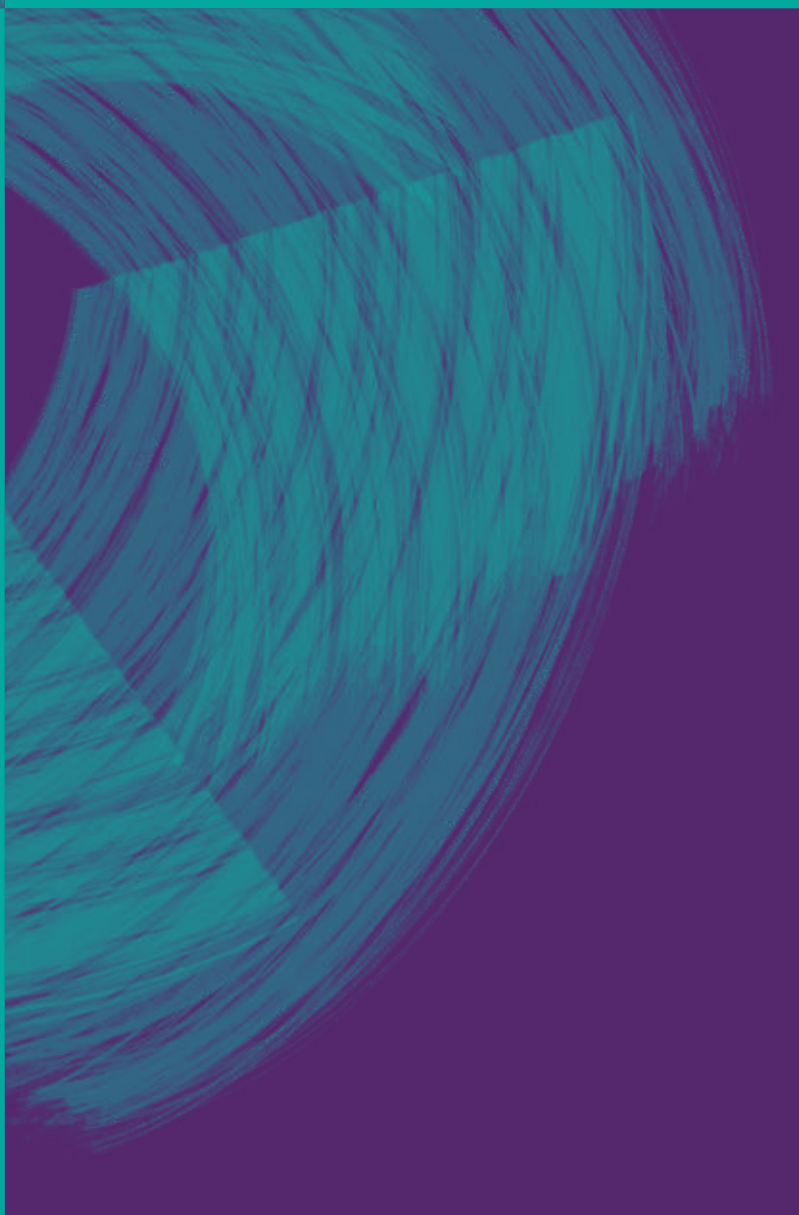
Boosting Participation in the Energy Transition

Five action areas for the new EU policy cycle

STUDY & DEBATE



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European Union

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We thank these contributing experts for their time and knowledge. Their names can be found at the beginning of each brief. We would also like to thank all participants of the Knowledge Community, who were critical in developing the content of the five political briefs in this report. A list of participants of the Knowledge Community can be found on the inside back cover.Finally, we would like to thank Yasemin Arpag as well as GEF's Director, Laurent Standaert, for their contributions to this work.

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Foreword

By Jörg Mühlenhoff & Taube Van Melkebeke

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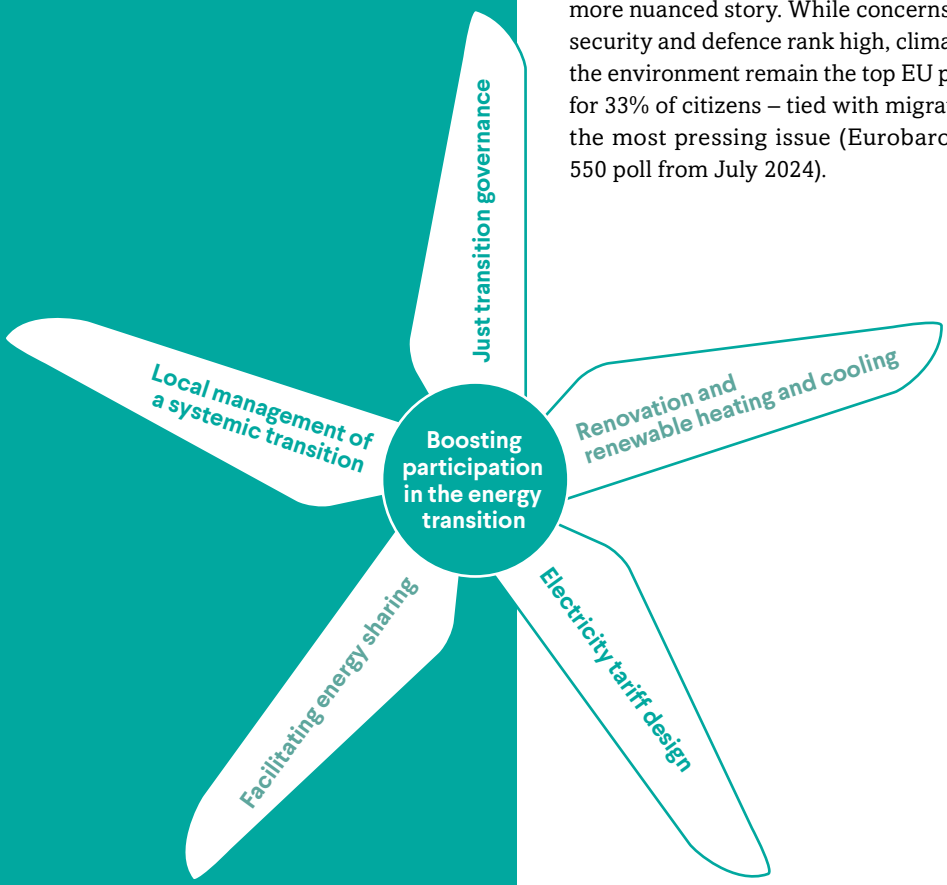
The June 2024 European elections were heavily focused on topics such as migration, inflation, security and defence. Conservative and far-right parties shaped the agenda, often managing to successfully scapegoat EU climate action as a cause of the cost-of-living crisis, distracting from the central role of the fossil fuel price crisis in driving up inflation.

The resulting surge of these voices in the new European Parliament may appear to reflect a general fatigue with the EU's energy transition, but a closer look at the data tells a more nuanced story. While concerns about security and defence rank high, climate and the environment remain the top EU priority for 33% of citizens – tied with migration as the most pressing issue (Eurobarometer 550 poll from July 2024).



We should therefore be cautious about oversimplifying the so-called backlash against the EU's climate and environmental policy. Citizens still want to accelerate the EU's energy transition and they care strongly about fighting climate change and environmental breakdown. The challenge lies in how citizens perceive that achieving these goals is impacting their daily lives. People need to feel that the positives outweigh the negatives.

The EU's energy transition, a multi-faceted process designed to address the ecological crisis, is shaped not only by policies but also by market forces and local community efforts. These inevitably influence how European citizens experience the shift from fossil fuels to renewables. The transition to renewables can protect Europeans from unstable prices of fossil gas imports, improving energy security and affordability while providing the only credible answer to the climate crisis. But the benefits are not always evenly distributed, as wealthier households often find it easier to overcome upfront costs associated with some renewables options. Meanwhile, poorer households but also people that find themselves in other vulnerable circumstances or positions continue to bear the brunt of the climate crisis, and sometimes the policies designed to mitigate it.

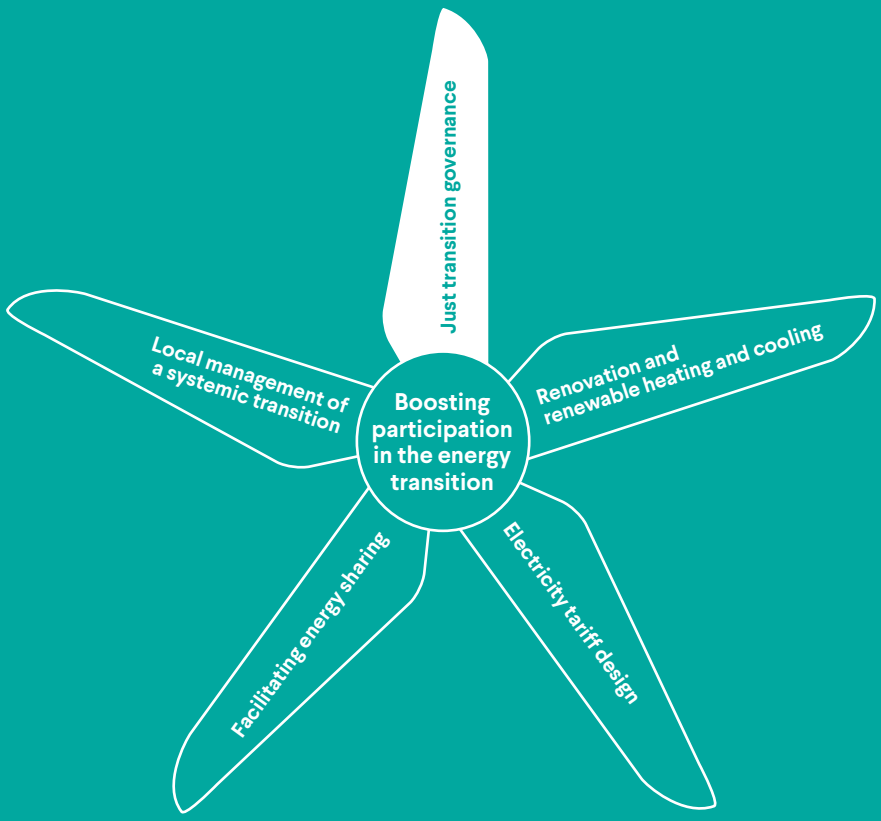
To avoid these unwanted effects, the design and implementation of the EU's energy transition are key. Connecting energy to questions and applications of democracy is a crucial aspect (see for example GEF's report on the Future of the EU's Energy Project), as is strengthening citizen participation and inclusion in all other dimensions, such as equity and distributive justice.

Some progress is being made. Recent EU initiatives, such as updates to the Electricity Markets Directive and the Energy Performance of Buildings Directive (EPBD), offer new rights and frameworks aimed at balancing affordability, climate goals, and citizen well-being. The EU is also promoting just transition governance and local transition management to enable transition policies to answer real needs and to include social concerns. Innovative approaches like energy sharing and dynamic tariffs are moreover beginning to emerge as additional ways to allow households to tap into the benefits of renewable energy and cut their bills.

As we move into the delivery stage of the European Green Deal, it is vital to seize and build upon these opportunities for a fair transition that the legislation offers and turn them into reality, while closing remaining policy gaps. Both the EU institutions and Member States need to ensure that the transition is not only environmentally sustainable but also socially fair and thus inclusive.

This report is built on the exchanges of a Knowledge Community led by the Green European Foundation and Heinrich-Böll-Stiftung European Union, which gathered a broad range of experts from EU institutions, local governments, industry, consumer organisations, trade unions and think tanks. We examined the potential of five existing tools and policies to improve inclusion and participation in the EU's energy transition: energy sharing, electricity tariff design, one-stop-shops, local transition management and just transition governance. The following five briefs each focus on one of these action areas, discuss the opportunities and challenges for the next legislative term, and provide insights into how the EU can better promote inclusion and participation in the energy transition – and thus radically strengthen its potential to deliver.

Just Transition Governance



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Introduction

The energy transition has the potential to offer many benefits – environmental, social and economic. Effective and just governance structures in both private and public spheres are essential in order to safeguard these positive effects for all: existing power dynamics must not be allowed to consolidate the benefits for the affluent in society while directing the burdens onto the least well-off, who also have the least economic and decision-making power. An important factor here is that while the transition has significant frontloaded costs, there is a delay before the benefits are felt. And although it has been recognised that a just transition is key for the success of the EU's energy transition, its social dimension is still weak and patchy.[1]

Moreover, the dominant narrative around the EU's energy transition is shifting. In 2019, fighting the climate crisis was one of the top priorities on the EU agenda, but the current framing has an overwhelming focus on competitiveness. This shift – which can be seen in both the European Council's Strategic Agenda 2024-2029 and the mission letters to the new Commissioners – also impacts just transition governance, as is shown the portfolio of the Executive Vice-President of the European Commission for Clean, Just and Competitive Transition, for example.

Amidst this changing context, the pace of energy transition will continue to intensify. This will require far more resources, not least because the low-hanging fruit in terms of reducing emissions has already been picked. The challenges of a just transition will also intensify, especially with regard to inequality and employment change. In order to address these, good and just governance structures to oversee the EU's energy transition and steer it toward social and environmental justice, territorial cohesion and fair participation are needed more than ever. This encompasses not only the attainment of socially just outcomes, but also the establishment of processes that meaningfully involve workers and communities in decisions that will affect them. And crucially, this must not only apply to the *most* affected regions and industries, but also include affected groups across the board, in all regions and sectors.

In this brief we focus on just transition governance structures at the EU level, though we acknowledge that these interact with mechanisms at the Member State level, such as those considered in the brief on local transition management.

The related EU documents often use the terms 'just transition' and 'fair transition' interchangeably, though neither is defined in the European Green Deal. The aim of this brief is not to refine the terminology, but to promote stronger participation and inclusion in the EU's energy transition, and to identify ways of improving them. For the different meanings and approaches to just transition, see for example Just Transition Research Collaborative (2018)[2].

We argue that, while there are already some relevant elements in place, these are limited in scope, lack proper funding and constitute a fragmented response rather than an integrated and comprehensive framework addressing multiple issues that cut across different policy silos. Finally, we propose ways to adapt the current just transition governance framework so that it can live up to its potential to bolster fair participation in the EU's energy transition.

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State of play: How just transition governance contributes to fair participation in the EU energy transition

There are several EU mechanisms that relate to just transition governance. Some of these are dedicated just transition instruments with a dual climate and social focus, linked to the European Green Deal and explicitly intended to promote a just transition *that leaves no one behind*, while others have mixed objectives with just transition relevance.

The first of these is the **Just Transition Mechanism** (JTM), a framework to secure € 55 billion between 2021 and 2027 to address the socio-economic effects of the transition in the 'most affected regions,' which in practice mainly means coal regions. The pivotal mechanism is the Just Transition Fund (JTF), which is part of **the EU Cohesion Policy framework**. To unlock funds, Member States have to submit Territorial Just Transition Plans (TJTPs) for Commission approval. As a reporting and allocation mechanism, these plans are an important governance tool in ensuring a just transition.

Another mechanism is the **Social Climate Fund** (SCF).[1] This will provide € 86.7 billion between 2026 and 2032 to deal with the social impacts of the new emissions trading scheme for buildings and road transport (ETS2) on vulnerable households, micro-enterprises and transport users. Member States must submit Social Climate Plans (SCPs) identifying how they intend to use the funds. This can include measures or investments to increase the energy efficiency of buildings or decarbonise heating and cooling, or to provide temporary direct income support. The revision of the main emissions trading scheme (ETS1) also envisages a **Modernisation Fund** for 13 Member States that can be used for just transition objectives, among others.

[1] The regulation setting up the fund is based on Article 91 Treaty on the Functioning of the EU (TFEU) (transport), Article 192 TFEU (environmental protection) and Article 194 TFEU (energy).

In addition to these two funds, there is the **Council Recommendation on ensuring a fair transition towards climate neutrality ('Fair Transition Recommendation')**, which takes a different governance approach and does not provide its own funding.[2] Instead, it provides guidance to Member States on how to implement a range of measures to support the people most affected by the green transition, taking a whole-of-society approach. These include active support for quality employment, access to training and lifelong learning, fair tax benefits and social protection systems, access to affordable essential services, and measures to support social dialogue and citizen participation. It is not a legally binding instrument, but its implementation will be monitored via the European Semester and advisory committees to the Ministers in the Employment and Social Affairs Council (EPSCO). It is therefore an example of the EGD being linked with social governance.

[2] While cutting across numerous legal bases, this measure is based on the competence found in Article 166 TFEU (vocational policy) and Article 149 TFEU (cooperation on action in the field of employment).

Alongside the dedicated just transition instruments, there are also other governance tools that are equally important for delivering fair participation in the energy transition. The **NextGenerationEU** programme and its cornerstone, the Recovery and Resilience Facility (RRF), have contributed both directly and indirectly to just transition governance. The RRF is a funding instrument intended to address the consequences of the pandemic[3] and requires Member States to submit extensive national Recovery and Resilience Plans (RRPs) outlining measures across six priority pillars, including green transition and social and territorial cohesion.

[3] Like the JTF, the RRF is also based on Article 175 TFEU on social, economic and territorial cohesion.

These plans were an important step towards more systemic policies. However, studies have shown that, despite some of the funds being used to ensure that people are not left behind in the green transition, the link between social and green objectives is often not made explicit and is not required in the reporting.[3]

The **European Pillar of Social Rights (EPSR)** is another governance framework relevant for delivering a participatory and inclusive energy transition, as mentioned in the European Green Deal Communication. Other socio-economic instruments and governance structures also provide opportunities to promote a just transition: these include the European Semester and budget allocations under other elements of the EU Cohesion Policy framework.•

• The Just Transition Fund is only one of the funding programmes included in the EU's Cohesion Policy. Cohesion Policy aims to ensure the development of the EU as a whole by providing resources to the EU regions facing the biggest development challenges. As identified by the European Trade Union Confederation, the most relevant Funds for social development are the European Social Fund Plus, European Regional Development Fund, Cohesion Fund, Just Transition Fund and Asylum, Migration and Integration Fund. All of these are also relevant to the topic of this brief.

In addition, there are also relevant systems in place in the domains of environment, energy and climate. The **Regulation on the Governance of the Energy Union and Climate Action ('Governance Regulation')** is a framework by which Member States must submit 10-year National Energy and Climate Plans (NECPs) covering the five dimensions of the EU energy union, including energy efficiency and the internal energy market. In its latest assessment of draft NECPs, the Commission highlighted the socio-economic effects of the energy transition and encouraged Member States to 'enhance the development of comprehensive national just transition strategies' in their final NECPs and to report on national just transition measures.[4] **REPowerEU** additionally sets concrete objectives for the energy transition with, *inter alia*, enhanced targets for renewable energy generation, and funding linked to the RRPs and NECPs.

What is missing?

There are three main challenges to ensuring an adequate just transition governance framework.

Lack of coordination

The above discussion shows that there are many different tools relevant to just transition governance, pursuing a variety of governance approaches, with different goals and temporal and material scopes. This **fragmentation of objectives and instruments** is an obstacle to a comprehensive, coherent and transparent just transition governance framework.

It also reveals a broader disconnect **between social objectives and the energy transition** in overarching frameworks such as the EPSR and the Governance Regulation. The EPSR Action Plan states that the measures proposed in it will benefit the 'twin transitions', green and digital, but there is no section specifically dedicated to social measures that address the challenges of the energy transition. Similarly, addressing the social consequences of the energy transition in NECPs is not one of the explicit objectives of the Governance Regulation framework. As noted by the Commission itself, Member States have therefore only provided a partial assessment of the socio-economic impacts of the transition in their NECPs, and most lack a comprehensive set of targeted policies to deal with them.[5] In other words, there is lack of integration between social and economic governance frameworks on the one hand and climate and energy governance frameworks on the other. This often also means that there is an over-reliance on environment ministers when it comes to work on just transition and climate, with social affairs and labour ministers excluded.

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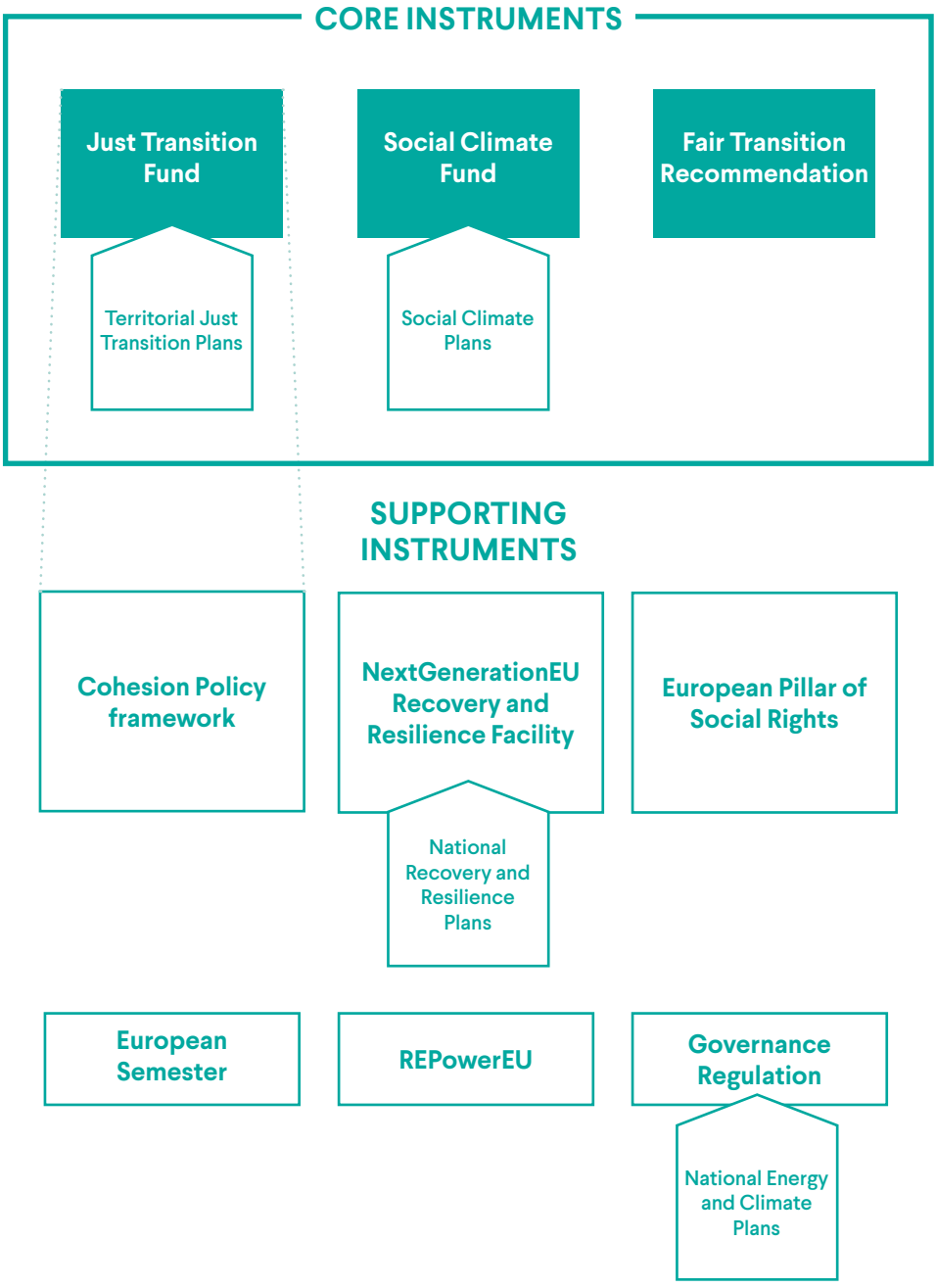
CORE INSTRUMENTS
Just Transition Fund
Territorial Just Transition Plans
Social Climate Fund
Social Climate Plans
Fair Transition Recommendation
SUPPORTING INSTRUMENTS
Cohesion Policy framework
NextGenerationEU Recovery and Resilience Facility
National Recovery and Resilience Plans
European Pillar of Social Rights
European Semester
REPowerEU
Governance Regulation
National Energy and Climate Plans

Lack of resources

A *sine qua non* to achieving a just energy transition is **securing the necessary investment, but the JTF and SCF are limited in their budget, timeframe, and the sectors and activities they cover**[6]. They are inherently reactive, responding only to the most urgent and specific problems with limited resources that fall short of investment needs.[7] On top of this, it is unclear whether and how the funding for the JTM will continue after 2027.

In addition to the shortcomings in the funding instruments explicitly linked to just transition objectives, **underfunding is an issue across the EU's energy transition** more broadly. And with the RRF ending in 2026, this widescale investment gap is set to increase still further.[8] Economists estimate that these shortfalls add up to about € 400 billion per year[a] in the areas of clean energy, grids and other infrastructure, massively threatening the scope and speed of the EU's green commitments, including its just transition objectives. The scale of the problem was confirmed in the recent report by Mario Draghi,[10] which identified an additional investment need of € 800 billion per year to address the EU's main challenges, which include the energy transition and clean industry competitiveness. Europe's fiscal straitjacket is the main obstacle here, even with the reformed risk-based framework for fiscal rules that took effect from April 2024.[11]

[a] The average yearly investment need is at least 813 billion euros (5.1 per cent of EU GDP) if the 2030 EU climate targets are to be met.[9] Given the current level of investment, the yearly European climate investment shortfall is therefore estimated at 406 billion euros.

Finally, when it comes to the social dimension of energy transition spending, some of the available funds – such as the European Social Fund (ESF), the European Regional Development Fund (ERDF) and the RRF[12] – do not yet explicitly pursue just transition objectives and are not always aligned with them. This is a missed opportunity to ensure that adequate investment is directed towards ensuring inclusion and participation in the EU's energy transition.

Lack of certainty

Member States have wide **discretion** over the type of activity and beneficiaries supported by the relevant Funds, which creates the potential **risk that investment will not reach those most in need of support** through the transition but will instead benefit the more affluent, including businesses. Analyses of TJTPs, for example, show that most of the measures proposed in them relate to economic rather than social objectives.[13]

A more general issue linked to the fact that both the JTF and SCF leave such wide discretion to Member States is that differences in Member States' political priorities, institutional capacities and technical expertise can result in **different levels of commitment to a just transition**.[14] This is also a major issue in relation to the Fair Transition Recommendation: even though it encourages Member States to put in place cross-cutting measures that are not limited to a specific sector or time period, the fact that it is non-binding and does not include any financial incentives casts doubt over its ability to strengthen inclusion and participation in the energy transition. The European Council's Social Protection and Employment Committees' first assessment of the implementation of the Recommendation identifies significant differences across Member States in terms of overall progress. It notes that, so far, 'only one country has put in place a dedicated strategic and institutional framework for a fair transition'.[15]

Indeed, hard *legal obligations* on Member States to guarantee any aspect of a just transition are conspicuously missing from all three just transition instruments.[16]

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This includes, for example, any obligation on Member States to require companies to ensure workforce reskilling and upskilling and that new jobs offer decent working conditions. Furthermore, while both the JTF and SCF include some provisions on **consultation** in the preparation of TJTPs, they **do not impose specific procedures to ensure that all stakeholders have the chance to participate** in a meaningful way. Analyses of TJTPs show that it is often unclear who participated in consultations and to what extent their contributions were taken into account, and that Member States differed in the ways in which they involved various actors.

How can the EU improve its just transition governance?

The current just transition governance mechanisms are not sufficient to deal with the multiple challenges ahead, or to ensure citizens' inclusion and participation in the energy transition. Filling the existing gaps and ensuring a comprehensive, coherent, well-funded and stable legal framework will be essential in order to address the social impacts of the energy transition. This approach should be guided by good governance principles: transparency, accountability, effectiveness, inclusiveness and respect for the rule of law. It must also be informed by evidence, provide space for democratic participation, and work across different policy areas to produce coherent policies that address employment transitions and the distributional effects linked to mitigation policies.[17]

1. Improve knowledge and awareness of transition needs

An essential prerequisite for good just transition governance is a **stronger evidence base and awareness** with regard to (1) the effects of the transition on different sectors, regions and societal groups; (2) the needs in terms of investment, skills, services and social support; (3) progress on the implementation of existing transition-related instruments; and (4) issues such as gaps in coverage and barriers to implementation and good practice, including for participation in decision-making. The **EU Fair Transition Observatory**[18] being set up by the European Commission is a welcome development here, since it has the potential to strengthen inclusion and participation by providing data, evidence and analysis of the just transition. It will be important, however, that the role of the Observatory is not confined to the collection and analysis of quantitative data, but that it also conducts qualitative studies of citizens' experiences and concerns. It must also ensure that information is actively disseminated and made accessible to the various stakeholders at the national, regional and local levels; that it helps to raise awareness of just transition needs and objectives at the EU and national levels; and that its findings are fed into the EU and national policy-making processes. In respect of this latter point, the next step should be to integrate the Observatory more formally into EU decision-making processes, ideally in a formal advisory capacity. The Observatory should also foster participation by creating inclusive spaces for citizen input and for discussion about the objectives and results of its activities.

2. