussion on the inherent design flaw of the EGD in simultaneously pursuing economic growth and a reduction of planetary pressures.

In December 2019, a big sigh of relief could be heard, when the long-awaited European Green Deal (EGD) was published. Finally, an EU leadership that takes climate change seriously, many of us thought, as Ursula von der Leyen proudly presented the landmark package of her new Commission. And indeed, several policy initiatives were outlined that seemed outrageously ambitious at that time. Even better, the Commission promised to deliver their climate objectives without harming the economy. In fact, the EGD was to become the new growth strategy of Europe ensuring economic growth and prosperity while at the same time scaling back our environmental footprint within sustainable levels (EC, 2019).

This could have been the start of a European-wide, scientifically-based discussion on whether decoupling is actually fit for purpose. Decoupling is generally known as breaking the link between environmental bads and economic goods, commonly applied to CO2 emissions and GDP (EP, 2020). In more daily language it is often referred to as green growth, which can be regarded as the macro-economic result if decoupling is successful (Carbone4, 2021). The hopefulness that the green growth narrative offered quickly established itself as the main principle for Europe's sustainability vision. In fact, hardly any public discussion was dedicated to the one fundamental assumption that should have been questioned right at the beginning: Is sufficient decoupling or green growth even possible?

Criteria for sufficient decoupling

Decoupling is often (deliberately) misunderstood and simplified as the decline of CO2 emissions in a growing

economy, which has largely contributed to its popularity among politicians and economic actors (Burn-Murdoch, 2022; Hickel & Vogel, 2023). However, for decoupling to count as a sufficient and effective strategy against the climate crisis we are facing, it must fulfil all of five criteria (Carbone4, 2021): First, it must be absolute, meaning that CO2 emissions must sink in physical quantities in order to have an impact on the atmospheric chemistry driving global warming and not just relatively to GDP. Second, decoupling must be total. CO2 is only one out of nine planetary boundaries. This means that we would also need to make sure that we reduce our impact on the remaining eight, such as nitrogen and phosphorous emissions, biodiversity loss, and freshwater use. The challenge lies in managing this simultaneously, as negative rebound effects tend to occur between them (e.g., increased biofuel use may accelerate deforestation and biodiversity loss). Third, decoupling must be global. Simply put, it's pointless to achieve domestic emissions reduction, if those policies result in an increase of emissions somewhere else in the world. Fourth, decoupling must be sustained over several decades and without any rebounds, in order to be effective. Finally, all of this needs to happen swiftly. In fact, in order to be compatible with the Paris Agreement, CO2 emissions would need to decline by 10 per cent each year. This is ten times faster than the best-performing countries today. This staggering rate would have to be achieved by the latest in 2025 – roughly one year from today (UNEP, 2022; Hickel & Vogel, 2023).

Challenging the validity of green growth

Having better understood what decoupling means, let's turn towards assessing the validity of the green growth hypothesis and whether it is likely to occur in the near future. In fact, this was already done in a major report by the European Environmental Bureau called "Debunking Decoupling" in 2019, just a couple of months before the publication of the EGD. The overriding message of their report was sobering: "The hypothesis that decoupling will allow economic growth to continue without a rise in environmental pressures appears highly compromised, if not clearly unrealistic" (EEB, 2019).

So what is the reason for this gloomy outlook on the possibility of green growth by the EU agency? The first barrier to decoupling that the EEB points out is rising resource expenditures. Let's recall that economies require physical resources to grow and that it is the abundance of cheap fossil energy and materials that have enabled the incredible wealth accumulated in the Western world. This is not an assumption, but an undisputed fact, which has been empirically proven by the tightly correlated growth curves of material footprint and GDP (Wiedmann et al., 2013; Hannesson,

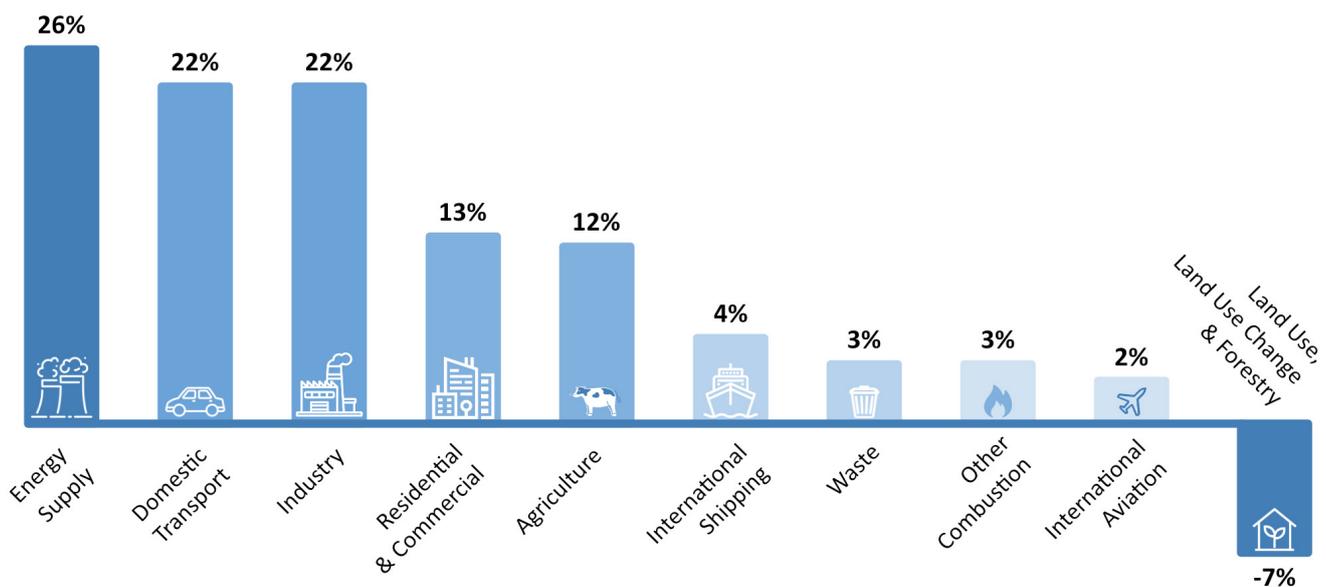
2021). But as these finite resources become less accessible, the marginal cost of extraction starts to go up, or in other words: We spend more energy and materials to extract the same amount of energy and materials. Fast-forward a couple of decades and the margins for economic growth will inevitably grow smaller, leaving the prospects for growth on thin ice (EEB, 2019). Assuming that renewable energy systems and a circular economy could replace fossil fuels and finite materials as the engine of infinite growth have two major arguments against them remain: First, renewable energy has much lower energy density than fossil fuels, while requiring a lot of metals and minerals of finite supply (Michaux, 2021). Second, even a fully circular economy could only sustain the current size of the economy, whereas new material demand would ultimately have to be met by virgin resources. In conclusion, while maximum effort should be put into the transition, EEB is very clear on highlighting the strictly limited ability of renewables and recycling to reach similar growth rates as during the fossil fuel era (EEB, 2019).

In this context, the notion of being able to dematerialise growth is often presented as a potential solution. In short, it implies that by shifting towards a serviced-based economy, our economies can have a considerably smaller environmental footprint and hence be allowed to grow more (Hannesson, 2021). The EEB challenges this idea as a false solution. First, the footprint of the service sector is not to be underestimated, such as the exponentially growing electricity and material demand by digital infrastructures.

Second, the service sector can only exist as a complement to the material economy, not as its substitution. The result being that the overall environmental footprint merely grows of an economy, as more and more services are added on top of the existing material economy (EEB, 2019). This merely creates geographical or sectoral problem shifting. For example, while the outsourcing of industrial production from Europe has led to a decrease of domestic emission, it has instead resulted in an increase of energy, resources, and pollution overseas (EEB, 2019).

Lastly, the EEB addresses the paradoxical relationship between energy efficiency and energy savings, also known as the rebound effect. In essence, this empirical observation describes how efficiency improvements have the tendency to rebound into higher consumption, either of the same service/product (direct) or in other sectors (indirect) (Polimeni, 2008). An illustrative example of the rebound effect can be found in personal transport. While one would intuitively expect that the development of more efficient car engines would lower fuel use, what has instead been observed is an increase of the vehicle weight, power and mileage, thus offsetting much of the potential of fuel savings (Hediger, 2023). On the macro-level, literature reviews have shown that economy-wide rebound effects could erode more than half of the anticipated energy savings (Brockway et al., 2021). This has dire consequences for the plausibility of the decoupling hypothesis, who widely relies on bringing down energy consumption with more efficient technology (EEB, 2019).

SOURCES OF GREENHOUSE GAS EMISSIONS



(European Environment Agency, 2022)

Policy check: Is the EGD consistent with green growth?

The two previous sections illustrate the uphill battle that the green growth hypothesis faces. Yet, considering that the EGD is among the first large-scale policy packages that aim to demonstrate the compatibility of economic growth with climate goals, it may turn out too early to discard its success story. The following section briefly examines key arguments for why it may still be wise to remain sceptical about the EGD’s capacity to drive sufficient decoupling in the near future.

Climate policy: Reduction of CO2 and other polluting emissions?

