The Future of the EU's Energy Project

Moving Beyond the Trilemma

STUDY & DEBATE

GEF GREEN EUROPEAN FOUNDATION

Acknowledgements

This report is part of the Green European Foundation's Knowledge Community flagship. Our Knowledge Communities aim at advancing political and public debates towards a green, socially just Europe through establishing lasting networks of knowledge production, exchange and dissemination. They are initiated by the contributions of GEF core expert(s), which are subsequently further developed through Knowledge Community meetings with larger groups of experts.

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The **Green European Foundation** (GEF) is a European-level political foundation whose mission is to contribute to a lively European sphere of debate and to foster greater citizen involvement in European politics. GEF strives to mainstream discussions on European policies and politics both within and beyond the Green political family. The foundation acts as a laboratory for new ideas and offers cross-border political education and a platform for cooperation and exchange at the European level.

GEF's Knowledge Communities are aimed at advancing political and public debates towards a green, socially just Europe, through establishing lasting networks of knowledge production, exchange and dissemination. They are structured around and with a GEF core expert, who delivers a political stock-take as well as new proposals and ideas for discussion with a wider group of actors (i.e. the Knowledge Community). This report results out of one of these Knowledge Communities.

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Foreword

Benedek Jávor and Taube Van Melkebeke

Historically, the European political project – established in 1951 as the European Coal and Steel Community - and the topic of energy are two sides of the same coin. Now, in high need of a fresh European breath, energy, again, can emerge as the foundation for the EU's common future.

The way the European Union designs energy policy has far-reaching consequences on energy security and security more broadly, democracy, environmental sustainability, economy, international relations, social justice, cohesion, and equity. However, despite this societal, political and democratic gravity, energy's image as a policy area has remained largely technocratic, market-oriented and somewhat opaque.

Energy policy in the EU - and internationally - is often guided by the energy trilemma: affordability, energy security, and sustainability. The 2019-2024 EU mandate's track record on these three dimensions is a mixed – and at the same time very full - bag. On the sustainability dimension we have of course seen the European Climate Law, the Green Deal and Fit for 55. On energy security, we had the REPowerEU-response to the effects of Putin's war in Ukraine. On the affordability or social dimension, finally, there was the development of the Just Transition Mechanism, the Social Climate Fund and some EU guidance on Member States' policies to shield households from bearing the brunt of the energy crisis.

This overview exposes two main obstacles for the EU's energy project to emerge as a lever of social, political, and economic cohesion among, and well-being throughout, European Member States.

Firstly, the three dimensions are managed and deployed separately, often in a technocratic manner. This results in unexpected and undesirable effects on the other two dimensions. The design of the Green Deal package, for example, is essential for sustainability but left quite some gaps on the social dimension of energy. It didn't propose a fully-fledged script to put people – including the most vulnerable ones – central to the green transition, and thereby kept the doors to social backlash open. Additionally, it didn't come with a serious international strategy built on mutually beneficiary, non-extractive, clean energy partnerships with the rest of the world. The social support schemes deployed in order to mitigate the costs of the gas crisis in 2023, in their turn, resulted in a significant surge of fossil fuel subsidies, while the clean energy sector is facing investment shortages. And finally, the scramble for new gas to compensate decreased Russian supply - thus to deliver energy security - led to equally unsustainable investments and infrastructure, for example through the building of new LNG import terminals. This decision, taken from a restrictive vision on energy security, moreover replicates the EU's external dependence as well as related geopolitical weaknesses and therefore security concerns.

The second major obstacle is that the link between the EU's energy project and democracy is completely underlit in this trilemma-thinking. Energy policy carries enormous potential to strengthen participation and ownership of citizens and their representatives in the EU and Member States' political processes. Democratic engagement and ownership of energy planning and decision-making can turn consumers, depending strongly on big energy corporations, into active energy citizens, with access to data and knowledge, granting them much higher levels of autonomy. It gives them ownership over their energy, strengthens their negotiating positions and ultimately increases the resilience and wellbeing of European societies. A strong democratic energy governance would moreover untie the policy area from its technocratic appearance, and guide it to where it belongs: at the centre of political and public debates. However, currently both European and national political actors are missing this link.

The fragmentation of the different energy trilemma pillars, as well as the energy democracy blind spot, are in themselves problematic. But in the face of (geo-)political turmoil, fluctuating energy costs and a general cost-of-living crisis, they become bread and butter to populists and the far-right.

If it addresses these stumbling blocks however, through bridging the dimensions and putting democracy at the centre, the EU can turn its energy project from an arena for divisive politics to a common European flagship that strengthens cohesion, prosperity, security and resilience, advances climate action, and at the same time enables collaborations with other countries to improve global justice and to collectively rethink energy use at the international level. The energy project is, as a consequence, nothing less than a key channel for green and progressive voices to reinforce sustainable democracies, able to resist populism, and to deliver a positive future.

The four sections in this report are each devoted to one of the identified dimensions of the future of the EU's energy project: the three trilemma-dimensions and an additional democratic dimension. They were published earlier in the format of Political Briefs and are a result of GEF's Knowledge Communities. This policy flagship of the Foundation aims at initiating debates, based on contributions by a core group of experts, and ultimately at collectively - through growing of and engaging with a broad Knowledge Community - identifying ways forward toward a greener and more social Europe.

Through its methodology of co-creation, the Knowledge Community format proved to be an ideal tool to identify cross-sectoral, systemic political proposals for a positive energy future. The report, as the conclusion of this work, is an invitation to recognize the EU's energy project for what it is - a lever for a more just, democratic, sustainable and secure Europe - and above all to continue the political and public debates on this crucial flagship.

Energy Security Dimension

Expert contributions by Joanna Maćkowiak-Pandera, Rosa Martínez, and Jesse Scott

Introduction

Energy is to society what food is to the body: a complex and essential enabler of life. For the EU, as for any other political community, securing sufficient energy supplies to meet its needs is vital to its prosperity, political stability and, quite possibly, social order. All aspects of the "European way of life" – political, economic, technological and social – ultimately depend on reliable access to energy.

Energy has always been an important part of the EU's raison d'être, as can be seen in both the 1951 Paris Treaty that established the European Coal and Steel Community, and the Euratom treaty that was signed alongside the treaty founding the European Economic Community in 1957. However, with the exception of the liberalisation of public services, introduced in 1986 by the Single European Act, the EU's energy policies remained very much the responsibility of Member States.

Member States' reluctance to share energy competences with the EU meant that energy security, too, remained a primarily national concern, making a collective strategic approach impossible. Despite the lessons that should have been learned from the energy crisis of the 1970s, even the geopolitical aspects of energy security were thereby not given much attention by EU decision-makers.

It was only in the 2000s, with the effects of the Second Gulf War on global energy supplies[1], and rising tensions between Russia and Ukraine, that energy security began to be taken more seriously in European political debates. At the same time, planning for future energy supply and demand was also changing drastically under the imperative of decarbonisation to reduce greenhouse gas emissions and mitigate climate change in response to the Kyoto Protocol. This culminated in the first European Renewable Energy Directive in 2001, the EU's 20-20-20 targets in 2008▪ , and a climate package in 2009.

▪ 20% cut in greenhouse gas emissions (from 1990 levels), 20% of EU energy from renewables, 20% improvement in energy efficiency

Following these evolutions, the EU has finally become aware of its structural dependency on the rest of the world for the energy that powers its economy and households. Global competition[2], the climate emergency and geopolitical turmoil – especially the Russian war against Ukraine - have all pushed energy security towards the very top of the political agenda for the EU and its Member States.

State of play

As reflected in the introduction, the understanding that Member States' energy security cannot be a solely national preoccupation slowly but steadily grew. As a result, the 2009 Lisbon Treaty finally enshrined energy policy as an EU competence. The Union adopted its first joint Energy Security Strategy in 2014[3], and this was followed in 2015 by its Strategy for a European Energy Union[4].

Nevertheless, differences of approach persisted, becoming glaringly obvious with

the Nord Stream gas pipelines from Russia to Germany, which bypassed Ukraine and other Central and Eastern European (CEE) countries. The fact that the Nord Stream 2 agreement was signed in June 2015[5] – after the EU's enlargement to a large part of the CEE states, and despite the sanctions imposed by the EU following Russia's illegal annexation of Crimea in 2014 – showed just how superficial the concept of a common European energy security remained.

It took the chaotic disruptions to supply and value chains caused by the Covid-19 pandemic in 2020-21, followed by Russia's invasion of Ukraine on 24 February 2022, for the EU Member States and institutions to consider a truly common approach to energy security policy.

The Russian war of aggression has been a real game-changer, having both established the link between Europe's energy security and its wider security issues, and fast-forwarded Europe's understanding of its structural choices. These now-obvious energy vulnerabilities were always going to become apparent eventually, however, since Europe's blind reliance on both fossil fuels and the sometimes unpredictable countries that supplied them was anything but sustainable. In 2021 – a year before Russia attacked Ukraine, thereby profoundly disrupting global energy markets and EU supply channels – EU energy imports dependency stood at a solid 55.5%[6].

Energy security and the EU Green Deal

At the start of her presidency of the EU Commission, Ursula von der Leyen (2019)[7] declared her intention of turning it into a "Geopolitical Commission". It has indeed developed a set of policies in response to the energy security challenge and its intersections with climate action, firstly through the Green Deal. The ad hoc RePowerEU plan presented in May 2022 in the light of the war in Ukraine went further, explicitly stating its aim of ensuring energy security by "rapidly reducing dependence on Russian fossil fuel and fast-forward[ing] the green transition"[8].

Europe was fortunate that the Covid-19 pandemic and the Russian invasion did not happen until after the December 2019 launch of the EU Green Deal, which has enabled both the Covid recovery and the response to the invasion to be built on a green foundation. Indeed, the clear conclusion has been that Europe would have been able to cope with these crises even better had it been more ambitious in its energy transition a decade earlier. In 2023, the head of the highly respected International Energy Agency stated that the EU energy system would have been stronger and EU energy prices lower if there had been more renewable power generation and more energy efficiency in the 2010s[9].

This is the key lesson from the early 2020s, and should function as a wake-up call. Current frameworks and initiatives still fall short of delivering real energy security throughout Europe. Further-reaching European measures are needed if the EU is to achieve strong energy security at the same time as ambitious climate action, affordable energy for citizens and businesses, and mutual solidarity.

This realisation is visible in the increasing urgency with which Europe is addressing questions such as: how to accelerate permissions for power grid expansion and more renewables; how to redesign electricity markets to enable smart digitalised efficiency and management of energy load through demand response; and how to finance green energy investments and green industrial strategies throughout the EU, as well as in Ukraine, the Mediterranean neighbourhood, and globally.

New realities, new dynamics

It is important to recognise that energy security based on decarbonised, digitalised and increasingly electrified energy systems with renewable wind and solar at their heart is a very different proposition from old-style energy security based on stockpiling fossil fuels.

Resources

One of the differences is obviously found at the source, concretely: the replacing of oil and gas imports with materials and resources required for the manufacture of photovoltaic panels, electric vehicles, batteries, etc. New dependency risks are thereby arising, at a time of escalating strategic rivalry between the US and China, and growing demands for equitable economic relationships between the Global South and the EU. The USA's Inflation Reduction Act was an attempt to dramatically advance its global position in a transitioning world, and took the EU by surprise, prompting ad hoc responses finally structured around an EU's Green Deal Industrial Plan.

Key to this European plan are the Net Zero Industry Act, which aims to strengthen the EU's competitive position in the global clean-tech industry, and the Critical Raw Materials Act, which aims to secure the supply of these materials and decrease EU dependence on other countries, while also increasing EU processing capacity for critical materials to 40% of its annual consumption by 2030[10]. However, these Acts fall short in scope, as they are missing a serious investment pillar[11] and do not pay enough attention to key issues such as social impacts (displacement, jobs, etc.) and the environment (e.g. biodiversity), both from an internal and an external perspective.

Deployment and infrastructure

Another difference between the new green energy security and the old fossil-based security – one that comes with huge opportunities – is the speed with which renewable projects can be built. Building solar farms and wind turbines is a comparatively fast and straightforward process – unlike nuclear power, which is being considered again in some EU countries in the wake of the gas crisis. Although nuclear electricity production is emissions-free, it is associated with risks, high costs and very slow implementation, putting its potential for large-scale development in the EU in extreme doubt. It is essential that decisions be made on the basis of transparent, accurate data about construction costs and timescales, as well as waste storage and safety provisions. The scientific evidence to date points strongly in the direction of renewables.

Social impact

The transformation to a decarbonised, digitalised energy system will moreover impact people's lives in important ways, affecting social models, jobs, workers' skills required, and the entire value chain of the products we buy. It reaches into the very heart of how we live, which means it must also inform how we structure distributive and other policies. Understanding these new social realities and dynamics and integrating them into policy design will be critical to the future of the EU's energy security. The social dimension of the energy transition is addressed in more detail in a separate section of this report.

Grids

Grid constraints are a less discussed but nonetheless important bottleneck for the energy security of the EU's green transition. There is an urgent need to reinforce and extend grid connections to manage large volumes of offshore wind power and very fast growth in distributed solar. Moreover, transitioning away from fossil fuels requires the electrification of entire sectors, meaning that power grids will not just need to supply

clean energy to existing users, but must also be able to meet ever increasing demand from industrial heat processes, EVs, electric heat pumps, etc. – *and* manage them smartly as part of the overall energy balancing system.

To deliver renewables-based electrification at an EU level, grids need to be upgraded at local, national and international scales. Nine countries around the North Sea, including Denmark, the Netherlands, Germany and the UK, recently agreed to develop an offshore ring-grid[12]. More major grid initiatives of this kind will be required to connect northern wind resources with southern solar resources across the EU. The European Commission (2022)[13] estimates that the electricity grid will require about €584 billion of investment between 2020 and 2030, much of it for distribution.

Unlocking these investments will require EU coordination. The 2022 revision of the Trans-European Networks for Energy policy (TEN -E) updated the categories of infrastructure eligible for support under the TEN-E Projects of Common Interest (PCI) programme to focus on renewables, including low-carbon gases such as hydrogen. Whether this and other existing policy and support schemes will be enough to deliver the estimated investment required for the electricity grid is highly doubtful.

Reflections on the state of play

The above overview serves as a reminder that the new understanding of European energy security in the context of the energy transition has not yet been clearly defined by the EU institutions, and cannot in any case be reduced to a simplistic construct. On the contrary, it is very much a moving concept that is constantly evolving to reflect the evolutions in our economy and societies and the available technologies, data and practices. Energy security will continue to affect all layers of society, and its strategy will need to evolve in line with those societal transitions.

It is essential that a new understanding of European energy security is not characterised by short-term, quick fix ideas that reaffirm the old fossil fuel model: it must be founded on a long-term, systemic, sustainable vision of European needs, resources and technology options, all coordinated at the EU level. It thereby has to build on the strengths of wind, solar and other renewable energy sources, and give high priority to sufficiency, efficiency, demand flexibility and energy storage. Below, we dive deeper into several aspects that are critical for such a future-fit sustainable energy security vision.

A post-fossil fuels concept of energy security

Shifting to sustainable and reliable energy sources

Sustainability and reliability are crucial to making sense of the concept. Even if fossil fuels will continue to feature in Europe's national energy mixes – in the short term, at least – there is no doubt that the structural answer to the EU's energy security issues includes the expansion and development of renewable energies. Many green energy technologies, as well as the EU's crucial move towards electrification, are highly dependent on critical materials such as copper or nickel.

However, the global market situation for such materials is far from stable, and the EU risks exchanging its unreliable, Russia-heavy dependence on fossil fuels for a similarly precarious dependence on critical materials and products containing them.

The fierce competition between the US and China for dominance in green tech has led to a kind of arms race between them, with occasional spats in the form of export bans;

but it has also resulted in multi-billion state support for the sector in both countries. Europe risks being outperformed by both protagonists and consequently finding itself in a weak, dependent position once again.

At the same time, new economic and geopolitical axes are being formed across the world on the basis of availability of green transition materials and manufacturing capacities, both current and potential. How the EU engages within this geopolitical field, especially in relation to countries in the Global South, is something requiring urgent reflection. This means considering the whole of the value chain and linking its domestic and foreign aspects.

Environmental and social standards

If the transition to the new energy security is to be achieved without creating new vulnerabilities, there must be planning to maximise use of Europe's local energy resources. This will require comprehensive studies into issues such as the presence of critical materials in Europe, as well as the best, most sustainable mining practices in terms of environmental and social standards.

These environmental and social standards are, of course, equally crucial when it comes to imported resources, since there is a risk that new energy supply chains could replicate the injustices of the neo-colonial practices associated with fossil fuels. In its past, Europe dealt with threats to the security of its energy by means of strong-arm diplomacy and military pressure. It would be unjust, dangerous and counterproductive to replicate this model. It is concerning that the "friendshoring" being increasingly advocated in European energy security discussions could be prioritised over opportunities for equitable climate action partnerships with vulnerable countries to help both their and our clean energy transition[14].

New infrastructure

In addition to massive investment in renewable energy, it will also be essential to direct efforts towards the electricity grid. The switch to reliable, clean energy can only happen if renewables projects are able to connect to electricity grids, but this is complicated by the fact that these are state-owned in some countries and privatised in others. The green transition will require an overhaul of the current set-up and huge improvements in grid connections.

Additionally, cyber security will continue to grow in importance and needs to be put at the heart of the European understanding of its energy security.

Demand side

Finally, it would be misleading to suggest that the energy transition only requires the replacement of abundant fossil fuel energy with abundant clean energy. While it is true that the resources used in a green economy have far less environmental impact, they are nonetheless finite, and come with social, environmental and international consequences. It is therefore of great importance that European thinking be balanced towards the demand side of the transition. A focus on sufficiency, efficiency and circularity will result in less energy being required – and this will significantly ease the challenge of greening the energy need that remain.

Balancing government institutions, market logic and investments

Government institutions

Europe's policy-making bodies are currently too weak to properly navigate a route to strengthened energy security. They simply do not have either the resources or the knowledge to monitor, gather, process and interpret the vast amounts of data with the required expertise to inform a strategic approach to the issue. The result is a lack of clarity and predictable policy.

There is a worrying trend for policymaking bodies to fill these gaps by outsourcing critical policy processes to big consultancies, rather than by investing in building institutional knowledge in Brussels and national capitals. The current approach relies too much on expertise and data provided by private corporations whose prime concern is to ensure their profitability, not the energy security of the continent and its citizens.

The transition to a new model will inevitably require the general public to make changes and exercise restraint, and this will only be accepted if the information they are given about who is doing what, and for what purpose, is accurate and not distorted by propaganda from vested interests. More and better-managed data creates greater resistance to disinformation, manipulation and nefarious political campaigns.

This lack of institutional capacity can also be seen in the development and scale-up phases of clean energy transition projects. Many Member States experience difficulties in finding mature, "good" projects to fund, but lack the ability to step in with expertise. Better institutional follow-up of potentially interesting projects through the provision of guidance and support would contribute to the maturation of projects relevant to European energy security.

Strengthening the policymaking institutions would also aid cooperation between the EU's governments. The first few months of the energy crisis in Europe were a reminder that not all the lessons from the pandemic have been learned and assimilated. Lack of cooperation and the prioritisation of national prerogatives has been detrimental to the energy security of Europe's citizens.

Markets

Building the new European green energy security will require market design reforms. The current market instruments used to ensure the energy transition and EU energy security have reached their limits. The widely acknowledged shortcomings in the wholesale electricity and global fossil fuel markets show that the unguided free market is no longer trusted, either by citizens or by companies seeking to invest in the energy transition.

Grids play such a key role in the green, energy-secure transition that the operators of transmission and distribution systems have become key players. They should be encouraged to take a more strategic role in helping governments to devise ambitious infrastructure programmes. Key focuses should thereby include: fairness; the creation of opportunities for system value in the electricity sector, not just a focus on commodity prices; the decentralisation of supply and demand; and flexibility. The market design needs to focus on phasing in innovations such as digitalisation to match renewable energy to users, and phasing out the use of coal and gas for electricity generation.

Finances

Finally, we need to adapt the ways financing is made available, governed and directed. The EU institutions are still mostly restricted to controlling the rules governing the market. They need to be able to influence investor

confidence more actively, and more actively support system-valuable projects (and not just at trans-European borders, as with the TEN-E programme).

A new, secure, sustainable energy system should not be concentrated in the hands of a small number of players. European fiscal rules could be a powerful vehicle for the delivery of change on this level if they enabled Member States to invest in the green transition; yet, as they currently stand, these rules over-emphasise austerity and fiscal discipline. A recent report by the New Economics Foundation showed that only four Member States, representing 10% of EU GDP, have the fiscal space and budgetary capacity to deliver investment in line with the 1.5C target[15]. By limiting Member States' fiscal capacity to levels that prevent them from investing in the transition to the clean and secure energy systems required to turn the long-term vision into reality, these EU rules have become a huge part of the problem.

The social aspects of energy security

Energy poverty is a serious and growing problem that takes many different forms and varies significantly between one Member State and another, and clearly needs to be addressed as part of any discussions about energy security. While it would be unwise to predict developments in the war in Ukraine or which of the next few winters will be particularly cold, current trends suggest that the EU is facing potential crises in energy costs for at least the next five years. The conjunction of a mild winter in 2023 and a Chinese economy in lockdown made the first year of being weaned off Russian gas rather easier than had been feared. But even with the precautions it has already taken, the EU remains vulnerable to harsher weather that could increase energy poverty still further or even lead to energy rationing.

National responses to the EU-wide commitment to reduce gas consumption by 15% have been both incomplete and socially unjust: an EEB study published in May 2023 found that "only 14 of 27 EU states have adopted mandatory measures to reduce energy" and, worse, that "governments refraining from mandatory reductions for business and industry are shifting the burden of the energy crisis onto the most vulnerable citizens"[16]. These concerns are shared by the Right to Energy Coalition and many NGOs dealing with energy poverty in Europe, who correctly stress that energy supply crunches and thus energy security cannot be seen separately from their effects on inequality in societies and that, in their scramble to address the crisis, government approaches have been too short-sighted and have failed to tackle the structural energy deficit and its structural effects on societal inequality.

Engaging the public in more structured ways is another prerequisite for the creation of resilient – energy secure - transformative policies. One way to achieve this is through education: the school curriculum needs to include the energy transition as well as climate change. Participative democracy and citizen involvement in policy-making has worked well in other parts of the world to persuade communities to embrace renewable energy infrastructures.

This topic will be explored further in this report's sections on the social and on the democratic dimension.

Political proposals

The above reflections on the current state of play, introduce the necessity of a drastically new way of approaching energy security in the EU.

Updated strategy

The 2014 Energy Security Strategy has long been outdated[17]. It still relies in parts on fossil fuels and fails to recognise the magnitude of the climate crisis and the resulting need to put sufficiency, efficiency and clean energy at the heart of EU energy security policy. Neither does it take account of the huge technological developments that have taken place in the last few years.

The EU now needs a new, green vision for its energy security and a corresponding European Energy Security Strategy that Member States and the European public can rally around.

These should not be restricted to crisis management, but must also involve medium and long-term planning for a fair energy transition. Europe's understanding of energy security needs a re-think in line with today's realities, based on energy that is zero-emission, reliable and resilient. Sound analysis will be key here, and should lead to the adoption of a systemic, up-to-date understanding of energy security that balances the supply- and demand-side factors. This will require EU energy security[18] to be defined on the basis of the reliability and sustainability of resources in the new geopolitical, technological and social context.

A prerequisite for this modernised strategy is that the energy transition must be put at in its core. As one of our Knowledge Community experts recently stated, "Security today depends on answers that meet the needs of our technological achievements, not ones that look to old solutions"[19].

The shift to clean energy and electrification comes with new energy security dynamics, opportunities and vulnerabilities that all need to be addressed:

- The EU must both match the scale of US and Chinese global partnerships with respect to the materials needed for the transition to clean energy, and do so on the basis of a) genuine climate action partnership with emerging markets and developing economies and b) best practice sustainability standards (in minerals mining, for example), both in Europe and elsewhere. Europe needs to develop amicable and constructive partnerships with its neighbourhood and beyond in respect of climate, clean energy, security and critical materials. A key objective should be sincere, cooperative and mutually beneficial energy transition partnerships with African countries. There must be no "green colonialism" of energy supply.

- Environmental and social safeguards must be at the heart of energy security frameworks. Energy security does not exist in a vacuum: strategy must balance the security of supply with social, biodiversity and other cross-cutting areas.

- It is absolutely critical that Europe shifts gears when it comes to investing in improvements to the electricity grid, both by eliminating bottlenecks for the integration of clean energy production and by connecting Member States' intra- and inter-EU infrastructure.

- The new Energy Security Strategy must include an action plan to better equip EU and national public services to gather, monitor and assess scientific data to feed a strategic approach to energy transition and energy security. This must include investment in statistics organisations,

research labs, artificial intelligence and governmental communication skills. We would welcome the creation of a European Energy Agency with the necessary human expertise to intensively support analysis and data sharing, as proposed by Bruegel in April 2023[20].

Reflecting the new Energy Security Strategy in practice

Implementing this new strategy will require bold policy frameworks. It is clear that free markets alone will not deliver either energy security or the energy transition. Target-setting will not suffice, and nor will reliance on carbon price or spot prices in the energy market.

Shaping the rules and financial frameworks

The EU institutions need to work with Member States to provide more robust and more detailed guidance on what is needed in order to deliver the new green energy security, and the roles that businesses and citizens will need to play.

To avoid the risk of a backlash, policymakers must include the public in the transition, engaging with them in terms of the numbers, timeframes and practical implementation of climate and energy targets. Balanced decisions will be required. These may include special tariffs for certain groups of consumers, in the short term at least, while enabling these groups to take ownership of their own energy transition in the longer term.

The electricity market needs to incentivise the activation of desirable resources from a climate neutrality perspective, while respecting the principles of stable energy supply. It must reward flexibility, while also being able to handle dispatchable capacity. As the system becomes more decentralised, grid expansion must make full use of locational signals so as to reduce constraints on electricity transmission and distribution in an economically viable manner.

In addition to setting the rules, the EU and its Member States should lead by example on finance, and create wider fiscal space. The EU institutions can do this by making meaningful changes to the economic governance framework so as to reflect the new realities, thereby creating more space for future-proof clean energy investments. A central European funding mechanism for this kind of investment should also be created in order to balance capacity differences between the Member States.

Demand-side focus

Easy wins for energy transition and energy security can also be achieved through demand-side measures, such as support for energy efficiency interventions and tackling of overconsumption. Securing energy by decreasing demand through savings and efficiency is indeed the first no-regret hurdle to be cleared.

Measures of this kind need to have the desired social outcomes designed in from the start, however: many schemes to support citizens to reduce energy consumption have mostly benefited richer households that can afford additional investments. Key programmes should be redesigned to target and prioritise lower income households. Serious investment in insulating and modernising the homes of people who do not have the means to do it themselves is the fastest way of achieving a shared sense of energy security. The Social Climate Fund and related national plans are a step in the right direction but, as it stands, the Fund is far too small to meet the huge need.

Another, often overlooked, demand-side intervention with enormous potential is sufficiency. "Sufficiency policies are a set of measures and daily practices to avoid the demand for energy, materials, land, water, and other natural resources over the lifecycle of buildings and goods while delivering wellbeing for all within planetary boundaries"[21]. The sufficiency approach to energy reflects planetary boundaries and the EU's historical and current use of resources. Scholars and organisations including the IEA and the ESABCC point to the necessity of including sufficiency measures in the policy mix.

Energy security for all

Finally, but crucially, Europe as a whole will not be energy secure for as long as some of its people are still experiencing energy poverty. The frameworks need to address both existing and *potential* inequality. The effects of underdelivering on energy security hit the poorest and most vulnerable hardest. They also negatively affect the living conditions of a much broader, typically middle class demographic, thereby expanding the numbers of those most affected. Both these dynamics increase inequality in Europe. Building on the need for a systemic view of the issue, the prevention of energy poverty in its broadest sense needs to be at the heart of our concept of energy security.

Conclusion

Triggered by the climate emergency, cost-of-living crisis, geopolitical turmoil and fierce competition for the clean tech pole positions, energy security has evolved drastically over the last couple of years. The EU's energy security toolbox, however, remained roughly untouched and left the Union paralysed. It's high time to recognise the importance of this dimension of the Future of the EU's Energy Project. Bringing order into this toolbox, thereby making it fit to deal with a changed world, is fundamental if we want to ensure sufficient reliable and sustainable energy for all.

Endnotes

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Social Dimension

Expert contributions by Benjamin Denis, Joanna Maćkowiak-Pandera, Rosa Martínez, Antoine Oger, and Jesse Scott

Introduction

Lessons from the future

New York, 2140. The Earth has been through a mitigated version of climate change that has fallen short of major catastrophe but has nonetheless had profound effects. Countries have been reshaped, some parts of the world have been rewilded, and the coastline has of course been completely redrawn by floods and rising seas. The city of New York still stands but is now a city of lakes, a kind of 22nd century Venice. Its remaining buildings still reach for the sky, but they are now mostly energy efficient, even producing much of the food consumed by their occupants. Climate change is over, and the decarbonisation of the economy and the energy system was completed just in time to prevent systemic collapse. Everything is now powered by renewable energies.

It may all look different, but beneath the surface everything is exactly the same: the economy is still profoundly unjust, inequalities have gone through the few remaining roofs, and the wealthy still do what they want while the poor do what they can. Housing, especially, is in permanent crisis, resembling the plot of Kim Stanly Robinson's 2017 novel[1] in which tenants are in mounting revolt, a yuppie trader experiences a dawning of social awareness, and two hackers who "pikettied (sic) the US tax-code" in the hope of bringing more fiscal justice to the country are abducted.

State of play

The social blind spots of the transition

Robinson's reflection of a possible future is indeed purely fictional. The climate transition will in fact not be possible if the wealthy, who are also the biggest emitters, keep "doing what they want". Avoiding climate catastrophe means delivering a systemic transformation, which unavoidably includes tackling our societal and economic foundations and the inequalities they established. Despite its magnitude, this social dimension of the transition remains to be one of the most persistent blind spots in present-day debates on energy policy.

Notwithstanding growing awareness among the general public about climate change and its effects, there are ominous signs of an escalating social and cultural backlash against policies to implement the green transition. Sparked by a planned hike in fuel tax, the *Gilets jaunes* movement kept France on a knife-edge for 18 months with its sometimes violent weekly nationwide protests. These embodied a revolt on the part of the rural and suburban populations who – geographically, culturally and economically remote from the urban centres of power – were hardest hit by rising energy costs. One of the injustices exposed by their anger was the untenable duplicity of a climate policy based exclusively on sacrifices made by the poorest[2].

This backlash is not a solely French phenomenon. In 2019, another spectacular rebellion against green policies set the political scene in the Netherlands ablaze. In response to the government's plan to halve the country's livestock in a bid to cut national nitrogen emissions by 50% by 2030[3], Dutch farmers rallied *en masse*, and often violently, against what they considered an attack on their livelihood and their way of life. They shared an overwhelming sense of being unfairly treated, of bearing the brunt of climate change mitigation policies while what they saw as far bigger polluters were being let off the hook[4]. Their subsequent relentless mobilisation resulted in significant success for their *BoerBurgerBeweging* (Farmer-Citizen Movement) in the 2023 provincial elections. The results of the national elections soon after also revealed discontent among Dutch citizens, who voted in large numbers for the PVV, a populist party that wants to get out of the Paris climate agreement.

Throughout the EU Member States, a sense of anger is taking hold among less affluent sectors of society as the impacts of green policies are beginning to make themselves felt. This politically toxic feeling that environmental and climate policies have been designed mostly in the interests of more affluent, more educated, urban-dwelling citizens whose jobs are not at stake is being exploited by a coalition of vested interests, populist movements and climate change deniers.

The same thing is also happening at the EU level, in Brussels. When for example the European Commission's proposal for a Nature Restoration Law recently came before the European Parliament, fierce political battles erupted[5], with conservative and radical right MEPs taking up the metaphorical cudgels on behalf of disgruntled farmers, fishermen and forestry workers. Green policies – especially when they demand fundamental changes in the structure of our economies or in the ways we heat, move or work in our daily lives – are opening up an unexpected and troubling new front in the culture wars[6]. This development is at the heart of a worrying global trend of rising climate-scepticism[7] – in some countries at least[8]. However, despite this evolution, the 2023 Eurobarometer survey[9] shows that European citizens remain seriously concerned about climate change and want national and European policies to tackle it.

This all suggests that most citizens are feeling increasingly trapped between the changes to their homes, cars, jobs and behaviours necessitated by what they acknowledge to be a legitimate and urgent fight against climate change; and the increasingly unaffordable costs of these changes – all exacerbated by the ongoing cost of living crisis. In a nutshell: the EU Green Deal is under threat[10]. Experts agree that the EU and Member State governments may have greatly underestimated or even ignored the impact of the green transition on the social fabric (for example, Dennison & Engström, 2023)[11], and this is casting a shadow over the climate agenda after the 2024 European elections.

Lessons need to be learned from this. Narratives and policies must be more honest about the inherent contradictions of the transition, and more robust in how they deal with them. The social dimension encompasses these factors and is absolutely central to the success of the energy transition. Energy policies designed to fight or adapt to the climate emergency require massive investment, resolute political will, and serious mitigation of the social pain that their implementation inflicts on households, workers and entire regions. To be fair, the EU does not wholly ignore this social dimension, and does aim to counter the negative dynamics by means of its Just Transition framework as well as its Social Climate Fund which is due to launch in 2026.

However, neither of these initiatives is of a magnitude or strength to constitute a serious social proposition.

Reflections on the state of play

In order to move in the right direction, we first need to know exactly what is meant by "the social dimension". More concretely, we need to identify where the EU's energy project involves incongruencies, issues and needs from a social perspective. There are a number of areas to be considered

Equity, household consumption and energy distribution

According to the European Commission, energy poverty in Europe is on the rise. "In 2022, high energy prices together with the cost-of-living crisis meant that an estimated 9.3% of Europeans were unable to keep their homes adequately warm, compared to 6.9% in 2021"[12]. But there is more to energy poverty than just the fact that in 2022, 41 million Europeans could not keep their home adequately warm. Energy poverty correlates with poverty in general, and is an exacerbator of existing inequalities, for example in terms of geography and gender. Housing and transport are key to any discussion about energy poverty. The cost of moving around is a crucial – and difficult – issue for many poorer households, especially those in rural and peri-urban areas, who remain highly dependent on their cars for basic daily activities and lack reliable public transport options. This price sensitivity was clearly demonstrated by the *Gilets jaunes* crisis. The energy project as a whole is therefore inherently linked to (in) equality in the EU.

Energy poverty may form part of the National Energy and Climate Plans, the Just Transition Plans and the forthcoming Social Climate Plans, but the related funding is far from adequate. In addition to the gap at the level of scale, there are also issues with the accessibility of the available funds, and with ensuring that funding is targeted at those who really need it. The plans currently on the table are simply not enough to lift people out of energy poverty in the long term. Furthermore, citizen participation and calls for deeper reflection on the democratic aspects of the energy transition are often overlooked. This forms the subject of a separate section of this report.

The issue of equity is directly connected with the affordability and deliverability of the clean energy transition. There is a simple core question here: how can a transition for all be assured when a large proportion of the population cannot afford the goods and services required for it? Researchers have highlighted the correlation between inequality and behavioural change for net zero. Kukowski & Garnett[13] argue that policies and psychological approaches "often overemphasize individual agency, thereby overlooking how socioeconomic inequality can constrain access to low-carbon alternatives". Home renovations offer a good illustration of the failure of these consumer-driven policies, with mostly richer households benefiting from the subsidies put in place. The same can be seen with urbanistic, commercial policies promoting the shift to clean mobility. Multiple support schemes for the purchase of electric vehicles which again benefit the wealthier classes. At the same time, comprehensive, high quality, inclusive clean public transport remains elusive in most countries. Such government initiatives, that have not been properly thought through and that consequently initiate systems that exacerbate existing inequalities, unavoidably create more paralysis than impetus for change.

The lack of attention to tackle the green transformation's affordability and deliverability questions also show clearly in several crisis responses. Governments have

primarily focused on mitigating rising energy costs in the short-terms, rather than on tackling the root causes and smoothing the green transition. The Institute for European Environmental Policy (IEEP) has published a comprehensive qualitative analysis of the measures taken to deal with the crisis[14]. The hundreds of billions of euros[15, 16] provided by national governments to soften the energy shocks for their citizens mostly look more like pacifying and placatory measures, rather than ways to seize the opportunity presented by the crisis – to accelerate the transition in an equitable way. Wealthier, western Member States often cut fuel duty, for example, which generally had a regressive effect. By contrast, energy price caps – which were more often used in central and eastern European countries – and direct payments to those on the lowest incomes had a progressive distributional impact.

Demand reduction is another important part of the picture, but is often left out. The war in Ukraine has led the EU to pay more attention to energy efficiency and savings but its energy project as a whole does not focus enough on efficiency, let alone sufficiency. As stated in the section on the energy security dimension, a focus on sufficiency and efficiency would lead to a reduction in the amount of energy required, which would in turn make it easier to green the energy needs that remain and reduce the overall costs of the transition. This would then free up capacity and resources to strengthen its social dimension.

Cultural capital is also relevant here: the ability of European consumers to access information about the availability and suitability of options for their own energy transition. Part of the frustration at the root of the current backlash comes from people feeling that they are paying the price for their governments' failure to foresee the long-term consequences of their policies. Having followed their national governments' advice to buy diesel cars, for example, many households now find themselves being penalised for having done so.

Finally, there is an important social dimension to the way in which companies supply energy to European households and businesses. Consumers' ability to manage their usage relies on data and transparency, but these are currently far from ideal. The details provided in electricity bills are difficult to understand. Households need easy access to information about how much energy they are consuming. They need to be able to see how much electricity is being consumed by which appliance, and if that depends on how or when the appliance is used. We discuss this further in the democratic dimension section of this report.

Jobs and skills

Social acceptance of the energy transition will depend on there being a future for those whose jobs it threatens. Switching from a world powered by energydense fossil fuel molecules to one powered by clean electrons will not just entail geographical changes in terms of mining and sourcing, but also huge shifts in employment and the world of work. Whether we are talking about engineering, construction, installation or repair, the transition is already generating new jobs, or green versions of traditional ones, and these all require new kinds of skills.

The anxiety of many workers whose skills and careers currently depend on fossil fuel industries – be that extraction, steel, or car manufacturing – is palpable. It is essential that we learn the lessons from the fates of industrial regions like Lorraine, Borinage or Yorkshire in the 1970s: leaving a workforce without prospects for the future results in economic misery which in turn breeds social despair and, ultimately, political radicalisation.

However necessary for Silesia, Lusatia, the Jiu Valley and Bohemia, the Just Transition Plan's limited focus on supporting the EU's coal regions through the transition is outdated. Moreover, the reasoning behind it focuses solely on ensuring that active workers find places in the new job market. (We discuss this further in the next section.) It thereby falls short of supporting the delivery of community and regional development plans that also include in the transition those groups that do not currently have employment contracts (many women, migrants)

There is a general lack of systemic forward thinking and planning from local, national and EU governments. Shortages of engineers with the ability to install heat pumps, for example, have become regular issue across Member States[17]. In this respect, the EU does not bear comparison with the USA, whose Inflation Reduction Act not only provides tax credits for energy projects, but makes them conditional on the creation of an apprenticeship scheme[18]. In order to develop this kind of planning and incentivise a smooth transition in the labour market, more and better data are needed. This includes more accurate information on the skills required, and for which purposes, and where the gaps are. EU institutions and governments still too much resemble cartoon characters trying to plug holes in the dyke with their fingers. In addition, many clean energy-related technical qualifications and certifications are not mutually recognised within the Single Market. This is a huge bottleneck for the intra-EU distribution of available competences and thus for the energy transition as a whole.

There will be no consolidation of the energy transition without the support of workers. A socially just transition will therefore only be possible if the inevitable profound overhaul of our economic system is accompanied by an ambitious, fit-for-purpose plan to develop the European jobs and skills of the future. It is essential that newly created sectors offer high quality employment, i.e. jobs that are well paid, unionised, safe and fulfilling.

Finally, we cannot talk about jobs and skills without also considering education. Governments' lack of interest and investment in schools and lifelong learning programmes is particularly detrimental: education systems have been gutted by years of austerity and the poor allocation of resources. Individuals choosing to train in green technologies should therefore be supported by student funding and public grants, especially if they are seeking to re-train mid-career.

Territorial and global impact

We now move on to the social justice gap that exists at both the intra-EU and global levels in terms of sourcing clean energy materials and the deployment of renewables. Taken together, the EU's Green Deal Industrial Plan, Net-Zero Industry Act and Critical Raw Materials Act are modest steps in the right direction here, but fall short of delivering the serious industrial policy framework required in order to navigate Member States through their respective transitions in a socially and environmentally just way.

Europe's industrial framework must be about more than mere competitiveness and reducing red tape by means of measures such as allowing exceptions to standard approvals processes, often without adequate environmental or social safeguards. Serious risks arise when (often gigantic) clean-tech projects bypass existing legislation on social contributions, employment conditions or collective agreements, or fail to ensure the consent of local communities, or ignore the environmental protections required by law. This is another crucial factor for public acceptance of the transition.

Both the deployment of renewable energy and the sourcing of materials need to be handled with the utmost care and transparency, and on the basis of best social and environmental practice. This will require whole-of-value-chain thinking, both at home and abroad. It is needed at home in order to get European citizens on board with the Green Deal. As pointed during an interview one of our Knowledge Community experts conducted, this can only happen if people are genuinely included and given a seat at the table: "A lot of the resistance to renewable energy projects comes from people feeling like they don't have a say. Many conflicts are the result of a lack of information. […] We need to make transparency, information, and citizen participation processes mandatory and improve their enforcement"[19]. Abroad, it is needed in order to avoid replicating extractive models and instead facilitate genuine partnerships. Partnerships with other countries must be mutually beneficial and fair, and have global social justice considerations at their core. The Knowledge Community's thinking on the global dimension of the EU's energy project is developed further in the sections on the climate and energy security dimensions of this report.

The financial elephant in the room

Thinking about these gaps unavoidably brings us to the topic of financing the transition. Addressing the social dimension of the EU's energy project will need to involve a range of financial actors: public money will be needed for strategic aspects such as demand reduction, renewables infrastructure, education and skills; private finances will need to follow; and banks have to take drastic action to align themselves with just transition objectives.

The current EU approach to its finances is constraining government investment through an insistence on fiscal prudence and a lack of funding mechanisms. The Stern Review published in 2006[20] provided hard data on the investment required in order to avert the climate emergency, leading to hopes that the "strong action" it urged in order to "avoid the worst impacts of climate change" would be taken. Unfortunately, the apparent goodwill and public pledges to step up and meet the greatest challenge of our times that followed the review were nipped in the bud by the financial crisis.

Today, the EU itself estimates that in the energy and transport sectors alone an additional €477 billion will be required every year until 2030 in order to achieve the goals of its Fit for 55 programme[21].

Some of this investment must come from the private sector, but we do need our governments to lead the way, and this does not seem to be happening at the necessary scale. From an EU perspective, it will not be enough to focus on state aid, since this comes with unwanted consequences in terms of Member State cohesion. Poorer countries with limited fiscal space would continue to be outcompeted by wealthier Member States, as happened with Germany's response to the energy crisis[22], and France's energy shield[23].

Much of this could be solved by serious reform of the European Economic Governance Framework. Ever since 2009, Member States' ability to invest has been constrained by a constant narrative of fiscal righteousness. The rules prevent governments from making the investments needed to transform and future-proof their economies and societies.

They not only delay and weaken the implementation of environmental and climate policies, but also cripple public administrations in their ability to deal with the technical, monitoring and organisational aspects of the transition. This austerity approach has led to continual reductions in staffing levels, with a consequent loss

of know-how and capacity. There is a shortage of civil servants with the relevant expertise across the EU countries, with those who remain working in dire conditions without the necessary human, technical or material resources. Resignations, sick leave and burnout further deplete capacity, and the resulting delays have become so normalised that red tape and administrative bottlenecks are now recognised as one of the main obstacles to the delivery of energy policy. This also makes it difficult for public administrations at both the regional and national levels to absorb and utilise the EU money they receive, especially with the influx from the EU recovery fund.

In addition to weakening national and regional administrations, this also has political implications for Member States, where governments find themselves trapped by the timing of their electoral mandates. When governments are focused on getting through the next few months without being publicly shamed for not obeying EU fiscal rules, while simultaneously placating voters' anxieties and in many cases campaigning for re-election on the basis of their crisis-management skills, decision-makers are not embracing the long-term policy-making that Europe needs. This muddle-through approach results in small-scale interventions and inefficient, short-term public funding, further widening the investment gap created by their limited fiscal space.

Fiscal rules that irrationally limit governments' ability to deliver transition investment are one part of the problem, a lack of central European transition funding is another. Civil society has criticised the limited scope of the funding available for the just transition, and warned of the ominous approach of the post-Next Generation EU era, when central EU funding capacity is set to shrink enormously. This European funding capacity is critical for maintaining solidarity and coherence between Member States.

Overcoming these public finance bottlenecks will not be enough, however: a just transition also requires private money. Private loans must be made available to municipalities to develop district heating systems, for example, and to private property owners to retrofit their homes; and private investment also needs to flow into new-generation infrastructure, etc. Sustainable finance rules and transition regulations for the private sector are being established, examples being the EU's Green Taxonomy and the Corporate Sustainability Due Diligence Directive (CSDDD), though experts have scrutinised the lack of coherence between the different schemes[24]. With regards to the new CSDD Directive, criticism on its hollowed out final version is currently moreover omnipresent, due to the last-minute narrowing of the scope and creation of loopholes, which leave a big chunk of companies free to continue to turn a blind eye to environmental and human rights violations in their value chains.

Political proposals

Strategic planning for a collective, socially just European energy project

The social dimension is key to the success of the EU's energy project. Not only is it essential for the delivery of the transition, both in terms of generating support for it and of making it possible to create a sustainable, green economy and society in practice, but it also enhances and strengthens the political legitimacy of the European Union as a whole. By putting social concerns at the heart of its policy and legislative agenda and turning the Green Deal into a social deal too, the EU will address the needs of its citizens more directly and create real motivation for citizens to play an active part in the transition. Strengthening the strategic frame of reference while leaving room for manoeuvre at the Member State level will make it possible to create a Social

Green Deal that can move us all forward. How can this be achieved in practice?

A socially just transition requires comprehensive, far-sighted public policies that focus on a collective future and citizens' well-being. It is high time the EU moved away from its market-based, individualistic approach to the transition towards a planned, collective one. The current consumption-driven approach, based to a large extent on reactions to price-signalling, will only continue to engender frustration and resistance, but a strategic plan that tackles inequalities at the same time as delivering the energy transition could be an attractive, shared European project around which voters could rally.

A strategically planned revision of the EU's energy project on the basis of cross-sectoral expertise, enhanced data collection and proper analysis of the various resources and needs and how they can be met, would turn the Green Deal into something that is also socially just and collectively supported. As discussed in the previous chapter, the social dimension of energy cuts across multiple policy domains. This approach therefore needs to be adopted in energy policymaking as a whole, as well as in all policy areas impacted by it. A way of putting such this into practice, and currently advocated by Trade Unions, the European Parliament and the EESC, is to establish a Just Transition Directive, and a Just Transition Observatory[25].

Below, we propose some concrete political angles that should be included in the switch to a more planned, informed and collectively focused EU.

Equity, household consumption and energy distribution

Eliminating energy poverty in all its forms must become the EU's number one priority across multiple policy areas. Energy poverty is not limited to a small group of the most vulnerable: it impacts a large proportion of the middle classes in all European countries too. Current policy efforts to eliminate it are too narrow and often based on insufficient data, yet the need to combat it is self-evident. Since energy poverty correlates strongly with other social inequalities and divisions – gender, age, geography, etc. – its elimination will indirectly strengthen equality within and across EU Member States. And these are the very inequalities that politicians need to tackle in order to bring about the behavioural changes required for the energy transition. But how can this be done?

Establish a basic right to energy, i.e. the right to a basic level of consumption free of charge (enough to cover essential items such as basic appliances, Wi-Fi and lighting), combined with access to clean, efficient and affordable transport to ensure access to education, medical care, jobs and leisure.

While providing this basic right to energy, public measures and subsidies must continue to accelerate fossil fuel phase-out. A focus on more vulnerable groups is required here, to ensure that they can become active participants in the energy transition. One promising but as yet underexplored policy tool here is the provision of green vouchers and green basic services, that for example could be applied to insulate homes, use public transport, purchase and install a heat pump or solar panels. A systematic approach to greening existing social housing must accompany this.

At the other end of the spectrum, efforts to reduce the overconsumption of energy must be intensified. Creating a strategic

plan for the long-term common European energy project means taking sufficiency seriously. Concrete policies to deliver this include frequent flyer levies, higher taxation of big/over-consumers and a retargeting of subsidies away from private electric cars to clean public transport, to just name a few.

The EU must also take a stronger role in setting transparency and information rules for national governments. If citizens are to be enabled to become active drivers of their own energy transition, they must be given robust, clear information and guidance, as well as tools to navigate their options for renovation, construction and sustainable transport.

Jobs and skills

It is not only households that are struggling with the impact of the transition. Businesses, industry and workers are also having to adapt at pace. The clean energy transition does not only present opportunities for employment, the environment, biodiversity and the social fabric of the regions: it also brings new risks, and these need to be identified and mitigated. Planning for a common approach to ensuring a socially just EU energy project must take this to heart.

The European industrial framework needs to be stronger and more planned. From the social perspective, it is essential that conditions be imposed on the establishment of new businesses and the transformation of existing ones. These conditions need to be enforceable, and to feature more prominently in the EU's industrial policy framework.

In parallel with this, the EU needs to update parts of its employment and skills policy to adapt them to this new clean economy. The jobs created along the way must be good ones: well paid, safe, and with strong workers' rights. Trade unions are an important actor in making this happen, and should therefore be a key point of reference for new industrial and employment frameworks. We have identified a lack of equal opportunities in terms of access to new, high-quality jobs. A planned strategy can solve this. Efforts must be made to ensure the inclusion of women and other social groups that are under-represented in industrial jobs.

The skills required for these new jobs obviously differ from those that were needed in the pre-transformation economy. New strategies for training and educating workers to acquire and develop the skills required for the transition are essential. Fiscal conditionalities along the lines of those in the USA's Inflation Reduction Act can be put in place to incentivise private businesses to play their part in the common project.

Finally, a shake-up of education at all levels is required. The new skills required must be taught in schools and higher education institutions, and in a way that tackles current educational inequalities. It will not be enough for Member States to create new qualifications, however: these need to be recognised throughout the EU. A well-functioning common European energy project will require the EU to speed up its work on ensuring that skills and qualifications are recognised across all Member States.

Territorial and global considerations

Putting this planning into action will require the utmost care and transparency across the board, as well as the implementation of best practice in terms of social and environmental conditionalities both at home and abroad through whole-of-value-chain thinking. The strategic planning for a collective social European energy project must become an exemplar with regard to the global dimension. Policy impacts on other parts of the world must be given far more consideration in long-term planning and strategy[26].

Financing the strategic plan

It is now clear that the spending capacities to deliver the transition must be expanded. This will require a balanced combination of new money, new paradigm and new tax system.

Future-proof government investment that helps deliver a socially just energy transition should be incentivised, not discouraged. From a long-term perspective, it is only logical to exempt these kinds of investment from fiscal austerity. Put simply: in its current form, the EU's economic governance framework is an insurmountable obstacle to strategic long-term planning for a common, socially just European energy project.

Fixing the EU's fiscal rules will not be enough, however. New central EU resources will be required too. We argue for an expanded central financial capacity along the lines of the NextGenerationEU. This additional capacity will be critical to maintaining and strengthening intra-EU cohesion and solidarity.

The state aid framework must also be revised since, in conjunction with the expanded financial capacity discussed above, this would also help revitalise the infrastructure. This revision must however draw lessons from past failures such as the liberalisation of the freight sector.

The enormous power of private finance must also be harnessed. Public policy must help unlock private finance for both business and domestic retrofitting and energy transition. This includes steering banks towards providing access to cheap loans to personal customers for domestic renovation projects, as well as to municipalities for improvements to their district heating systems, public transport, etc. As discussed in the energy security section, it also means setting rules. Important first steps have already been adopted in terms of corporate due diligence, but it remains essential to close remaining gaps. No European business should be allowed to ignore human rights, social impacts and environmental harm in their value chains.

Finally, tax systems need to be overhauled, with measures ranging from windfall taxes to tax credits for poorer households to help pay for retrofits and other home projects that contribute to the energy transition.

Conclusion

When we start looking beneath the surface it quickly becomes clear that the European energy project cannot garner widespread public support without a fundamental rethink of the way our society is organised. The political proposals are above all else a call for a drastic revision of how the EU – including its energy project – is structured. Implementation of the above proposals would almost certainly require treaty changes, and the current political atmosphere is not exactly enthusiastic about new federalist leaps. Nevertheless: in the same way that the European community built itself on the basis of a common project for peace and reconciliation, it could now reinvent itself on the basis of a socially just transition towards a green transformation of society.

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Climate Dimension

Expert contributions by Benjamin Denis, Joanna Maćkowiak-Pandera, Rosa Martínez, Antoine Oger, and Jesse Scott

Introduction

European climate action is intrinsically linked to the questions surrounding its energy project, underscoring a critical intersection of environmental sustainability and energy in all its dimensions. As Europe intensifies its efforts to combat climate change, driven by commitments to the Paris Agreement and the European Green Deal, the focus on transforming energy systems has become paramount. This transformation involves a comprehensive shift from fossil fuels to renewable energy sources, the integration of smart grid technologies, and the enhancement of energy efficiency across sectors. These changes not only aim to reduce greenhouse gas emissions but also address pressing issues of energy security, economic resilience, technological innovation, democracy, and so on. Consequently, the dialogue surrounding European climate action and energy systems delves into complex questions about the feasibility of rapid transitions, the socio-economic impacts of energy policies, and the geopolitical ramifications of shifting energy landscapes. Understanding these dynamics is essential for forging a sustainable and secure energy future for Europe.

A slow awakening

By the late 1980s, the enormous environmental damage caused by the western-led model of industrial development started to become increasingly clear. In that context, the concept of "sustainable development" made its first appearance in 1987, with the UN-commissioned Brundtland Report entitled *Our Common Future*[1]. It was proposed as an attempt to address the concerns that scientists had been voicing, for example through the *Limits to Growth* report published by the Club of Rome in 1972.

"Sustainability" meant that growth and material wealth should no longer be pursued at the expense of the future but should take a range of factors into account: the environment, the planet's ecological balances and capacity to regenerate the depleted resources, and human health and well-being. The reign of fossil fuels had to be brought to a close, otherwise the planet would become unsuitable for life in the near future. Humanity had to change its ways, starting with the energy system powering the world's economy, and it had to become sustainable. In other words, it was time to re-evaluate our sense of history and stop sacrificing future generations for our present comfort.

Early in the decade that followed, and eleven years before Greta Thunberg was even born, another young person stood in front of an audience of world leaders, officials, diplomats and politicians to reclaim her generation's future. Severn Suzuki, from Canada, was just 12 years old when she spoke on behalf of the Environmental Children's Organization at the 1992 Rio Climate Summit.

This Summit took place in a specific moment in time. The Cold War was history and so, in theory at least, was world division. But just as globalisation was about to take off, the

world was also waking up to the fact that the immense wealth accumulated by some of its nations was coming at the expense of the future – both for humanity and the planet itself.

The identified issues were not limited to the toxic chemicals, dwindling wildlife habitats or ozone layer depletion lamented by Suzuki and her friends. There was also a less tangible, but even more deadly phenomenon to confront: the terrible impacts that the emissions created by the industrial revolution were having on the entire atmospheric system. The International Panel on Climate Change (IPCC), set up in 1988, had by then made clear that, whether we were calling it "climate change", "global warming" or "the greenhouse effect", it went far beyond mere weather or pollution. And according to the Panel, it was systemic, multidimensional, complex, lethal – and almost certainly man-made. The very first IPCC *Assessment Report* (1990)[2] moreover emphasised that the challenges posed by climate change demanded strong international cooperation and explicit commitment from the so-called "developed world" whose material prosperity and world dominance were actually the root cause of the looming catastrophe.

State of play

The EU as an early mover

The EU was among the first political entities to accept the challenge. The United States had declined to assume any historical responsibility, declaring at the Rio Summit that "The American lifestyle is non-negotiable". It later refused to ratify the Kyoto Protocol, the purpose of which was to gain international commitment to take action against climate change, along the lines of the Montreal Protocol that had successfully addressed the depletion of the ozone layer[3].

Europe, by contrast, assumed moral and political leadership on the issue[4], defining concern for climate and the environment as one of its aims and policy drivers, and thereby in effect setting the timeline for the rest of the world. In 1992, the year of the Rio Summit, the Maastricht Treaty made the environment an official EU policy area. In 1997, the year of the Kyoto Protocol, the Treaty of Amsterdam established the duty to integrate environmental protection into all EU sectoral policies "with a view to promoting sustainable development". And in the wake of the failed Copenhagen Conference of the Parties (COP) in 2009 and the successful Paris one in 2015, the Lisbon Treaty set combating climate change and ensuring sustainable development in its relations with third countries as a specific aim. In 2019 this culminated in the Green Deal, which sought to accelerate the pace of the energy transition within an ambitious, overarching framework for the green transition as a whole[5].

Europe's unique commitment to fighting climate change is not coincidental of course. Not only is it in the EU's material interest to wean its energy system off costly imported fossil fuels, but both its form of governance and the social and cultural background to its creation make it an obvious path to take. The essence of the European project is cooperation and compromise for the purpose of addressing issues of a transnational nature – pollution and the environment being obvious examples. Moreover, transitioning to an alternative economic model is not wholly unthinkable in Europe. As early as the 1970s, environmental, anti-nuclear and anti-consumerist activism had already become a political force with its radical criticism of the path being taken by Western societies and its aspirations for a better world, both socially and environmentally. A few years later this activism began to acquire an organised political form. Europe's Green parties started out in the 1980s as whistleblowers, but by the

dawn of the 21st century they had become seasoned political players with government credentials.

High noon for climate action

At first sight it would seem that EU climate policies have achieved significant results[6]. According to the Commission's own calculations, "Since 2005, the EU ETS has helped bring down emissions from power and industry plants by 37%"[7]. The European Environment Agency estimates that greenhouse gas emissions in the EU27 "have declined rapidly in recent years, falling to 32% below 1990 levels by 2020" (p.16)[8]. The 20-20-20 targets set by the Horizon 2020 programme have all been met[9], though these successes could be partly due to the modesty of the ambitions[10], as well as the economic contractions caused by the 2008 financial crisis and the 2020 pandemic.

From extreme temperatures to violent weather events, the evidence for rapid climate deterioration has been accumulating. The incremental steps of the last few decades are no longer enough. To some extent, this urgency has found its way into EU policy. The Climate Law, the Green Deal and the Fit for 55 package all demonstrate increased ambition, including through the establishment of a legally binding target of carbon-neutrality by 2050, as well as through the aim to shift from fossil fuels to renewable energy. Whether or not this is achieved will now be down to how well Member States deliver on their obligations. So far, however, actions have not lived up to the words. In June 2023 a scathing report from the European Court of Auditors (ECA) found "little indication so far that the ambitious 2030 EU targets will be translated into sufficient action" (p. 43)[11], and that the EU and its Member States "collectively lack ambition in pursuit of the 2030 energy efficiency targets"[12].

According to the ECA, the persistent funding deficit is an important factor in the lack of climate action[13]. Numerous scientists, economists and civil society organisations, too, have identified this funding deficit as a stumbling block. The European Climate Neutrality Observatory (2023)[14], for example, found that the pace of the transition is too slow and that it would take an additional 360 billion euros a year to close the gaps – both to shift quickly to a renewable energy system, and to conduct energy-efficient renovations and other energy saving measures. This figure pales into insignificance beside the numerous "carbon bombs" still being funded by oil majors and global and European financial institutions [15,16]. Despite the 2015 Paris Agreement, new large-scale fossil fuel projects are still being launched, and more are being planned. Banks play a huge role here: the world's 60 largest banks have lent 1.8 trillion dollars to 425 large-scale fossil fuel projects since 2015[17].

Meanwhile, the EU seems to have been seized by a kind of Green Deal fatigue in the run-up to the 2024 elections[18]. The climate crisis is becoming more apparent but so, too, are the less discussed social side-effects of green policies and, as their impact on European households starts to bite, public resistance is growing. Riding the wave of this rebellion, a coalition of vested interests, populist movements and climate change deniers is putting pressure on more centrist political forces; alongside calls for "regulatory pauses" from the French president, European right and centre-right parties are increasingly giving off worrying mixed signals[19, 20]. At the same time, criticism is voiced around the lack of a clear and attractive progressive and green vision surrounding the desirable future that the climate policies will make possible[21].

Reflections on the state of play

Time to act

The main question in relation to climate policies is rapidly shifting away from the "What?" to the "How?". Targets set the destination but do not impose a method for reaching it. It is time for the EU and its Member States to focus on fully implementing the climate policies and meeting the targets they have already collectively agreed. This is not an invitation for the EU legislator to stop raising the bar for the EU's climate ambitions; rather, it is a call to lawmakers at both the EU and national levels to be as creative as possible in finding ways to make the transition happen in practice.

It is now down to the Member States to do their job and implement the directives in accordance with their own energy mixes and national preferences, as guaranteed by the Treaties. From the EU perspective, this means the return of the eternal question as to whether national governments will actually deliver the energy transition, or whether they will instead wriggle out of their legal and moral obligations. Past experience is not encouraging here [1]: the example of France's reluctance to invest in renewables is a textbook case of what can go wrong when governments resist their EU obligations[22].

[1] Reviews of the famous Grenelle Environment Forum set up by Nicolas Sarkozy in 2008 are almost unanimously critical: the French State never provided the financial and administrative resources required to fulfill its promises.

The impact of Russia's war on Ukraine on oil and gas imports has created an incentive to accelerate the pace of investment in alternative, renewable sources of energy, and there has indeed been a shift since the invasion, RePowerEU's upscaling of the renewable energy target being an example. To follow through with this shift and double down on the climate commitments is the only reasonable option for Europe.

New needs, new concerns

The availability of the necessary critical raw materials will of course be crucial for the implementation of the transition. The EU has added the need to secure the resources required for its green technologies, industrial processes and sustainable energy production to its energy transition strategy. However, despite commendable efforts[23], it is highly likely that a combination of domestic and external factors will make it impossible for the sector to meet the projected huge increases in demand for some of these materials. At the same time, the EU's approach to critical materials does not pay enough attention to social and environmental conditionalities.

The external aspect of the EU's energy transition goes well beyond the question of resources, of course. Climate neutrality efforts within the EU are intrinsically linked with those taken beyond its borders. There are a number of layers to this. Firstly, when talking about the EU's emissions, we are usually talking about those resulting from its own production processes. These numbers are flawed, since they do not include the emissions generated outside the EU in order to meet EU demand for consumer goods and services[24]. Secondly, even if the EU delivers a fast and highly ambitious transition within its borders, this will obviously not of itself solve the global climate crisis, nor will it mean that European countries do not feel its effects. And thirdly, the EU has an important historic responsibility with regard to its emissions and ability to deliver the transition[25].

Europe's electricity grids are another area of concern, since they do not currently meet the demands of the energy transition, such as the ability to switch to renewable energy sources and handle the variability in power supply that they entail. "Efficient electricity grids are key for any Net-Zero Industry plan and for managing the demand for Critical

Raw Materials"[26], in other words: grids are the backbone of the transition to a clean economy.

Moreover, and as discussed in more detail in the social dimension section, far more attention should be paid as well at the EU level to demand-side mitigation measures. Sufficiency and efficiency are low-cost, no-regret measures that should be given a much more prominent spot in future European climate action.

Finally, the clean energy transition requires massive investment: in renewables, in energy efficiency measures such as home retrofits, and in training and skilling of workers. At the same time, fossil fuel subsidies and investment need to be eliminated at a much faster pace. This will require a clean-up across all policy domains and sectors. Both state and private sector investment must be directed towards the energy transition instead, while also tackling the enormous disparities between countries in terms of fiscal and investment space. The issue of financing has already been addressed in detail in a previous brief on the social dimension of the energy project, but is so important that it will inevitably feature in our political proposals on the climate dimension as well.

Diverging priorities

Member States' policy priorities and choices are often not fully compatible with the achievement of the European targets. The national energy and climate plans show a significant discrepancy between the agreed targets and national climate action[27]. Member States are not fully fulfilling their duties, and are thereby harming the EU's potential to commit to the Paris Agreement. Both the lack of climate action and actually climate-damaging policy choices result from a combination of poor strategic thinking, ballot-driven short-termism, and the inadequate European financial framework.

Fragmented approaches and the lack of systemic thinking also shows in the under and overrepresentation of different aspects of and sectors in the transition. The battery sector, for example, seems to be experiencing a modern version of gold fever. While Member States compete with each other to attract investment from China, the US or Taiwan to build battery gigafactories, they easily lose sight of the overall strategic picture[28, 29]. There is a real risk of overcapacity in battery manufacturing, for example. But risks are maybe even more prominent at the level of social rights and environmental protection, as the concerns surrounding the building of a new battery plant in Hungary by the Chinese company CATL clearly shows [30, 31]. And while governments seem to scramble to acquire these battery plants, crucial investment in other sectors such as rail freight, whose decades-long decline is certainly not aiding the climate cause, is simply overlooked[32].

No discussion of conflicting priorities can ignore the nuclear elephant in the room. Nuclear energy is still – for some Member States - perceived as one of the options for decarbonisation within the EU, despite the Greens' longstanding opposition to it and the fact that it – in reality - clearly does not meet the Taxonomy's criterion of "no significant harm"[33]. For countries without nuclear in their existing energy mix there is obviously less incentive to deploy an energy source whose start-up costs and timeframes make it irrelevant for meeting the 2030 targets[34, 35]. In an integrated European grid, however, the reality is that electrons cross borders regardless of how they were generated, making the issue in essence European.

Even so, the lingering debate about a potential nuclear power plant in Poland shows that this is not a decision that is made lightly.

Nuclear energy is once again central in the European conversation about the

energy transition. Part of this momentum is strengthened through aspects coming from outside Europe's borders, with China, Russia, the USA and South Korea all building nuclear power plants for export to countries including India and Bangladesh, as well as several in Africa. Nuclear security is thereby increasingly becoming a global issue. The prospect of Bangladeshi nuclear power plants being flooded by the now inevitable rising seas should concern us all.

There are also other factors at play. At the instigation of a hyperactive French Energy Minister and a national nuclear industry trying to regain its former economic strength with the backing of its government, 16 European countries have formed an "alliance for nuclear" with a view to gaining support for nuclear power and developing a "roadmap to develop an integrated European nuclear industry reaching 150 GW of nuclear power capacity in the EU's electricity mix by 2050"[36]. This may be a lost cause, however. Most of Europe's industrial players in the nuclear field are struggling, sometimes to the advantage of another major player: the Russian corporation Rosatom, which runs both nuclear plants near the Hungarian town of Paks, and also supplies a significant amount of the raw data and technology on which the French nuclear industry depends[37]. In addition, the hydrographic consequences of climate change may severely hamper nuclear energy production, as has been the case in France in recent summers[38].

A recent paper from the European Council on Foreign Relations (ECFR) argued that the EU should spend less time infighting about nuclear and instead focus its resources on building renewables[39]. As the cost of renewable energy solutions continue to come down over time, the remaining interest in nuclear energy will, most probably, eventually peter out.

Unforeseen consequences

The sustainability of the energy transition does not end with decarbonisation. Energy production also has a substantial impact on the environment, both in terms of the space it takes up and some of the chemical components used by green technologies. Whether we are talking about agrivoltaics, gigantic solar projects in the Sahara (a pipe-dream eventually abandoned), massive hydrogen infrastructures or offshore wind farms, all renewable energy production involves environmental costs that need to be taken into account.

Extractivism is an important issue, as can be seen in the rising demand for lithium and nickel, which is threatening entire ecosystems in the Atacama Desert and the Nauru seabed. Most of the potential mining sites in Europe are in Natura 2000 areas[40]. There have already been worrying calls for more flexibility and the disregarding of the environmental protection framework in the wake of the European Council's 2022 decision to *"accelerate permitting rules"* for green energy production[41].

Additionally, without going into detail here, the Knowledge Community also exposed the issue of Per- and Polyfluoroalkyl Substances (PFAS). These highly polluting substances, theoretically regulated by REACH, are called "forever chemicals" because they do not break down in either the environment or the human metabolism. While the EU has committed to phasing these pollutants out because of their dire impact on nature and health, it must not forget that they are currently also used in the industrial processes for clean technologies, and thus also in decarbonisation.

The above are two aspects to make a general point: the climate emergency must not be used as a pretext to override environmental regulations and nature protection. This

would make climate action self-contradictory and work against the much-needed systemic approach. It, again, brings us back to the necessity of a more holistic, systemic approach to the transition.

Political proposals

Strategic planning for a sustainable, resilient European energy project

"Wicked problems", as the climate emergency is being referred to by the European Environment Agency (2016)[42] and others, do not come with simple solutions. In our section on the social dimension, we already pleaded for more strategic planning instead of leaving everything to the invisible and volatile hand of the market. This must happen if the bottlenecks in the EU's energy project are to be unblocked, and it is no less essential to our political proposals on the climate dimension.

This strategic planning will need to focus on systemic monitoring and implementation of targets. If we are to work with all EU Member States, institutions and stakeholders to agree a course of action, work on it collaboratively and take all necessary steps to achieve the EU climate targets, we must have a better understanding of the situation and its dynamics, i.e. the needs, resources and obstacles.

1. Ensuring better monitoring and accessible data

The energy transition needs more and better transparent, accessible data, and this applies equally to the climate dimension. Not just for research purposes, but for practical management purposes too. Member States are being asked to renovate and retrofit their entire building stocks, develop renewables, expand their grids and invest in education, training and upskilling – an enormous and complex endeavour. If they are to be able to navigate this complexity under the pressure of the emergency and avoid structural mistakes that could delay the beneficial effects of the transition, it is essential that they have properly managed data.

Monitoring of Member States' progress towards decarbonisation needs to go beyond reductions in emissions: it also needs to measure the impacts on the economy, jobs, infrastructure, grids, digitalisation, transport systems and households, etc. Harmonising National Climate and Energy Plan data with other governance systems such as the European Semester would be a useful step forward, making it easier to identify gaps and the financial resources required to fill them.

This task could be assigned to a "Just Transition Observatory". This Observatory, which is gaining momentum as a policy idea[43], should monitor the social impacts of decarbonisation in far more detail than is done at present, taking a whole of Europe, and whole of policy approach instead of the current geographical and sector focus on the coal regions. It should collect evidence and document a whole range of indicators: the number of jobs created, their quality and sustainability, the number of job losses, energy poverty, inclusion of vulnerable households in the green transition, the gender dimension of climate policies, etc. The Observatory could thereby function as a much-needed glue for European and Member States' energy and social governance, while also feeding data into the respective reporting mechanisms. It would thereby be a lever for the better usage of European funds for a just energy transition, and would also enable policy makers to identify needs for new funding and/or funding mechanisms.

2. Planning the deployment of the necessary infrastructure

- ### Grids

  Decarbonisation requires us to have at our disposal all the elements needed for the swift electrification of our societies and industrial models. Too many industrial activities are still dependent on fossil fuel energy, glass-melting furnaces being just one example. Achieving the complete electrification of industry will require the urgent upscaling of high-voltage grids. The EU must create a strategic plan to increase grid capacities. This is of paramount importance for the implementation of the transition.

- ### Decentralised projects

  One potentially effective way to achieve a more comprehensive implementation of our climate targets is to facilitate more decentralised projects, rather than waiting for the national authorities and their gigafactories, enormous power plants, giant photovoltaic fields and windfarms. There are many projects that could and should be implemented at the local level, with funding support from the EU or other European financial institutions. Local communities and authorities should be systematically allowed and incentivised to pursue their own climate projects.

- ### Skills and jobs

  As already discussed for the social dimension, delivery of the climate transition will create enormous needs in terms of skills and jobs. This must be reflected in the EU's strategic planning, both through the creation of a European Just Transition Observatory and through education and employment policies that enable individuals, educational institutions and businesses to create the skilled workforce required. At the same time, it is essential that the new or adapted jobs are of high quality.

- ### Financial framework

  Creating this infrastructure will of course require a great deal of money. The EU is currently at serious risk of gradual fragmentation; addressing this will require its cohesion policy to be rethought in order to compensate for the imbalances created or exacerbated by the energy transition. New funding will be critical here. There must be a new instrument to follow on from the Next Generation EU Recovery and Resilience Fund, which ends in 2026; and the next Multiannual Financial Framework (MFF) must also be fit for purpose. Political discussions on the next MFF need to begin now with a view to agreeing the financial tools required. The magnitude of the challenges demands more funding than is currently available. New income-generating measures such as a wealth tax and a financial transactions tax need to be explored.

Renewed solidarity for a common European vision

All of this will require a radical change in our European narrative and, ultimately, probably also a Treaty change. It is therefore time to recognise what is staring us in the face: sustainability is not just a policy – it is a state of mind. It is the very essence of ecology: the marriage of science and conscience. Our energy transition policies are just one cobblestone on the road towards a better, peaceful, prosperous world. A sustainable world.

Indeed, imagining a better future begins with climate action. But it also begins with a new attitude to the European project.

The green transformation of our societies could become a new covenant binding the people and regions of Europe together. To achieve this, however, we must all make sustainability the cornerstone of our attitudes towards ourselves, others, our economy and the planet. A serious rethink of our values and connections is called for.

A new and stronger narrative also needs to reach the wealthier parts of the EU. In the so-called "frugal states", for example, the conversation is dominated by the image of an industrious, virtuous, greener North being held back by a profligate, unreliable and fossil-fuel-addicted South. We have not moved on much since the infamous acronym PIIGS was coined to refer to Portugal, Italy, Ireland, Greece and Spain during the sovereign debt crisis. This inaccurate and damaging, but seemingly persistent narrative must be addressed and make place for solidarity and common solutions.

Looking beyond the EU's borders

The other dominant European narrative that must be addressed is that of the "European way of life", which seems to have become our own version of the infamous Bush doctrine. Instead of trying to meet all our current energy needs at the expense of the environment, social rights and solidarity with Majority World countries, we must rethink those needs and refine our energy use through a focus on demand reduction and sufficiency, as discussed above.

Europeans no longer rule the world. We must collectively come to terms with the post-Western, post-European world order, in which the needs of other continents are acknowledged as being just as legitimate as our own. This shift in attitude must be reflected in new energy relationships with our partners and neighbours. Climate diplomacy, investment in the Global Gateway, and mutual learning as well as openness to bespoke forms of climate action around the world are key.

On the African continent, for instance, the vast majority of clean energy investment still needs to happen. The EU must offer its African partners a combination of debt renegotiation and energy transition funding to cover everything from clean mining to green energy production.

A similar shift in European trade policies will be necessary to deal with the impact of the Carbon Border Adjustment Mechanism (CBAM) on emerging economies. As the EU continues its trade negotiations with Mercosur, Australia and other key partners, it should rethink the kind of relationship it wants with the rest of the world.

The fact that countries outside Europe are at different stages and travelling at different speeds on the road to the transition must not engender a new European arrogance. There is a great deal of leadership and innovation happening across the world. The EU's role here is therefore multifaceted. It can learn from some countries, advise on best practice to others, provide support where needed and requested, build mutually beneficial partnerships, provide spaces for dialogue and multilateral collaboration, and apply the highest environmental and social standards both at home and abroad when delivering emission cuts. All while continuing to deliver on its commitments. Only in this way will the EU be able to retain its climate credibility and therefore also its relevance in dealing with the single most pressing issue facing Europe.

Conclusion

The transition to climate neutrality and sustainability more broadly is the great endeavour of our times. It will change the structure of our economies. It will force us to rethink our priorities and solidarities. It

will affect our political allegiances and the social and environmental fabric of the EU. And it will change our relations with other countries. The success of this transition, or rather transformation, journey will depend on our collective capacity for change: on reassessing our needs and the building blocks of the European way of life, on renewing our vows to build a community based on shared peace and prosperity, and on reaching out to the rest of the world.

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Democratic Dimension

Expert contributions by Benjamin Denis, Joanna Maćkowiak-Pandera, Antoine Oger, and Jesse Scott

Introduction

Energy and democracy – inherently connected

What does democracy have to do with energy? Here in Europe, at least, we are used to a world in which we just need to flick a switch to turn on a light or a turn a key to start the car. We get our energy on demand – provided we have paid the bills, of course. But these simple gestures mask an inconvenient truth: everything about the energy we use – the security of our supply, the way it is produced and distributed to our homes and vehicles, its origins, and the technologies and other factors involved – is basically out of our hands. If the provider raises their prices, or production or distribution are disrupted for whatever reason, we are left stranded. Literally powerless.

While energy is often put into a technocratic and market-focused box, it is on the contrary essentially a democratic and political project that is also closely linked to the three dimensions we addressed in previous sections of this report.

Aldo Leopold[1] put it well: "There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace." Indeed, if you did not fell the oak tree yourself, who did? And how? Which tree did they select, and why? And how was the log brought to you? These questions are easy to answer when you own the farm and ride the horse. But when they depend on someone else's choices, they can become questions of democracy. What if I would like a green energy provider for my home but there isn't one?

Democracy and energy have always been interconnected, due to the issues involved in meeting our energy needs. The historian Arnold Toynbee (1934)[2] argued that a civilisation is primarily defined by the kinds of technology and energy systems it develops to overcome the challenges of its natural environment. For much of human history, and even now in many parts of the world, a farmer's or village's energy supply would come from a waterwheel on the river, or the miller's windmill, or from a pair of bulls harnessed to a yoke, or from a hot spring. This meant that decisions about energy supply and production were taken very close to the final consumer and were therefore inherently democratic.

In Europe, however, this changed with the industrial revolution, which greatly increased energy production and usage while also concentrating the means of its production in fewer and fewer hands[3]. Massive steel plants, enormous coal-powered steamers, gaslit towns and cities and, later, high-speed trains powered by nuclear-generated electricity all changed our relationship with energy.

Since then, demand and supply as well as production and consumption have been far more complex, and the associated power structures have become more centralised and more concentrated. On top of that, the EU has evolved towards an energy system

that is heavily dependent on imports from the rest of the world, with major repercussions on the democratic dimension of its energy project.

Timothy Mitchell (2011)[4] argues that in some instances the rule of fossil fuels created a kind of democracy. He contends that carbon-based energy sources facilitated the emergence of democratic governance due to their ability to distribute power and wealth: he cites examples such as the coal miners' strikes in Britain, where labour movements pushed for political representation

However, even this limited degree of democracy was weakened by the shift from coal to oil, which reduced workers' ability to influence energy production.

Despite this limited positive note, however, the European fossil fuel energy system has overall remained far from democratically sound and instead paved the way for a technocratic and top-down approach. The erosion of energy's democratic dimension was accelerated in the 1970s, not least because of neoliberal policies that had a dire impact on social relations. During those years, increased inequality and concentration of power[5] also further pushed the European energy system into a highly centralised and free market-focused straitjacket.

Albeit that some policies, including subsidies for the fossil fuel and nuclear power industries, have nothing to do with free market principles.

Furthermore, both corporate power and geopolitical conflicts over resources have also spawned undemocratic regimes. Oil wealth has influenced authoritarian regimes in a number of Gulf countries, as well as in Latin America and the United States, where it can shape political careers and presidential destinies. The link between energy, democracy and politics is thus key to understanding global power dynamics, which in turn has a significant impact on the EU's energy project.

Despite the many connections, energy democracy is a relatively recent concept and there is still no universally accepted definition of it. Indeed, it may be understood differently, depending on the concept of democracy prevailing in a given political culture. The centralised definition found in many orthodox Marxist theories of the state[6] differs substantially from the more decentralised, looser version based on citizen empowerment, energy cooperatives and community ownership[7]. However, the fundamental concepts of energy democracy are transversal: sovereignty, citizen participation, public ownership, common good.

State of play

As discussed in the earlier sections of this report, European energy systems have historically been highly centralised, extractivist and largely undemocratic. The energy transition provides huge opportunities to move away from these unequitable and often undemocratic power dynamics. A new energy system based on renewables can bring decision-making and production closer to citizens, and put social and environmental sustainability at its core. At the same time, however, it also gives rise to new dynamics and challenges – access to the grid or to scarce resources, for example. In what follows, we take a closer look at the democratic dimension of the EU's project for a green energy future.

Citizen initiatives showing the way

Driven by growing awareness of the climate emergency and the need to act decisively, citizens are increasingly demanding action[8]. Faced with the inertia of governmental processes and stalled by the pressure exerted by influential energy corporations determined to preserve their power, communities have increasingly sought to take matters into their own hands.

This is not an entirely new phenomenon: the first energy cooperatives were set up in the 19th century, in the first wave of electrification in Europe, when rural and mountainous areas were being left behind.

This movement has been spearheaded by communities and individuals in countries with a strong tradition of self-organisation. In 1997, the small island of Samsø set out to become Denmark's first community entirely powered by renewable energy within ten years. At the time, the island's electricity was mostly coal-generated and came via an undersea cable from mainland Denmark. Oil was the primary energy source for heating and transportation. Through the ''installation of on-shore and off-shore wind turbines, the substitution of heating oil with biomass and electricity, the construction of new district heating plants, solar panels [and] investments in energy efficiency in households and electric vehicles'', the people of Samsø radically transformed their energy supply[9]. This example also shows how energy democracy can be achieved using a decentralised, localised business model: unlike the big energy corporations, it is based on citizen and stakeholder participation and local ownership of the renewable energy infrastructure. This brought significant benefits for the local community and economy and created new jobs. By 2007, the island had greatly reduced its fossil fuel consumption and was producing enough renewable electricity to meet its own needs and export the surplus to the mainland.

Another interesting example is the small district of Feldheim in the German state of Brandenburg. In the early 2000s it was facing rising energy costs and concerns about its energy security. Rather than relying on state aid, it decided to act independently and pursue a community-driven approach to energy production. Its residents formed a cooperative and invested in renewable energy infrastructure, including wind turbines, solar panels and a biogas plant. They collectively own and manage these assets, which provide the town's electricity and heat[10]. One of the most impressive aspects of Feldheim's energy transition is that it has achieved full energy self-sufficiency. Generating its own renewable energy locally has enabled it to become independent from the external energy suppliers and even to export its surplus energy to the grid.

The Belgian municipality of Eeklo also invested in wind turbines and now not only meets 130% of its own energy needs but has also set up Ecopower, a cooperative supplying energy at prices 40% below the market rate; with 60,000 members, it is now one of the biggest in Europe[11].

There are numerous other examples from all over the EU. Shaken by the Chernobyl disaster, the Baden-Württemberg town of Schönau set up a cooperative to allow citizens to take control of their grid; Ecopower supplies almost 2% of households in Flanders, Belgium; and Prato allo Stelvio in South Tyrol, Italy, is home to a century-old energy cooperative, E-Werk Prad.

These success stories are concrete examples of ways in which local communities can take control of their energy future, reduce their reliance on fossil fuels, contribute to the transition to a more sustainable energy system and even, in some cases, make a profit from doing so[12]. At a bigger scale, we have also seen citizen movements playing a role in public energy debates in several EU Member States. In Germany, Bündnis Bürgerenergie or buergerwerke.de are good examples of the

many grassroots movements that have been campaigning for citizen participation and ownership in the country's energy transition and promoting decentralised renewable energy production in the form of citizen-owned wind farms and solar cooperatives, as well as energy efficiency projects. These groups of citizens engage in energy-related decision-making processes, mobilising support for renewable energy policies and empowering communities to take control of their energy future.

Indeed, cooperatives, community microgrids and community-owned renewable energy projects are shaking up the economic landscape and energy market right across the EU. The European Commission has sought to encourage this growing movement by means of rural initiatives and dedicated programmes such as Citizen-led Renovation and the Energy Community Repository, all backed by specific legislation[13, 14]. Other stakeholders including trade unions and REScoop.eu (the European federation of citizen energy cooperatives) have also taken action to support, encourage and help develop these citizen initiatives[15].

In this way, "energy democracy" – once just a slogan for activists demanding a greater say in energy-related decision-making – has evolved into a term that can now be found in policy documents and the academic literature on energy governance and energy transitions[16].

A school for democracy

A REScoop survey of citizen energy initiatives in Southeast Europe[17] showed that enabling communities to make their own decisions about their energy needs and how to meet them is an effective way of empowering them. Those involved say it has given them a renewed sense of community and made them more proactive in addressing other local issues too. From resolving conflicts to finding common solutions, energy democracy is both a learning process and a way of deepening democracy in practice.

Paradoxically, however, a lack of education combined with long experience of being patronised, abused or silenced by institutions and corporations means that the people most affected by energy policies are often also the least engaged.

It is also important to note that empowering communities does not necessarily translate into enthusiastic support for local energy projects. There may be fierce local opposition, sometimes expressed antagonistically, obstructing the very purpose of the energy transition. The fact that many onshore wind farm projects in the EU have stalled is a testament to the vitality of local communities – and the challenges of local democracy. One-fifth of Dutch municipalities were affected by protests against projects of this kind in 2022, for example[18]. The situation then often becomes politicised, with radical parties fanning the flames of local opposition in the hope of electoral gain[19]. Right-wing and far-right movements campaign on the basis of "preserving our way of life", be that in food or energy or transport, and have successfully framed green policies as the root of all evil. The resulting culture wars have left societies riddled with hostile and reactionary NIMBY attitudes, making the exercise of democracy very much more difficult[20].

Both these factors must be taken into account when strengthening the democratic dimension of energy policy. The first, indispensable step in getting as many people as possible involved is to raise awareness and present clear pathways towards shared local energy initiatives; the second is to provide transparent, accessible information. Public participation is a complex and thorny process that can provoke a backlash. It needs to be thoroughly thought-through at every step: defining the challenge, selecting the appropriate solution, democratising expertise,

and grassroots campaigning[21]. Context is key: a small, poor town in Romania will require a different approach from a farming village in the Netherlands or a tourist city in Spain. The role played by public bodies, and the way they handle public participation, is another important part of the equation.

Democratic gaps at the national level

For an example of how not to treat public participation processes, we need only look at the Citizens' Convention on Climate in France[22]. Its 149 proposals were ultimately reduced and watered down by the National Assembly and the French President, despite his solemn pledge not to do so. National and local bodies too often go through the motions of seeking the public's views only to then fail to properly reflect those views in their policy-making. Empowerment requires a different approach, less patronising and more active. For the real benefits of public participation go way beyond mere project implementation: it improves the quality of the decisions taken, gives them both legitimacy and accountability, and also helps the community mature and take on more responsibility.

Another example of worst practice can be found in Hungary. Ever since he was first elected in 2010 with a constitutional supermajority, Prime Minister Viktor Orbán has hollowed out all democratic checks and balances in the country, remodelling the electoral system so as to consolidate his party's grip on power, controlling the media and curtailing the rule of law. His uncooperative attitude has been an enduring source of concern for his partners and the EU, while his close ties with authoritarian regimes and his deeply conservative rants against liberal and green values have made him a rallying point for radical right movements in Europe and beyond. These concerns also extend to energy and energy democracy. The Hungarian nuclear sector is highly dependent on Russian technology and resources, making it a worry in terms of both democracy and security[23].

The right of each EU Member State to make its own energy choices is enshrined in the European treaties. But how democratic are these national choices? The Italian public were asked whether the country should go nuclear in referendums in 1987 and 2011 (each time in the wake of major nuclear disasters), and rejected the idea both times[24]. Now, though, the current government under Giorgia Meloni claims to have a mandate to revive the country's nuclear industry, and so another public debate is taking place on the matter. France, by contrast, has never even considered putting the question of its nuclear capacity to the public. Moreover, it could be argued that in the case of nuclear energy the democratic dimension should not stop at a country's own borders, since in the event of an accident neighbouring countries will also be affected.

Reflections on the state of play

As argued in previously in this report, the EU's energy project requires nothing less than a complete transformation of the systems we have become accustomed to. The democratic dimension will be key to making this a success.

The switch away from fossil fuels brings with it the potential for a much higher level of democracy and more equal distribution of energy and power. Consciously implementing the transformation will mean using this potential and incorporating more citizen involvement and ownership into energy-related decision-making. The local energy democracy initiatives discussed above are inspiring, but critical mass will be required if we are to achieve systemic change. How can these initiatives become a widespread movement throughout Europe, and how can they be better reflected in decision-making at higher governance levels?

The EU as a lever

In addition to the general lack of strong democratic governance and citizen involvement in energy policymaking at the national level[25], there is also a lack of collaboration in energy matters across the EU Member States. As we saw with the highly counterproductive tensions between Germany and France at decision-making forums on topics such as combustion engines and nuclear power, countries often prioritise their own major industries[26]. Both these tendencies result in centralised national decision-making, limiting the potential for the EU energy project to become a flagship for positive transformation and to inspire public support. We therefore argue that Europe should take a stronger lead in driving the democratic dimension of energy.

Despite often lacking depth or a whole-of-governance approach, and still not having been fully implemented, the EU does have a track record in terms of the democracy dimension of energy, and this can serve as a strong starting point for further action. The EU's Clean energy for all Europeans package included the concept of energy communities, most importantly in the form of citizen energy communities and renewable energy communities. It introduced new rules to allow individuals and citizen energy communities to actively participate in all markets, whether as generators, consumers, sharers or sellers of electricity, or as providers of flexibility services in the form of demand response and storage. In addition, the Renewable Energy Directive (RED II) created unprecedented rights, giving individuals and communities more ways of participating in and benefitting from the energy transition.

The EU has also taken steps to strengthen its public participation processes with regard to the energy acquis more generally. Its Conference on the Future of Europe was a democratic exercise that gave citizens the opportunity to discuss key priorities and challenges and to make recommendations across a range of policy domains, including climate and energy. While neither the outcomes of this input nor the way this kind of engagement could become standard practice in future are clear yet, it did at least set an important precedent for the democratic involvement of citizens.

Finally, the EU Governance Regulation obliges Member States to hold early, meaningful public consultations before submitting either their draft or final National Energy and Climate Plans; similar provisions are in place for the Just Transition Plans, and these will apply to the Social Climate Plans in due course too.

In addition, countries must also implement Multilevel Climate and Energy Dialogues to discuss energy and climate policies[27]. Despite their shortcomings, not least in the area of implementation (the 2023 annual report from the Climate Action Network Europe[28] revealed widespread deficiencies in the application of these public participation rules), these provisions are another institutional starting point that can be built on.

Inspired by and building on the various citizen and community-led initiatives at the local level, the EU institutions are well placed to lead, or at least facilitate, the way to greater democracy in energy policymaking and delivery, which will in turn greatly strengthen the European energy project. Energy democracy initiatives by citizens, local entities and cooperatives have successfully developed best practices that truly merge democracy and energy. The EU needs to not only learn from these initiatives, but also double down on further empowering them.

Consumption, distribution, production

Turning to specifics, how can the EU fulfil its leveraging potential? There are three main components in our energy systems – production, distribution and storage, consumption – and each will require a different approach to democracy, with different means of strengthening it and a different governance level.

- ### Consumption

  This may be where the democratic dimension is most obvious and most direct. Citizen involvement in energy planning and decision-making can turn people from consumers heavily dependent on the big energy corporations into active energy citizens with access to data and knowledge, and therefore having a far greater degree of autonomy. Our earlier policy briefs, especially the one on the social dimension, referred to the need for a democratic conversation to establish basic needs, affordability and a universal right to energy.

  At the same time, we also discussed overconsumption, sufficiency and demand reduction. If Europe's energy usage is to be brought within planetary boundaries, our levels of consumption will need to be tackled, even in a fully decarbonised system. Moreover, the current tension between those whose basic needs ("having enough") are not being met and those with an over-abundance and wasteful behaviours is itself a democratic issue, since it cements power imbalances and is an obstacle to equal participation in decision-making. If the EU were to structure its energy policy on the basis of sufficiency, this would have a highly positive impact onequality and democracy in European society.

- ### Distribution

  Investment in infrastructure, including grids and networks, is absolutely crucial here and cannot be entirely decentralised, firstly due to the risk of creating inequality between the regions, and secondly because of the sheer scale of the need. Our policy briefs on the energy security and climate dimensions discuss the huge challenges posed by the need to upscale grids right across the EU.

  Even in the desirable scenario of an increasingly decentralised system, investments in the grid will still be necessary in order to connect and distribute the locally produced energy. This will be a task for public players, or publicly-driven players, at least: state-owned companies or citizen-owned grid operators, perhaps. This raises at least two democratic issues: first, the possibility of resistance from local communities, and second, data and privacy: what kind of data and algorithms will be used to decide supply priorities, and who will design them? Our policy brief on the social dimension makes the case for a Just Transition Observatory, and this could be an important safeguard here, too. The Observatory could strengthen policymaking on energy distribution by ensuring that it is informed, socially sensitive and transparent; it would need to be accompanied by the introduction of stronger, legally mandated citizen involvement and empowerment in the form of public participation processes.

- Production

Strengthening the democratic dimension of production can give people ownership over their energy, bolster their negotiating positions and ultimately increase the resilience and well-being of European societies. In our complex and largely centralised energy production system, local communities and citizen-owned cooperatives play an important but limited role. In most cases they are not yet able to power entire cities, meet the needs of a fully electrified transport system, or single-handedly rise to the immense challenge of making buildings more energy efficient through renovation and retrofitting – and certainly not in the very short time that the IPCC says is left to us for decisive climate action. Policymakers must therefore find answers to the important question of how to facilitate more of these initiatives while also strengthening their voice in more centralised energy production processes.

A democratic approach to energy needs to cover all three of these components, and we will provide some proposals for this below, focusing on the different governance levels. All these proposals are based on the same key principle: the importance of involving and empowering citizens in policy development and implementation. Proper public participation is not just a box-ticking exercise or a way of legitimising decisions that have already been taken. On the contrary, it is critical for public support, better decision-making and informed policy. This is all the more important given the current highly visible loss of public trust in institutions, and is therefore absolutely essential if the EU is to have a sustainable future.

Political proposals

Both the goal and a pathway

As argued in a number of GEF publications and, more especially, in a study carried out in association with OIKOS[29], energy democracy needs to be based on four overarching principles: 1) 100 % renewable energy production, with sun, wind and water treated as commons; 2) universal access to clean energy, regardless of price fluctuations; 3) public-civil management of energy production and distribution; and 4) an emphasis on demand reduction.

Most of these principles are also touched on in earlier sections and lead naturally to this one, since energy democracy is a state of mind, a goal of the energy transition, not just a route to achieving it. It is where all the different dimensions of the transition converge to create a different, better, greener future. Our proposals in this policy brief therefore focus on the characteristics of a democratic energy future in the EU. What might it look like?

It would be based on the principles for the governance of common goods set out by Economic Science Nobel Prize awarded Elinor Ostrom (1990)[30]. The democratic governance of energy will require the rejection of a one-size-fits-all approach, and the creation of clearly defined rules and boundaries with regard to resource appropriation and provision. These will need to do a number of things: guarantee collective rights, including the right to a basic volume of energy; provide choice, including for stakeholders; ensure appropriate monitoring; and define a sliding scale of sanctions. Ostrom's models combine market instruments, state intervention and self-organisation, and this flexibility would be ideal for dealing with the constraints arising from the various scales and levels of the EU's energy project.

Energy democracy at five levels of governance

From local to global, each level of governance requires a different understanding of democracy. While the political effects and desired level of EU involvement are different at each level, all have one thing in common: there is a great deal of room for improvement.

1. At the first level – everything from homes to neighbourhoods – people should be empowered to produce and consume the safe and healthy energy of their choice, preferably in collaboration with their neighbours. The legal structures and governance arrangements must be clear, transparent and guaranteed throughout the EU by a single overarching legal framework protecting citizens' initiatives from potential corporate or state-driven interference. At this level of energy democracy, we identify plenty of opportunities for debate and discussion, and all decisions relating to the community's energy supply being taken democratically.

   Strengthening the democratic dimension of the EU's energy project means strengthening this empowerment. Transparent, accessible information about the various options for energy consumption and production is essential, as is access to financial support where needed. Both of these are essential in order to ensure that this kind of ownership is not only available to richer, better-informed Europeans. Lifting the many citizens who are either experiencing or at risk of energy poverty out of this precarious situation must be the number one priority. Unless basic energy needs are secured, broader engagement and empowerment with regard to energy issues is impossible.

   The key lever available to European policymakers is the ability to create funding streams and steer them in the right direction. They have already started to do this with the Just Transition Fund and the Social Climate Fund, for example, but these are way too small to cover the needs. As already stated in our social dimension brief, one of our key proposals is that all Europeans should be entitled to a basic amount of clean energy free of charge. Another is that there should be a permanent fund to help finance the green transition.

2. The second level consists of local authorities, municipalities, regions and inter-communalities. These are the bodies that deal with the initial planning stages and connect local communities in a democratic and publicly accountable way. They already play an important role in managing the various aspects of local energy systems. Indeed, local authorities have the most detailed information and understanding of issues such as energy poverty and are well placed to understand the needs and issues, as well as the opportunities that the transition to a clean energy system can bring to their area. The EU's programme for collaboration between cities and municipalities is therefore extremely important. The local level needs to be an important partner in informing and planning European financial support and the energy project as a whole.

3. Some important components of the energy system cannot be handled at the two lower levels. This is especially the case for highly energy-intensive industries such as aluminium. Although challenging, it will be necessary to include the views and needs of these kinds of activity in the democratic processes of the region concerned. This level of infrastructure, capital

and investment often requires a third geographical level: the state. Energy democracy at this level should be safeguarded by legal entities, ideally publicly owned and democratically controlled, entrusted with an active role in managing the energy system. It also involves energy governance across multiple cities, and the strategic planning required for it.

From an EU policy perspective, making an impact at this level while also making it more democratic means strengthening the requirements for public participation in the various governance cycles. A greater focus on the role of citizens in the National Energy, Climate, Social Climate and Just Transition plans can bring quick wins here. Monitoring committees like those used for the Cohesion Fund should be set up in order to ensure transparency and accountability in the design and implementation of these plans. The ongoing revision of the Governance Regulation in that sense presents a good opportunity to both strengthen and widen measures ensuring social participation. The Multilevel Climate and Energy Dialogues must be more strictly enforced, and potentially combined with similar forums set up under Member States' own climate laws. Moving beyond this concrete action, and recognising the democratic and political implications of energy, a logical next step is the replication of the social dialogue model into an institutionalised energy dialogue that democratises decision-making.

4. The fourth level is the EU, whose role in this respect is to guarantee both the legal frameworks and the democratic aspects of the governance systems, and also to coordinate the actors at the third level. Energy-intensive industries, as well as clean (tech) businesses compete at both the EU and global levels, which means that the EU's current industrial policies must be strengthened and that it is not enough to plan energy infrastructure solely at the national level, either technically, economically or politically. This fourth level is also required for regulating market prices, maintaining grids, providing strategic insight and setting common targets.

   The EU has already introduced public participation into its energy policymaking, but can still do a lot to improve these provisions and create a stronger offering – giving citizens a real seat at the table. The European Environment Agency (2023)[31] has clearly stated that if citizens are to become the driving force of the transition – one of the aims of the European Green Deal – they need to be "truly empower[ed]" and given "the power to not only shape top-down initiatives and proposals but also to express disagreement and propose alternatives." The EEA further argues that "cultural, educational, institutional and even legal constraints (e.g. the compatibility of EU legislation) need to be considered, including the privileged position of conventional scientific inputs to the knowledge base."

5. Finally, there is the global level**.** Since we import most of the commodities and resources required for our energy security and climate targets (see our other policy briefs), Europe's energy project will also have an impact on the rest of the world. There is a need to develop thoughtful policies and avoid repeating the harmful practices of the past – in terms of democracy too. Europeans must not build their energy democracy and sovereignty at the expense of the Majority World countries.

As already discussed, the EU should therefore focus on building partnerships rather than reproducing the extractivist policies of the fossil fuel era. This means facilitating mutual learning, including in terms of democratic practices, as well as providing support to partners where needed. If the democratic dimension of the EU's energy project is to be strengthened on a global scale, it needs to apply the same principles abroad as it does at home.

By supporting renewable energy projects across Majority World countries with non-debt-based measures such as grants, for example, as well as prioritising those that have a demonstrable level of local community involvement (including the promotion of gender justice), the EU can strengthen democratic actors and positive projects in other countries. Additional positive impacts can be achieved by incorporating public participation requirements and social conditionalities into its international agreements and partnerships. Energy is a key factor in current geopolitical contexts and conflicts. A case-by-case approach that consciously puts democracy at its heart will be essential if the EU is to avoid a repeat of scenarios such as its dependency on Russian gas – and also, more broadly, if it is to be a positive actor and enabler of a global democratic energy transformation.

Conclusion

Democratising our energy systems will require a drastic change in our attitude towards energy. We may have to re-learn what energy is – its nature, its origins and its value. Whether it is the little gestures for saving energy taught in the home or a broader programme in schools and universities, there is a profound need to educate ourselves. It is no coincidence that citizens' initiatives – functioning as schools of democracy – are flourishing. Empowerment always comes from better, transparent and accessible information.

In conclusion, then, the challenge of energy democracy is to reverse the priorities and values of the current energy system, which are based on power, profit and coercion. It is about a total redesign of our production systems, distribution grids and consumption patterns, from the bottom up. A complete rewiring. And an end to the power games.

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Postface

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Reflections and Ways Forward

Taube Van Melkebeke and Laurent Standaert

The European Union's energy project is undeniably transitioning from fossil fuels to a new, clean energy system. Recent crises and the volatile social, environmental, geopolitical, and economic contexts underscore the urgency of pursuing decarbonization and the related energy transition swiftly. However, these challenges also highlight the risks of insufficient democratic engagement and ultimately public support.

At the outset of new mandates in the European Parliament and Commission, the EU stands at a crossroads. The options are often presented as binary: either to continue the energy transition and Green Deal as currently planned, or to scale back its ambition and implementation.

Conservative and far right actors have played a significant role in shaping this dichotomy. By tapping into and amplifying economic and social fears, they have constrained the space for further European climate action, clean energy, and energy-saving initiatives. This political manoeuvring risks however not only to derail the EU's climate ambition and exacerbate the climate crisis, but in its slipstream also to damage the social fabric and to increase inequality.

The costs of inaction are indeed immense. Slowing down the transition would disproportionately affect poorer Europeans, create new vulnerable groups, maintain or worsen Europe's dependence on unreliable regimes, reinforce the extractive and undemocratic dynamics of the fossil fuel system, damage the EU's economic position, and jeopardize its commitments under the Paris Agreement. Therefore, a swift energy transition is the most social, secure, sustainable, and democratically sound option, both from an intra-European and an international perspective.

But how to get on the right track? Polls, academic research, and public debates paint a nuanced picture. Transition policies still enjoy broad support, and climate change remains a major concern for Europeans, alongside socio-economic and security issues. This indicates a need for a third option; one that integrates and addresses citizens' concerns and places systemic

well-being at the core of the "future of the EU's energy project"-offer.

Such a third option has two clear preconditions: first, a revamped public and political debate - essentially democratising the concept of energy policy, and second, a systemic merging of different dimensions of energy.

With the four sections of this report, we've explored – together with experts covering different areas of expertise and geographies – what can be done to open the debates towards such a third option and, more specifically, what should be included in its scope.

The report thereby zooms in on four dimensions of energy: energy security, and security more broadly; social aspects; climate and sustainability; and democracy. There are two key common themes that emerged throughout these four sections:

- Stronger planning for a secure, just, sustainable and democratic European energy project

  The European energy project has been overly focused on individualistic, market-based, technocratic policies and short-term goals. To create a just energy project that can serve as a foundation for a positive European future within planetary boundaries, we need a more planned approach that emphasizes collective action. We call for a systemic and transparent governance framework that considers all four dimensions equally: for the energy security dimension, this means first of all a modernised European Energy Security Strategy, and its implementation; for the social dimension, it implies strategical planning on the basis of cross-sectoral expertise, enhanced data collection and proper analysis of the various resources and needs of citizens, and how they can be met; the climate and sustainability dimension's planning must be strengthened on the level of infrastructure – covering grids, but also skills, local planning, etc – as well as through a stronger emphasis on efficiency and sufficiency; and for the democratic dimension finally, better planning means democratisation of energy on five different governance levels – from local to global – to both enable citizens' led energy initiatives and to give democratic actors access to energy decision making.

- Financing the future European energy project, and its green transition

  Linked to the stronger systemic planning, there must also be a robust financial strategy that delivers the infrastructure of this future European energy project. This includes, as mentioned throughout the report, investing in grids and

renewable energy deployment, as well as in skills, mobility, renovation and so on. Economists and think tanks have clearly shown that austerity measures harm social cohesion, climate ambition, and European prosperity. Currently, however, there is no political consensus, nor convincing action plan on the investments needed for a successful transition. We therefore must incorporate green and progressive proposals and voices into economic debates now, to seize political opportunities in the future.

Planning and financing of a secure, just, sustainable and democratic European energy project can, however, not be viewed solely as internal challenges. The EU's energy policy is deeply intertwined with, and significantly influenced by, the international context. Successfully moving forward consequently also necessitates a comprehensive reimagining of Europe's engagement with the rest of the world, grounded in non-extractive partnerships and collaborative efforts.

This report – resulting out of GEF's Knowledge Community flagship - has the ambition to act as a compass for more ambitious, more systemic, and more inclusive debates on the topic of the EU's energy project. For too long, the concept of energy has been left opaque – solely in the hands of technocrats and traders - and without a vibrant political and public conversation defining its direction. As a result, energy policy finds itself in an undemocratic, depoliticized straitjacket that is extremely prone to backlash. Green and progressive visions on the European energy project should take these learnings to heart and reflect the inherent societal, political, and democratic relevance – and potential - this topic entails.

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The Future of the EU's Energy Project

Moving Beyond the Trilemma

Despite its societal, political and democratic significance, energy's image as a policy area has remained largely technocratic, market-oriented and somewhat opaque - leaving it highly susceptible to backlash. If it can break free from this restrictive framework, the EU's energy project can transform from a contentious political battleground into a unifying European flagship that enhances cohesion, prosperity, security, resilience, climate action, and global justice.

This report identifies four interconnected areas of critical importance for the energy project: energy security, social aspects, climate and sustainability, and democracy. For each of these dimensions, it highlights current gaps and offers political proposals. The goal is to ignite and inform political and public debates, ultimately freeing energy policy from its technocratic confines and unlocking systemic green and progressive visions for the future of the EU's energy project.

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