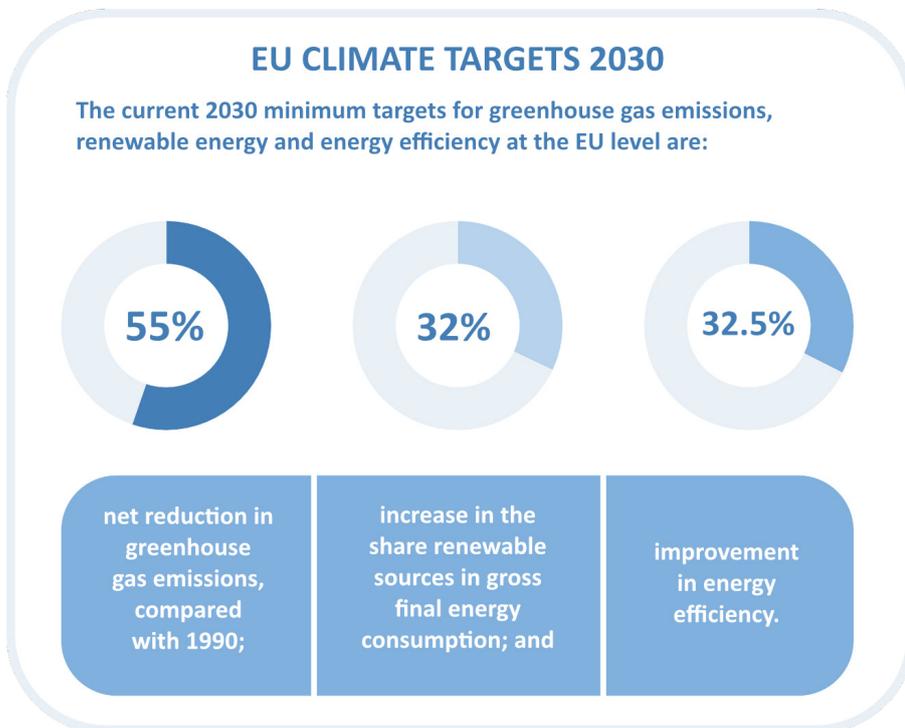
At the very heart of the EGD, we find the pledge of becoming climate-neutral by 2050 and reducing CO2 emissions by at least 55 per cent by 2030. The success of these targets heavily relies on a radical decarbonisation of energy supply, transport, buildings, and emissions from land use and forestry, notably through the overhaul of the EU’s carbon market (CAT, 2023). From the perspective of decoupling, it is important to note that these measures aim for an absolute reduction of CO2. Also, the newly adopted Carbon Border Adjustment Measure puts in place a CO2 tax equivalent to the carbon price for certain imports. On a positive note, this mechanism could, if successful, alleviate issues of emission leakage and limit geographic problem shifting. This would be

important for boosting the credibility of the EU’s decoupling strategy (EC, 2023a). However, it should be underlined that the EU’s quantitative climate targets have so far been very centred around CO2 emissions. For the EU’s decoupling to be total, it would also need to succeed in bringing down critical chemical pollution, such as pesticides, and halt biodiversity loss and ecosystem degradation. Fortunately, this is exactly the purpose of the Zero Pollution 2030 (EC, 2021) agenda and the Nature Restoration Law (EC, 2022a). It remains to be seen whether attempts of reducing CO2 and other forms of pollution can co-exist without unintended impacts spilling over into other sectors, especially with regard to the high material needs and land use that the construction of renewable energy systems and infrastructure will require.

Energy policy: Renewable energy and energy efficiency

Renewable energy expansion and energy efficiency are among the two central instruments for the EGD that have experienced major leaps forward in recent years. According to the provisional deal struck under the REPowerEU strategy, the EU will likely raise the share of renewable energy in the overall energy consumption to 42.5 per cent by 2030. This is expected to give solar, wind and renewable hydrogen a robust mandate for large-scale expansion in Europe. For energy efficiency, a deal brokered before the summer break nailed down a reduction of the EU’s total final energy consumption by 11.7 per cent, but not more than 763 million tons of oil equivalent by 2030 (EU Council, 2023).

While acknowledging the progress that is being made, two critical things should be pointed out: First, the renewable energy target will only be effective in reducing CO2 if it replaces fossil fuels in the energy mix. However, if a growing economy is to be pursued simultaneously to the expansion of renewable energy, it is unlikely that fossil capacities can (quickly enough) be taken out of national energy mixes. Recalling that a growing economy requires more energy and materials in the absence of full dematerialisation, economic growth actually slows down the decarbonisation efforts by increasing the number of terawatt hours that have to be converted into “net-zero”. As long as renewables don’t replace fossil fuels in the energy mix, but are merely added on top of existing capacities, they do not lead to a reduction of CO2 emissions



(European Environment Agency, 2022)

(EEB, 2019; Michaux, 2019). Second, while it is applaudable that the EU's energy consumption is capped with an absolute target, energy savings are mainly expected to be achieved with more efficient technology, rather than aiming for sufficiency policies that reduce consumption through behavioural changes. This approach is ill-equipped to deal with direct or indirect rebound effects and according to the European Environmental Agency (2023), it could jeopardise the achievement of the EU's energy efficiency targets. This touches on the core design flaws of the EGD. What it means is that there is no inherent motivation to reach climate goals by a decrease of production and consumption, since these are the enablers of growth. A good example can be found in the discussion to ban the sale of petrol and diesel cars in the EU by 2035: This will neither promote fewer cars nor less driving, but merely encourage a switch to driving and producing electric vehicles (EP, 2022).

Industrial policy: Circular economy and critical raw materials

Lastly, let's turn to the strategies on circular economy and on re-industrialising Europe through clean tech. First, there is a range of new targets and encouraging rules for scaling-up recycling and reducing the use of virgin materials within the Circular Economy Package, addressing sectors such as plastic packaging or consumer's right to repair (EC, 2023d). Without passing any further comment on the sufficiency of these targets, this can be seen as urgently necessary steps to decouple Europe's waste generation from economic growth (EEA, 2023b). Moreover, the European Commission also launched a Critical Raw Materials Act in March 2023 (EC, 2023b). This initiative aims at securing access to those materials that are vital for manufacturing key technologies for the net-zero transition, such as wind, PV, heat pumps or battery production. By no coincidence, the Net-Zero Industry Act, which was published at the same time, sets the benchmark of increasing Europe's manufacturing capacity of exactly these strategic technologies to meet at least 40 per cent of the EU's annual deployment needs by 2030 (EC, 2023c).

It should be stressed that the increase of manufacturing capacity for renewable energy technologies is inevitable for the post-fossil era. Equally, one should not downplay the importance of striving for energy autarchy. But regardless of the legitimacy of pursuing these political objectives, the contradiction to the green growth plausibility should not be ignored. First, there is the issue of extracting extensive amounts of minerals and metals from virgin sources, such as lithium, nickel, cobalt or copper, as these cannot be recycled from existing sources (Michaux, 2019). Incentives such as the Critical Raw Materials Act will likely not only

trigger a new "gold rush" for mining activities, but also increase the negative impacts that resource extraction has on biodiversity, land degradation and water pollution – both at home and abroad (Michaux, 2021). Second, there is the issue of availability. Recent studies worryingly show that the amounts of accessible reserves are far less than what the global energy transition would require. This means that there are very likely not enough recoverable resources to replace all existing fossil fuel systems in the world. The race for critical minerals will thus be settled according to the "first come first serve" principle and the winners will be those who can pay the highest price. Looking at the Critical Raw Materials Act, the EU Commission seems to be well aware of this looming scarcity in the near future, as it specifically aims to "building mutually beneficial long-term relationships with resource-rich countries" (EC, 2023b). While the objective in itself can be deemed a rational move, it destroys the credibility of the EGD's claim to become a global blueprint for other countries to follow and to enable a just and equitable transition to green growth (Michaux, 2021).

Acknowledging the design flaw

This article has challenged the validity of the EGD's narrative that environmentally sustainable and long-term growth is possible. While current decoupling rates remain far below Paris-compliant levels, it is also clear that the EGD's key policies do not fulfil the necessary criteria to enable a sufficient decoupling in an absolute, total, global, sustained and swift manner (Hickel & Vogel, 2023; EBB, 2019). Truly, it casts a bitter shade of political greenwashing over the once so celebrated agenda. The relentless pursuit of economic growth not only undermines the decarbonisation of energy supply, but, at the same time, renders it impossible to implement real sufficiency policies, since a reduction of consumption and production will always be undesirable for a growing economy. This is the core design flaw of the EGD – and until EU regulators recognise this inherent contradiction, the EGD is likely to achieve more growth than green.

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SECURING THE GREEN & DIGITAL TRANSITION: STRATEGIC CHALLENGES FOR THE EUROPEAN CHIPS ACT

In her 2021 State of the Union address, President von der Leyen succinctly stated: “There is no digital without chips” (2021). Chips, or semiconductors, are the essential building blocks of digital and digitised products: from smartphones and cars, to critical applications and infrastructures in health, energy, communications, and automation to most other industry sectors. They are also key to many of the clean technologies that are critical to Europe’s decarbonisation (Muench et al., 2022). As such, these electronic components are central to the Commission’s green and digital transition.

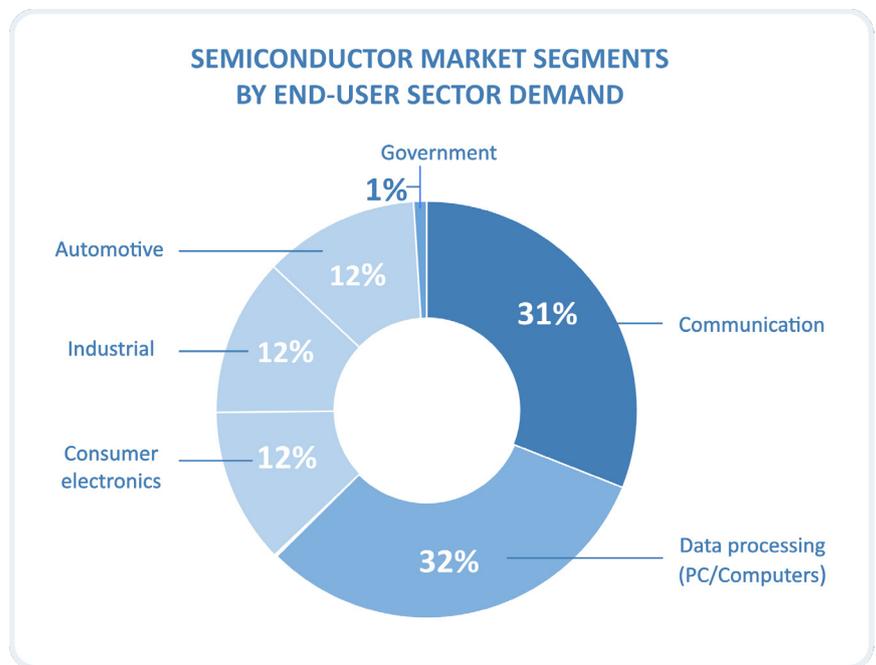
In the year leading up to von der Leyen’s address, the global economy was experiencing an unprecedented shortage of chips, due in large part to supply chain disruptions caused by the COVID-19 pandemic. Many of Europe’s key manufacturing industries faced severe bottlenecks because of their reliance on electronic equipment.

In the midst of the shortage, the Commission carried out a survey that identified semiconductors as one of five critical strategic dependencies to be urgently addressed by the EU (2021). The survey found that, compared to its economic weight (at the time, close to 23 per cent of world GDP), the EU’s share in global chip revenues was relatively small at less than 10 per cent of the market. The Commission attributed this to the limited existing production capacity and high barriers to entry, as well as internal market rules that threaten EU firms’ capacity to “fully seize the opportunity to capitalise on the digital transformation” (2021, p. 84).

Thus in February 2022, the Commission put forward its proposal for a European Chips Act (ECA). The overall goal of the legislation is to reinforce Europe’s semiconductor ecosystem by ensuring the resilience of its supply chains through a reduction of dependencies on foreign supply and parallel build-up of its own production capacities. Specifically, the draft act promises to help the Union meet its digital decade target of doubling its global market share in semiconductors from 10 per cent to 20 per cent by 2030 (European Commission, 2021). Yet, there are a number of strategic challenges facing the EU Chips Act.

One of the biggest challenges is how Brussels should cooperate with its most important ally, the United States, in its implementation of the ECA. Washington has its own CHIPS and Science Act, which President Biden signed into law on August 9, 2022. With both Brussels and Washington racing to build up their own industrial capacities, the major challenge will be finding ways to coordinate rather than compete.

In their efforts to catch up with other industrial heavyweights like Taiwan, China and South Korea, the EU and the United States have found themselves competing in a subsidies race. Because building new fabrication centres is so capital intensive, state subsidies are critical to attracting the best manufacturers of advanced chips like TSMC and Intel



(European Commission, 2022)

(Kannan & Felgoise, 2022). The South Korean government, for example, just pledged to spend 400 billion dollars on chips through 2030 (Cytera, 2023). Meanwhile, the US Chips Act’s promised 280 billion dollars dwarfs Europe’s 43 billion euro (46.58 billion dollars). With this magnitude of funding at play, and the fact that Brussels and Washington are competing for the best companies, the bidding price keeps rising.

The issue of financing is also one of the biggest hurdles facing the Chips Act within Europe, as the issue of state subsidies has reopened the debate over internal market reform. On the one hand are policymakers, led by a Franco-German bloc, who argue that state aid exemptions in key

industries are critical to the build up of European ‘champions’ that can compete globally with massively state-funded companies in Asia and to a lesser extent, the United States. On the other hand, are critics who warn that the Chips Act’s overreliance on state subsidies will create a situation in which only the few richest member states that can afford to attract international investments will benefit while smaller economies are left behind (Helwig & Wigel, 2022). This latter camp views the proposal’s state aid exemptions for innovative fabrications as a hypocritical ploy to privilege Franco-German industrial ‘champions’ at the expense of smaller companies (Tamma, 2020). These fears have not been relieved by recent events. Last year, Intel, a major US semiconductor firm, announced plans to create a new R&D and design hub in France and invest 17 billion euro in a new mega fabrication outside Berlin (Malloy, 2022). Meanwhile, at the start of August this year, German Chancellor Olaf Scholz struck a deal with TSMC to build the company’s first European chip factory in Germany with contributions of up to 5 billion euro from the German government (Blanchard & Escritt, 2023).

The Chips Act also threatens to sour Europe’s relations with its most important trade partner: China. Washington has made it clear that closer transatlantic cooperation is dependent on Brussels taking a stronger stance against China. Since tightening its export controls of advanced chips to China last October, the Biden administration has been pressuring European manufacturers to get in line (Hmaidi & Arcesati, 2022). The US has considerable leverage over the EU in the technological realm, not only because it is the Union’s most important economic and strategic ally, but also because it dominates the upstream market of chip design and many European chip companies have factories in the US (García-Herrero, 2022).

Overall, European policy-makers are becoming more, rather than less, open to discussing the use of strong-arm tactics like export controls (Haeck, 2023). These sentiments are likely a reaction to recent announcements by the Chinese Communist Party that it will be blocking exports to Europe of critical raw materials needed for the production of semiconductors. The Chinese Ministry of Commerce cited national security interests as the grounds for the controls, echoing the language used by the Biden Administration in its ban on chips to China (Liboreiro, 2023).

Yet Europe remains heavily dependent on China for the rare earth minerals needed to produce semiconductors. China controls 85 per cent of the global processing of rare earth minerals, serving as a bottleneck to the rest of the world’s supply of these increasingly critical raw materials.

The EU is dependent on China for 98 per cent of its supply of these minerals, many of which are essential components of semiconductors. While the Commission has put forward a proposal for a Critical Raw Materials Act to foster Europe’s resilience in these minerals (von der Leyen, 2023), its dependence on China will not be significantly reduced for some time and in the interim serves as a critical vulnerability for Beijing to leverage.

In light of these challenges, many critics are sceptical if the EU will be able to achieve its lofty target of a 20 per cent market share in semiconductors by 2030. These critics point out that, in fact, this exact target was first proposed in the 2013 New European Industrial Strategy with an original deadline of 2020-2025. The strategy failed to deliver its target and was thus revived and rebranded under the von der Leyen Commission (Hancké & Garcia Calvo, 2022). Yet the Chips Act is operating under more difficult circumstances than its predecessor. Experts estimate that global chip production will double in size by 2030, which means that EU production capacities would actually have to quadruple in order to meet the 20 per cent market (Hancké & Garcia Calvo, 2022). Considering that new foundries cost upwards of 10 billion dollars and can take years to build, it seems unlikely that Europe will be able to reach its production targets by 2030 (García-Herrero, 2022).

The Chips Act is an important step towards securing Europe’s supply of semiconductors for its green and digital transition. Yet it faces a number of significant challenges. By focussing almost exclusively on reshoring production to Europe, the ECA both threatens to sour the transatlantic relationship through creeping protectionism and subsidy races, and risks worsening the EU’s already tense relationship with China. Moreover, member states are divided over Europe’s stance towards Washington and Beijing, and the reform of the internal market. The Chips Act thus represents a challenge not only for Brussels’ digital foreign policy, but for the European integration project as a whole.

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EUROPEAN CLIMATE GOVERNANCE AND THE GREEN DEAL

By 2023, EU climate policy has steadily become a well-established policy field, which generates its political relevance notably at the international level. Throughout the last three decades, a complex global governance architecture has come about as climate policy has been mainstreamed within almost every policy field due to its crosscutting nature. This mainstreaming has led towards more compound structures, including different mixtures of actors, interests, policy fields and institutions, as well as policy instruments being implemented through different levels of governance (Teebken & Jacob, 2023).

Global climate governance remains fragmented to a degree but can, nevertheless, be categorised into five main phases: (1) pre-Kyoto Phase, (2) Kyoto Phase, (3) Copenhagen, (4) the Paris Climate Agreement, and (5) Glasgow and beyond. The same phases of development can be applied to European climate governance (Teebken & Jacob, 2023). On the global level, the EU was a leading authority from Kyoto through to the Paris Climate Agreement, but had a more contested role during the Copenhagen Phase due to internal challenges between member states (Teebken & Jacob, 2023). On the EU level, the journey to the European Green Deal represents one of trial and error and of piecing together various policies and instruments over the years. However, through the Green Deal one of the most advanced policy frameworks and mix of climate policy instruments, including on the economic, regulatory, informational as well as procedural levels have

been created (Oberthür & von Homeyer, 2023). The success of the strategy will be dependent on the institutional setup, political commitment, recognition of functional overlaps – crosscutting, and the overarching discourse (Dupont & Jordan, 2021).

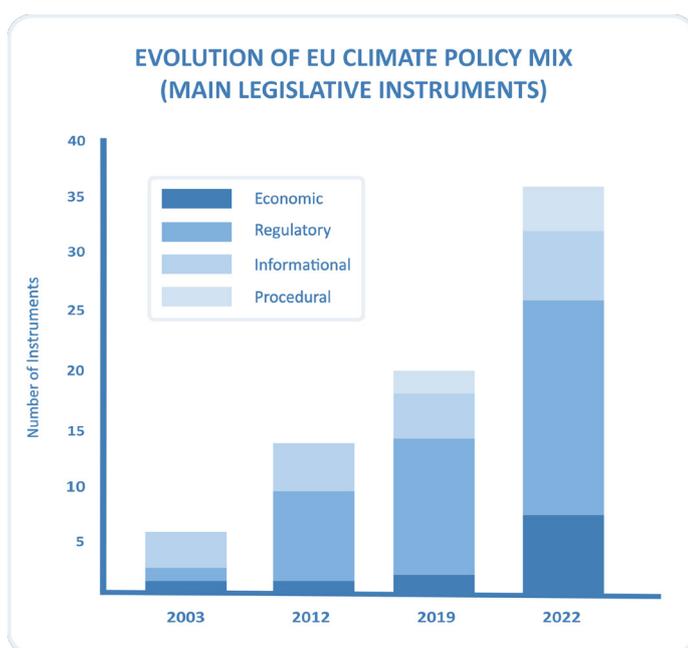
In recent years, the institutional setup for decision-making has not been majorly modified, nevertheless, a partial delegation of competences from member states to the EU institutions has occurred. Simultaneously, political commitment to the approach of the Green Deal has never been higher with the Commission President making it the centrepiece of her mandate, with clear support from the Council, the European Council and the Parliament (Dupont & Jordan, 2021). Through the European Green Deal the EU acknowledged that climate change is not just an environmental issue but a multi-faceted, intergenerational problem that calls for integrated (crosscutting) policy responses in a variety of sectors, including energy, economy, infrastructure, agriculture, social equity, security, research, transportation, and others. The key strategies within the Green Deal reflect the crosscutting nature (functional overlaps) of climate policy and set the overarching narrative of the strategy focused on below:

(1) Intersectoral Coordination:

Fostering sectoral integration through underlining that different sectors such as energy, agriculture, transport, and manufacturing are not only contributing to climate change but are also interdependent. For example, the Green Deal promotes sustainable agriculture through the Farm to Fork Strategy, while simultaneously advocating clean energy through the application of renewable sources with the goal of ensuring that actions in one sector are not undermined by progress in another but instead synergies are created. The Green Deal requires a 90 per cent reduction in transport emissions, only achievable through refocusing on sustainable fuels for maritime and aviation transport, furthering public transport and enhancing the shift to zero-emission vehicles. This can only be realised, through, for example the Sustainable and Smart Mobility Strategy applied across sectors, including energy (fuel types and charging infrastructure), digital technology and innovation (smart mobility solutions), as well as urban planning, for the realisation of infrastructure development.

(2) Regulatory Frameworks and Financial Incentives:

Implementation and revision of far-reaching regulations as well as incentives across various economic sectors. Focus here lies on the implementation of more demanding emission standards, the introduction of a sustainable finance taxonomy to lead private investments towards green projects, as well as the application of the Carbon Border Adjustment Mechanism (CBAM) across sectors. The



(Oberthür & von Homeyer, 2023, p. 460)

goal of the CBAM lies with securing the competitiveness of EU industries, while mitigating the risks of carbon leakage through the implementation of carbon pricing on certain imports. The CBAM has entered into the application of the transitional phase on 1st October 2023 (transitional phase referring to certain product imports having to collect data on the volume of imports, and GHG emissions created during production without paying financial adjustments).

(3) Innovation and Digitalisation:

Providing tools and approaches to transition to a sustainable and circular economy, while ensuring energy efficiency and supporting smart infrastructure and mobility solutions. For example, the advancement of clean technologies through innovation and application in smart energy systems, including hydrogen fuel cells and other more advanced renewable energy sources (for example offshore windfarms) drives the shift towards a more sustainable energy sector. In 2023, the EU raised its binding target for 2030 to a minimum of 42,5 per cent of renewables capacity (REpowerEU plan). Digitalisation is applied through smart grid technology to monitor energy supply and demand and optimise consumption in real time to be more cost-effective and create a more transparent energy supply chain (target: 11,7 per cent improvement in energy efficiency by 2030).

(4) Social Equity and Just Transition:

The Just Transition Mechanism was implemented to ensure that the environmental and economic transformations towards a green economy are balanced, fair and inclusive. It reflects the EU's crosscutting approach to policy that underlines the interdependence of environmental, economic and social sustainability. For example, focus lies on communities and regions, industries and populations with a high dependency on carbon-intensive activities, with the goal of mitigating negative effects. Energy poverty is, for example, another concern regarding the redistribution of energy costs, addressed through programs aiming to increase the energy efficiency of buildings. The Social Climate Fund dedicated 65 billion euros of the EU budget towards the green transition and "leaving no one behind". Further focus lies with the inclusion of public engagement through transparency building and decision-making processes relevant to the Green Deal, i.e. the European Climate Pact.

(5) Diplomacy and International Partnerships:

Transposing the goals of the Green Deal beyond the EU borders with the aim of progressing global environmental governance, influencing higher environmental standards worldwide and encouraging cooperative global actions through bilateral partnerships, trade agreements and the participation of international forums. The EU and its member

states, together with the EIB are the largest contributor to public climate financing in developing countries with 23.04 billion euros in 2021 to support their green transition. The EU also provides technological assistance and capacity-building initiatives.

(6) Environmental Protection and Biodiversity:

Underlines the crosscutting nature and intrinsic link between the health of the planet and human wellbeing in parallel to the importance of natural ecosystems in addressing climate change. Here, policies focus on addressing various threats to ecosystems, including climate change, pollution, habitat destruction and the overexploitation of natural resources. The Biodiversity Strategy for 2030 committed the EU to legally protect a minimum of 30 per cent of the EU's land and sea areas by 2030, with a strong focus on the restoration of degraded ecosystems. The success of this commitment is greatly interlinked with the actions taken through the Farm to Fork Strategy for example, where sustainable food production directly impacts biodiversity as well as forestry strategy and the Zero Pollution Action Plan.

In September 2023, the Commission president spoke about the Green Deal in her State of the Union address and clearly signalled that the Strategy was ready to move from regulation towards implementation. Von der Leyen "praised Europe's unique biological diversity made up of thousands of animal species, forests, moors and wetlands" (Liboreiro, 2023), referring to the Nature Restoration Law, which had generated vast opposition earlier. It had been criticised for decreasing food production and as such impacting the livelihoods of European farmers. Even though this was debunked by scientists and NGOs, it is a perfect example of the cross-cutting impacts of the Strategy which need to be better translated and applied more transparently. It also underlines that climate goals can be achieved through integration into other policy areas, but that this always entails the risk of transferring conflicts from an established policy field into a climate policy process or vice versa. In further reference to the abovementioned examples of the main cross-cutting narratives set within the Strategy (1-6), two of the most important drivers will be innovation and digitalisation. Without significant investment in new technologies, research and innovation, that support the uptake of renewable energy and transition towards clean economies, the EU will not be able to ensure the long-term competitiveness of European industries (World Economic Forum, 2023). For any innovation or new technology to take shape there is also a greater need for enhanced public-private cooperation, in this regard, the current fragmentation of regulations across member states needs to be addressed to secure knowledge and data transfer across sectors and member states. The twin green and

ZEI Discussion Paper C 279 / 2023

A geopolitical gem. How Greenland can be a test case for a more ambitious EU - Koen Verhelst

With the EU finally opening a diplomatic office in Greenland, it takes steps to put its Arctic Strategy into practice. The island country will be a 21st century player in northpole logistics, clean energy and raw materials. Russia and China have made no secret of their interest in the region and former US President Donald Trump even suggested his country should buy Greenland. In this geopolitical maelstrom, how can the EU further its aim of becoming a geopolitical player? The bloc will need to navigate a set of broad international challenges while keeping member states in mind on a rather narrow path to its own ‚Arcticness‘. This paper tries to sketch out the way Greenland’s aims partially overlap with Brussels’ and how China and Russia will be eyeing any mistakes the EU makes.



digital transition – need to be aligned as their crosscutting impact will be the deciding enablers of the EUs achieving its “clean energy transition to accelerate the renewable revolution and support efforts for energy efficiency and savings (European Policy Centre, 2023).” Furthermore, if the digital transition is to become a true enabler of progress and catalyst for the energy transition a new framework of European digitalisation governance is warranted in synergy with climate governance to guide policy development and address its risks and environmental footprint. In her speech, the Commission President failed to mention a renewed version of the Green Deal or the implementation of existing legislature, nor any new legislative proposals, which has led to vast speculation of a re-candidature for the next EU legislative period. It will be decisive for the implementation of the Green Deal, if the von der Leyen Commission manages to uphold its political commitment to progress the strategy, without faltering to the pre-election games, started by the President’s speech, prior to European elections in 2024, especially since more controversial dossiers still have to be concluded, including methane regulation (Kefferpütz et al, 2023).

Overall, the European Green Deal can be seen as ambitious and far-reaching, with the goal of solidifying the EU as a global leader in combating climate change and promoting environmental sustainability. It is a dynamic framework that will evolve with its challenges if the political commitment continues to be strong and member states implement national strategies, while EU authority is being increased. One of the greatest criticisms of the climate law, includes the EU having little authority to deal with member states noncompliance. Nevertheless, since 2019 infringement cases related to the environment have increased from 327 to 425 in 2022 (European Commission, 2022). Climate policy not only represents a crosscutting challenge as it affects every policy area, but especially its intergenerational and

theoretical dimensions require multidimensional complex solutions and policy instruments to be applied even more so in the future. In terms of its crosscutting nature more work needs to be done to include other sectors with significant environmental impacts, including waste management and fashion and or textile sectors.

Crucial to the successful implementation of the European Green Deal will be that all EU actions and policies continue to reinforce that the EU objectives are fulfilled, also in alignment with international obligations, which will also further impact decision-making processes in other policy sectors. The Green Deal was built upon three decades of environmental and climate policy governance and as such only time will tell whether its objectives and narrative can be translated into policy actions. The groundwork has been laid with the full legislative framework nearing completion and many policies and instruments being introduced, as discussed above, however, their impacts and outcomes will continue to depend upon the alignment of the institutional setup, political commitment, recognition of functional overlaps, and the overarching discourse (Dupont and Jordan, 2021). Furthermore, the implementation phase of the Green Deal, also in light of the geopolitical pressures faced by the EU and the need for the EU to continue to be a driver of global climate change calls for a renewed sixth phase of EU climate governance focused on the journey to COP28 and the setting and accomplishment of targets for 2040.

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**FROM GREEN DEAL TO GREEN SUPERPOWER:
WILL THE EUROPEAN COMMISSION'S EFFORTS
HELP EUROPE REMAIN A GLOBAL ACTOR
IN THE FIGHT AGAINST CLIMATE CHANGE?**

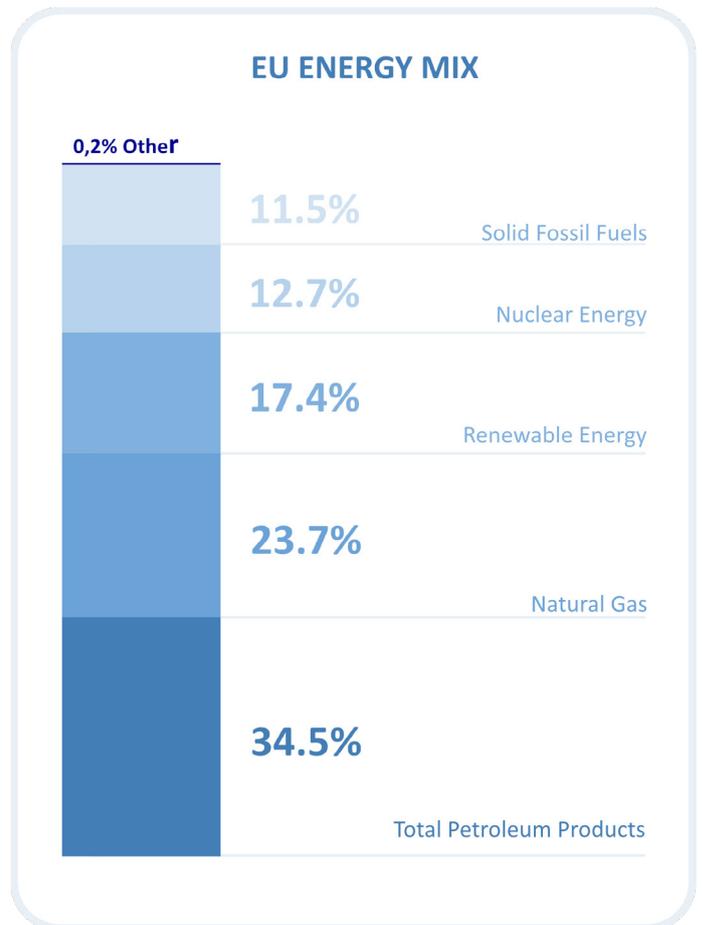
In her State of the Union speech in September 2023, Ursula von der Leyen introduced the next phase of the 'European Green Deal'. In its final year of the current term the Commission will focus on supporting Europe's industry to achieve the overall aim of transforming Europe into the first carbon-neutral continent by 2050. A competitive goal given the recent efforts by superpowers China and the U.S. to also become climate neutral. A good opportunity to take a closer look at what progress has been achieved so far in the implementation of the Green Deal, as well as the effect on European integration and the EU's role in the world.

Energy Policy has always been at the heart of European integration. Since the establishment of the European Coal and Steel Community it has had a relevant role, although it only received a legal basis with the Treaty of Lisbon. Scarcity of European resources and the resulting dependence on third countries for energy supply, especially from Russia, as well as the pressure of the increasingly imminent threat that climate change poses to the world, has led to the establishment of a dedicated Energy Union. The Commission headed by Ursula von der Leyen built upon previous strategies with the Green Deal, which is one of the Commission's main priorities. But how achievable are the targets laid out in the Green Deal in reality?

The Commission is known for ambitious and long-term goals in energy policy. While the EU-27 overall achieved the 2020 goals set in 2010, a reduction of greenhouse gas emissions by 20 per cent in comparison to 1990, an increase of renewable energy by 20 per cent and an improvement of energy efficiency by 20 per cent, not all member states met their national targets. According to the European Environment Agency, six out of twenty-seven member states (Bulgaria, Cyprus, Finland, Germany, Ireland, and Malta) did not achieve their individual targets and will have "to use flexibilities, such as buying emission quotas from other EU countries, to comply with their legal objective" (European Environment Agency, 2021). And while the 2020 targets were not met by six of the EU-27, the 2050 goals and the targets set out in the Green Deal are even more ambitious. How achievable are they?

The Commission's ambition to reduce greenhouse gas emissions by 55 per cent against a 1990 benchmark seems to be on track. In 2021, a reduction of 30 per cent has

been achieved (DG Climate Action, 2023). Another goal is to increase the share of renewable energy in the EU-27 energy mix to 40 per cent. In 2021, over half, 22 per cent, has already been achieved (Statistisches Bundesamt, 2023). With increased investment in renewable technologies and alternative sources of energy this goal seems to become more and more realistic. The aim of spending 30 per cent of the EU budget between 2021-2027 on climate-relevant expenditure has already been achieved (DG Climate Action, 2023).



(European Environment Agency, 2022)

The EU-27 seems to be en route to achieving the goals set in the Green Deal. However, not all member states are equally successful in realising the requirements in their national energy mixes. Germany for example, has not been able to realise the 2020 targets and was the highest producer of coal within the EU in 2022 with 133 million tons (Statistisches Bundesamt, 2023). In context, only nine EU member states (Germany, Poland, Bulgaria, Czech Republic, Romania, Greece, Hungary, Slovenia and Slovakia) still produce coal and Poland, together with Germany, produce double as much, as all of the other member states combined (Eurostat and Statistisches Bundesamt, 2023). And although Poland

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Keep calm and join NATO. Finland's and Sweden's road to the military-political alliance - Matti Wiberg

How did Finland (and Sweden) join NATO? The purpose of this paper is to provide a general account of the process which produced the Finnish membership in NATO. The paper starts with a general inventory of some essential background and context. Then the development of public opinion in Finland and Sweden is described. Then the non-existent NATO-debate is touched upon. After this the exact chronology of events is listed and the timeline of the process is summarized. After this the NATO timeline of Finnish membership ratification is presented. Then a few words on how Finland and Sweden, hand in hand, made the process together. The paper ends with a few points on what kind of member will Finland be.



achieved the 2020 targets it still faces significant challenges in the energy transition, due to the heavy reliance on coal, especially for electricity generation and building heating (International Energy Agency, 2022, Executive Summary). This suggests that, as seen with the 2020 targets, there will also be an underlying requirement that member states have to help each other in order to comply and achieve the overall goal of Europe becoming the first climate neutral continent by 2050. A test for EU solidarity.

Cooperation between member states has also been tested in regard to external energy policy. While the Green Deal does not have a dedicated focus on the security dimension of energy policy, in stark contrast to the preceding EU Energy Union, the recent international developments, in particular the Russian invasion of Ukraine and resulting energy crisis, put the security aspect of energy policy at the top of the agenda once again.

Since the first gas crisis in 2006, the EU has made reasonable efforts to diversify the energy supply and decrease the high dependency on Russian oil and gas. In 2006, Russia supplied 33 per cent of the oil and 40 per cent of all gas imports to the EU (Eurostat, 2008, p.1). And despite the efforts to diversify suppliers of natural gas (such as increased supplies from Norway) and reducing dependency on gas overall, Russia remained the most important supplier for oil and natural gas until the end of 2021 (DG Climate Action (2023, p.8). This changed with the Russian invasion of Ukraine in February 2022. Sanctions by the EU were put in place, which also affected the trade of oil and gas. The Commission reacted to the “weaponization of energy resources” (European Commission, 2022) by Russia and the subsequent energy crisis with a package of emergency response measures (European Commission, 2022). This comes after decades of

EU internal disagreements in regard to trade relations with Russia. Mainly concerning disagreement about economic justification of the energy dependence on Russia, for example in regard to energy infrastructure projects such as Nord Stream 2.

Russia's invasion of Ukraine led the member states to agree on making serious efforts to once and for all decrease dependency on Russia. The Commission even goes as far as aiming at reducing dependency to zero by 2030 (European Commission, 2022). A decisive step to be achieved through efforts in diversifying supply, reducing overall demand and increasing gas storage for emergency responses. None of these are new, however, how these are to be achieved is somewhat different. For example, LNG is playing a central role, since it does not need to be transported through a pipeline structure. This is especially important for the ‘energy islands’ in the EU that aren't connected to the infrastructure of other member states.

A mechanism that stands out in the EU's package is a new platform to purchase natural gas, hydrogen and LNG on behalf of member states. By pooling the purchase, a stronger position in negotiating prices is expected (European Commission, 2022). While participation in the platform is on a voluntary basis, it is significant as this idea was rejected by the member states during the creation of the Energy Union in 2006. It shows that the current threat to energy security is reason enough for the acceptance of a more unified approach in external energy relations. Ursula von der Leyen speaks of “the birth of a geopolitical Union” (von der Leyen, 2023, p.3) in her latest State of the Union speech.

In regard to tackling the challenges of climate change the EU has also shown increased commitment to speak with

one voice and be a global actor. The Vice-President of the EU Commission and High Representative for Foreign Affairs, Josep Borrell, spoke out for collective action and international cooperation to tackle climate change and strengthen “climate diplomacy” (European External Action Service, 2019). But to remain at the forefront the EU has to compete with the U.S. and China, who are the largest greenhouse gas emissions emitters but have also both implemented ambitious policies to reduce greenhouse gas emissions.

The U.S. has signed the Inflation Reduction Act in 2022, aiming to improve economic competitiveness, innovation and industrial productivity. And one of the priorities is investment in green energy technologies, allocating 400 billion dollars to the cause. It’s the highest investment in an effort to tackle climate change in the history of the U.S. The goal is to reduce carbon emissions by 40 per cent by 2030 (U.S. Senate, 2022).

China also has made significant efforts for their own transition and aims to become climate neutral by 2060. Its drive for investment in green technologies stems from „becoming the indispensable global provider of these pivotal technologies, reaping both financial and geopolitical benefits“ (Prytherch, Lieberthal, Hass, 2023, p.4). The energy transition is no longer an idealistic endeavour but offers a new level-playing field for the establishment of a new green superpower.

The Commission headed by Ursula von der Leyen has made some significant progress towards their overall goal to make Europe the first carbon-neutral continent by 2050. While commitments such as the reduction of greenhouse gas emissions, an increased share of renewables in the EU energy mix as well as assigning a larger budget to relevant investments in an effort to tackle climate change are on a good way to be achieved, the Commission has quite rightly recognised the need for support on a national level. The Green Deal is to provide the necessary support for the European industry to realise the energy transition.

But not only internal challenges influence the transition, as seen by the recent energy crisis. The EU has been taking a more unified approach in response and although EU member states have varying relations with Russia and degrees of dependency on energy supply from Russia, the aim to move completely away from Russian energy imports is not only ambitious in terms of the national and overall EU energy mix, but also significant in regard to foreign and security policy. The invasion of Ukraine and the following energy crisis has accelerated not only the renewable transition but

Scope of the U.S. Inflation Reduction Act

- **Federal funding for climate efforts:** Nearly 400 billion dollars for clean energy. Funds are provided through a mix of tax incentives, grants and loan guarantees. The largest share is for clean electricity generation and transmission, followed by clean transportation, including support for electric vehicles.
- **Energy infrastructure modernisation, reuse or replacement:** About 12 billion dollars will be provided to increase existing lending authority tenfold and create a new loan programme capped at 250 billion dollars to upgrade energy infrastructure.
- **Incentives for private investment:** Most of the funds made available will be in the form of business tax credits. These serve as a catalyst for private investment in clean energy, transportation and manufacturing. Many of the tax incentives included will be paid out directly.
- **Incentives for consumers:** End consumers are targeted by about 43 billion dollars in IRA tax credits. For example, electric vehicles are incentivised with a tax credit of up to 7,500 dollars for new cars and 4,000 dollars for used cars, or retrofitting homes is incentivised with a tax credit of up to 30 per cent of the total cost.

also increased external cooperation and common efforts for energy diplomacy.

When it comes to the challenge of tackling climate change the EU already sees itself as a global actor with a unified approach. However, if the EU wants to remain a significant global actor in the fight against climate change, they need to opt their game to not fall behind states such as the U.S. or even China. Only if efforts are made to make green technologies and policies viable can we have a genuine transition and a secure and stable energy supply, while also remaining at the forefront in the fight against climate change. A first step has been taken through the Green Deal in offering solutions to businesses and sectors in the EU industry to be green and competitive – two goals that for too long were not seen as compatible.

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MODERN CHALLENGES OF GREEN ENERGY TRANSITION

Man­kind sets goals, draws plans for their realisation, but life brings its own adjustments. The world is constantly experiencing events that affect our life and change it. We cannot leave it without reaction, so we are obliged to adapt our plans taking into account the things that occur.

Speaking about energy security, we see how the EU’s energy transition goal has been adjusted against the background of current events. In 2020, the European Commission, the European Parliament and the Council of Europe planned to reach 32 per cent green energy from total consumption by 2030. In 2021, amid reports of accelerating climate change, this target was raised to 40 per cent. Subsequently, against the backdrop of the Russian-Ukrainian conflict, the goal was increased to 45 per cent. Looking at the dynamics of these figures, it seems that we are rapidly approaching a European carbon-free bright future.

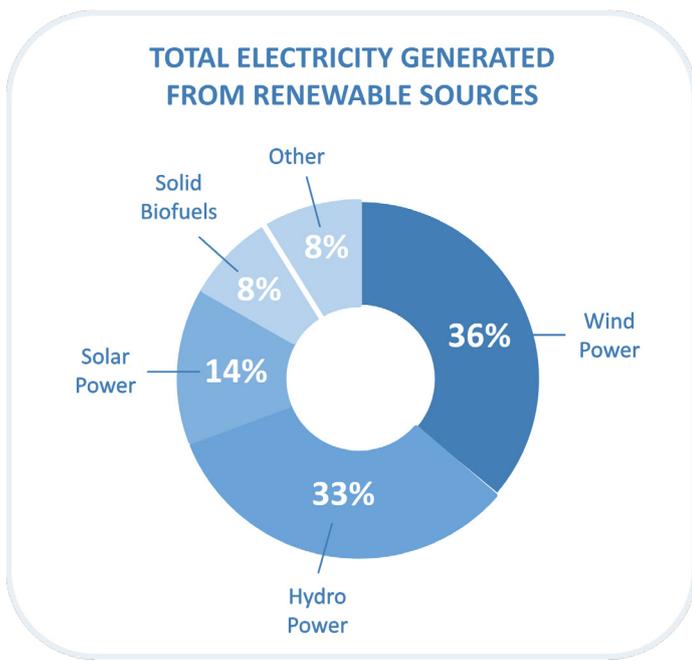
However, not everything in these figures is so simple. The reasons for this are political, economic, and natural. The fact is that the main burden among renewable energy sources (RES) fall on solar, wind and hydroelectric power. The sun shines erratically in European countries, and in windless weather it is impossible to produce electricity by means of wind generators. Severe heat waves and drought in the summer of 2021 led to a sharp drop in river levels,

which in turn caused problems with power generation at European hydroelectric power plants. At the same time, when weather conditions were favourable for renewable energy, overproduction of energy at solar stations and wind generators was observed repeatedly. As a result, the cost of electricity has fallen below zero in a number of European countries. This shows the great potential of such technologies, provided that a number of technical issues are resolved as soon as possible.

Experts all over the world have long been puzzling over how to reduce the impact of natural factors on the stability of energy systems. Is there a way out of the current situation? Can we reduce the impact of climate cataclysms on us by producing energy using renewable energy sources? A positive answer to these questions may be the introduction of new technologies that minimise such dependence.

The most important and, perhaps, the only possibility on the way to mass usage of solar and wind energy is the creation of technology for storing generated electricity on the scale of national grids. Today, such technological installations exist in the form of hydroelectric storage plants that store electricity and smooth out peak loads in the grid. However, they are expensive and the number of such plants in Europe is extremely low. Therefore, the issue of cheaper storage of the produced energy comes to the forefront. This is facilitated by replacing conventional batteries with more efficient, cheaper and environmentally friendly batteries using new materials. This measure does not solve all the problems, but it can make the industry more attractive for investment.

An equally important factor in the successful development of the European energy transition is a reasonable policy of countries to protect the environment and reduce carbon dioxide emissions into the atmosphere. The fight against global warming reveals winners and losers. As long as ten years ago, in an interview with the Swiss New Zurich Newspaper (Neue Züricher Zeitung), German Professor Ottmar Edenhofer said: “With climate policy we are redistributing the world’s wealth. Obviously, the owners of coal and oil will not be happy about this.” Today we see their source of income weakening and, as a consequence, the political influence of fossil-depending countries is weakening. States and private companies that are actively developing renewable energy technologies (RES) are working for the future and will undoubtedly win back their investments in the future. So far, fuel energy remains more efficient in economic terms. But it is a matter of time and investment into new technologies. Countries switching to renewable energy, actively developing this industry today,



(European Environment Agency, 2022)

are able to get rid of energy dependence in the future and take a leading position in energy production.

In energy policy, the first priority for us today is to minimise the use of hydrocarbons, to switch to renewable energy sources in order to slow down global warming. We want to preserve our planet; this is the main issue for us at this stage. Along the way, there are problems that we cannot turn a blind eye to.

Among them are the difficulties associated with high prices for fossil fuels. It forces EU countries to save money on the purchase of certain types of fuel. Thus, according to the IEA report, in 2023, with a total basic demand for gas in the EU of 395 billion m³ due to the reduction of Russian gas supplies, strong competition with China and Asian countries on the LNG market, the shortage of gas will be 57 billion m³ - 14.5 per cent. Thus, a complete phase-out of coal and other related sources is temporarily impossible.

Solving these problems forces us either to take a step backwards on the way to solving the main task, or to reduce the pace of our progress towards its solution. There is no need to take this tragically, there is nothing wrong with it. If here and now a situation has occurred that forces us to deviate to a certain extent from the initially chosen point, it is normal. We must weigh all political and economic risks sensibly, make adjustments, but at the same time, having solved important urgent social and economic issues, we must not forget about the main goal to move forward towards the solution of global problems.

The EU is looking to improve its position in the economic competition with countries like the U.S. and China. Like these countries, the EU wants to help businesses that adopt green technologies and innovate. Brussels has described the scheme as an industrial plan for a zero-emission era that will begin in the middle of the century, when the EU intends to reduce emissions of climate change gases to zero. The European Commission's (EC) green drive to improve the competitiveness of EU industry is a response to the US anti-inflation plan that is cutting jobs in Europe.

The EU is accelerating its transition away from fossil fuels, primarily oil and gas. This has been made possible by the successful implementation of the EU Green Deal. EC President Ursula von der Leyen presented an industry incentive plan at a press conference. It includes regulatory reform, simplification and increased funding for green energy and manufacturing. It is extremely important that this plan is going to be integrated into the European "Green Deal", which aims to reduce greenhouse gas emissions.

The main issue is to create a predictable, harmonised and simplified regulatory environment across Europe for industrial development and environmental conservation (COM(2023) 62 final):

Currently, legislation is supporting zero-emission technologies and industry, with a focus on focusing on wind turbines, heat pumps, solar panels, carbon dioxide capture and storage technologies. Green industry goals and strategic development directions until 2030 are also being clarified and adjusted, taking into account the entire cross-border supply chain. It is necessary to ensure safe and uninterrupted imports of crucial raw materials from third countries to EU member states, against the background of the fact that the supply of some of these raw materials from Russia may be discontinued. In addition, these steps will reduce the timeframe for issuing permits for green enterprises and introduce the "one-stop shop" principle for them.

The plan also implies easier access to government programs like Next-Generation EU. It is financed by the post-COVID Recovery and Resilience Facility (RRF), of the 723.8 billion euro fund, 250 billion euro is to go to support green measures, including direct investments in decarbonisation. The Horizon Europe project allocates 40 billion euro for Green Deal research and innovation, and the EU's Cohesion Policy project allows for around 100 billion euro for green transition.

It is already becoming obvious that fossil energy sources are finite, they are becoming more difficult to produce from over time, and their production costs will inevitably rise in the long run. At the same time, we are witnessing the development of renewable energy technologies. There are more advanced technological processes, more economical equipment that allows to reduce the costs of energy production from renewable sources. All this proves the importance of the energy transition that EU member states are committed to. And the countries that take this path sooner will inevitably gain in competitiveness. By getting rid of energy dependence, they will solve the problem of energy security and achieve greater success in their development.

Antonina Degtyareva

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FIT FOR 55: THE POSSIBLE FAILURE OF IMPLEMENTATION

On July 14th, 2021, the “Fit for 55” package was presented as the centrepiece of the von der Leyen’s Commission European Green Deal. It sets the main course for the success of the ambitious project towards European climate neutrality. Climate change is one of the great concerns of the century and the EU responded to it, on an unprecedented scale.

Reducing the emission of the Union by at least 55 per cent until 2030 is a legal obligation now enshrined in European climate law. By 2050, the Union should even be climate-neutral. The Fit for 55 package, consisting of a set of regulatory and price-based proposals to put in place new initiatives to reach the set goals, represents a huge legislative step forward in the EU’s environmental ambitions. The package aims to provide a coherent framework for reaching the Union’s climate objectives by ensuring a just and socially fair transition, as well as maintaining and strengthening innovation and competitiveness of various industries. Among others, Fit for 55 focuses on boosting renewable energy and energy-efficiency, revising energy taxation, and toughening emission reductions, while at the same time increasing the uptake of greener fuels and materials towards more sustainable transport, agriculture, waste, and buildings (Consilium Europa, n.d.). This includes, for example, the introduction of a Carbon Border Adjustment Mechanism and the implementation of a Social Climate Fund, both adopted by the European Council in April of this year (Council of the European Union, 2023). With seven years left on the clock and a change in office at the Commission coming up next year, it is great news that every area of the package is at least progressing with more than two-thirds overall already completed (ZEI, n.d.).

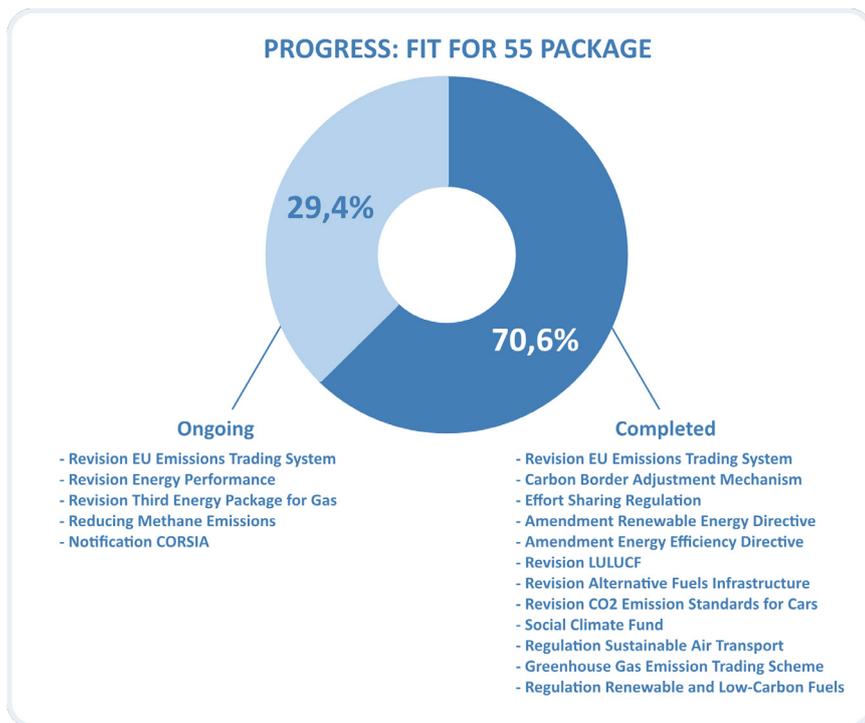
The question that remains is whether this ambitious approach is sufficient to achieve the proclaimed goals. There are voices that doubt precisely this. Thus, for example, the “Ariadne” project from the German Federal Ministry of Education and Research (BMBF) of 2021 argues that due to a soft governance approach, the set goal might be at risk (Knodt, Müller, Ringel, Schlacke, 2021, p.4): “[T]he average values of the individual countries show that most Member States have only partially implemented the recommendation. However, the closer look reveals a great dispersion” (ibid: p.8, own translation). This dispersion cannot only be seen between member states and subject areas, but also between fields with a (less) tough governance. Even though no member state ignored

the recommendations from the European Commission, the compliance differs. Mostly, the Commission classifies the objectives as “partially addressed” (energy efficiency) or “largely addressed” (renewable energies). The reason might be differences in policy priorities among members. The study emphasises, however, that the difference between for example the energy efficiency and the renewable energy sector is influenced by how strict elements of soft governance are. An increase in targets on the European level will not automatically lead to a full implementation on the national level; therefore, the reduction targets appear to be a tough challenge. It follows that a revision of the governance Regulation might be necessary.

The Union’s governance Regulations are part of the framework for European climate and energy policy. They are critical to the implementation of any initiatives related to the European Green Deal. There are two main Regulations:

1. Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by member states, from 2021 to 2030, contributing to climate action to meet commitments under the Paris Agreement, covers sectors that do not participate in the Emissions Trading System (ETS) and includes provisions for monitoring and reporting emissions in these sectors. The Fit for 55 package revised this system to include air traffic, as transport as well as agriculture and buildings do not fall under the ETS.
2. Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action, established the framework for planning and monitoring climate and energy policies of the EU and its member states. It consists of provisions on the establishment of National Energy and Climate Plans (NECPs) by members reporting on progress towards climate targets, and reviewing the implementation of these plans. Fit for 55 relies on exactly these NECPs as the central steering instrument.

This is the only possible form of governance because the energy competence of the Union is extremely limited. The environmental competence of Article 192 (1) TFEU empowers the EU to take measures to achieve set objectives, therefore allowing the Commission to de facto impose sanctions. Article 194 (2) of the Treaty on the Functioning of the European Union (TFEU), however, safeguards the member states’ sovereignty in this regard, so measures may not affect members. The European energy policy cannot affect the exploitation of energy resources, members’ choices between different energy sources, as well as the general structure of its energy supply. At the same time,



(ZEI Monitor)

the Union shall aim to promote energy efficiency as well as the development of new and renewable forms of energy (Article 194 (1(c)) while securing energy supply in the Union (Article 194 (1b)).

As the Regulations are based on soft governance, meaning that member states have flexibility in implementation, some of them might be lax in implementing the Commission's recommendations. Since the Regulations do not include strong sanctions for members that do not meet their target, there might not be sufficient incentives to take necessary actions. Due to different policy priorities within the Union, the member states might use more or fewer resources for the implementation of the Fit for 55 package, should there be other priorities. When it comes to energy policies due to the ongoing aggression of Russia towards Ukraine, states might value energy security the most, focusing on a stable supply instead of using renewable energy sources. However, member states must continue to work on solutions to ensure that goals are met, as the EU cannot otherwise fulfil its commitment to combat climate change. Soft governance can only be successful if there is a broad consensus among member states on common goals and how to achieve them, which is currently not the case. Which is why, given the ambitious climate targets of the package, the current rules may prove insufficient. Accordingly, a revision of governance regulations could be seen fit to increase effectiveness and enforceability.

The EU will only be "fit for 55" by 2030 if it manages to not only complete the legislative procedure for the different areas, but to further complete the implementation in each and every member state. If the existing enforcement mechanisms were to be tightened, in other words, if the soft governance stance were hardened, the targets could be achieved (more easily). In general, the European Commission is shifting in this direction, especially in the energy sector: in 2018, the two existing, aforementioned Regulations came into place, seeking to address the lack of competence in the Union. The Fit for 55 package only has a chance to succeed solely due to these Regulations. Similarly, the climate policy, which is the other main policy field apart from energy when it comes to the package, was enhanced. Through a public presentation of states efforts, as well

as aligning the monitoring with other policy processes, the EU can put pressure on members to act. If soft instruments are hardened, recommendations and monitoring can be combined with declarations, obligations, sanctions, or public pressure (naming-and-shaming effect) to nudge members in a certain direction.

The past has shown that policy coordination at European-level has too often not been translated into concrete action at national level. This has also been recognised by the Commission, which is why it has now developed sharpened tools to strengthen the governance elements to some extent. However, if the Regulations of 2018 prove to be inefficient or too soft there should be no hesitation to make further improvements to increase the pressure on member states. Whether the "Fit for 55" package will reduce emissions by 55 per cent by 2030 or fail to implement it, only time will tell. But regardless of the occasional predicted failure, Fit for 55 in its comprehensive approach is a milestone in the history of the European Union.

Viola Parma

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THE EUROPEAN GREEN DEAL AND THE GLOBAL SOUTH

- A COMMENT

One could argue that the conflicts unfolding almost everywhere are as critical to the European Union's Green Deal agenda as the battle of narratives. On the one side, the Global South, with all its untapped potential, abundant resources, and massive human capital needs. The Global South sensing this is the time to rise from the doldrums, develop its resources, and provide for its people's basic needs. On the other side is an industrious European Union, with significant ambitions to keep the global temperature increase well below two degrees Celsius. Furthermore, the European Union focuses on a sustainable, green future and aims to be prosperous for this generation and future generations. This rift in perspectives is only mounting.

But let's start by unpacking what the EU Green Deal encompasses. The European Union President, Ursula von der Leyen, pledged to make the European Green Deal a centrepiece of her presidency. Moreover, von der Leyen boldly stated on adopting the European Green Deal in 2019 that "this is Europe's man on the moon moment" (von der Leyen, 2019). This unequivocal statement is the basis of the European Commission's grand ambitions to become the world's first climate-neutral continent. The EU Green Deal is inspiring and challenging as it brings the environment, climate, and circular economy into the heart of European Union planning and development (von der Leyen, 2019a).

The European Union is steadfast to attaining net-zero GHG emissions by 2050 and has consolidated the target throughout the EU Green Deal (WRI, 2021). The EU Green Deal is a landmark example of the European Commission's support for a greener future. According to Granat and Kozak (2021), the EU Green Deal introduced an expansive 'umbrella' approach to bring a fresh, more viable order to the European Union. It's the big idea and top priority of the European Commission. The European Commission declared that the Green Deal would magnify climate neutrality as the earmark of its political programme. 'A European Green Deal' can remodel the EU into an innovative, modern, and sustainable economy. Furthermore, progressing its agenda dealing with the existing green and digital transformations guarantees that the European Union remains resolute (European Commission, 2022).

Although the current European Commission has prioritised climate ambition with the Green Deal, the road toward enhanced climate action has not been easy (Jonker, 2020). Crucially, the question is whether the European Green Deal represents a suitable policy guide to integrate environmental and economic objectives with the aim of social justice, thus ensuring a just transition towards more sustainable economies and societies (Sabato & Fronteddu, 2020). But most notably, it emphasized how action is needed in different sectors and across policies (EPC, 2022). Verschuur and Sbrolli (2020) explain the EU Green Deal is the foundation of an environmental-centric industrial revolution on the continent and is the first of its kind in the history of the EU. It will permeate every nook and cranny of EU law and the European economy and involve enormous public and private sector investments (Granat & Kozak, 2021). Realising that the European Green Deal signifies the best chance for long-lasting energy independence certainly reinforces the immediate importance of the transformation process.

Nonetheless, for the European Green Deal to continue a virtuous cycle of sustainable and inclusive development for all European Union citizens, benefits are to trickle down, from robust supply and affordable prices for energy to reformed waste management and resilient food systems (ZEI, 2023). Because of its long-lasting nature, the European Green Deal's 'umbrella' strategy does not contain an exact plan or approach towards sustainable energy; instead, it sets specific targets (Granat & Kozak, 2021). However, this architecture can ultimately bring massive benefits.

The EU Green Deal is meant to be a 'growth strategy'. Constructing a sustained growth pattern remains paramount, and economic growth is not incompatible with reaching high levels of environmental protection and social progress (European Commission, 2010). The European Union's long-term target is to have a totally interconnected energy market, which will ease up, decarbonise, and securitise the energy supply and, most importantly, respond to climate change challenges (Granat & Kozak, 2021). The whole notion behind the European Green Deal is to spread subsidies and investments fairly and widely across the EU economy to boost the industries' and businesses' move toward sustainability. The EU budgetary tools, alongside the Corona-recovery package, drive and allow member states under fiscal pressure from Eastern and Southern Europe to follow the transition they would otherwise be unable to afford. Strong cooperation with these actors on the Green Deal is imperative.

Let's delve into the nexus between the EU and the Global South. The EU maintains strategic partnerships with India, Brazil, Mexico, and South Africa and holds a central position as a trading power. Its standards and policies have implications for exporting partners and can set an example globally. As part of the EU Green Deal, the EU earnestly tries to include sustainability and ecological transition in trade agreements. Ongoing discussions on deeper cooperation, such as the EU-India 'Roadmap to 2025' or the EU-MERCOSUR free trade and association agreement, provide immediate opportunities to address resource efficiency and circular economy (India) or digital economy, environmental protection and ocean policy (MERCOSUR). The EU could strengthen its "Green Deal Diplomacy" by taking a firmer approach to less ambitious non-EU emitters by linking economic measures to climate action (IDOS, 2020).

Should the EU take the proper steps in the coming years, North Africa could become an essential partner in Europe's energy transition. For example, North Africa has a vast renewable energy prospective, particularly in solar and wind power, whose additional capacity could be easily exported to Europe. Although not a short-term answer to Europeans' fossil fuel distresses following Russia's war in Ukraine, clean electricity from North Africa would be a decisive medium-term option to aid diversify Europe's energy mix and lessen reliance on imported fossil fuel in the long term. The future production of green hydrogen makes North Africa also a desirable partner. Green hydrogen will likely be essential for the EU to fulfil its climate goals in hard-to-decarbonise sectors. North Africa also boasts an abundance of critical raw materials (CRMs) vital for the energy transition, enabling the EU to transfigure its supply chains for clean energy technologies. In addition, the region's young and well-educated workforce also presents the EU not only potential labour for scientific and high-technology manufacturing closer to home than Asian markets but also the skills needed for meaningful partnerships in areas such as research and development (R&D) (El-Katiri, 2023).

The European Union Global Strategy (2016) makes a poignant point: "Through our energy diplomacy, we will strengthen relations worldwide with reliable energy-producing and transit countries and support the establishment of infrastructure to allow diversified sources to reach European markets." The EU Green Deal is undoubtedly part of the energy geopolitics needed to curb climate change impacts. As Bradford (2019) posits, the EU commands significant, distinct, and highly astute

power to unilaterally transform world markets, including its ability to set standards in environmental protection and digital privacy. The EU has shaped policy in antitrust, data protection, customer health and safety, and online hate speech.

On the opposing perspective, some countries of the Global South, like Brazil and Indonesia, have described the EU's attempts to project its climate objectives through trade as a new form of 'colonialism' (IDOS, 2020). This claim is reiterated by perspectives from the Global South that are shaped by assessments of the past relationship with Europe. The fundamental premise is that countries from the Global South do not view the current EU Green Deal from the European standpoint but from their circumstances and lived experiences. As the global impacts of climate change are more transparent and severe, the need to effectively respond and adapt to these changes is urgent. Because climate change ignores all national and sector boundaries, the need for collaboration is utmost on a scale that humanity has never attempted. Like Europe, Africa remains caught in an extended period of economic instability.

Although not immediately apparent, the EU Green Deal can be seen as a force for good. In conclusion, humanity has reached a junction in the road. One of the two paths must be chosen. Both lead us into the unfamiliar. But one leads toward the devastation of the climate balance on which we depend, the loss of irreplaceable resources that support us, the decline of uniquely human values, and the possibility that civilisation as we know it could perish. The other leads to the future (Gore, 2013).

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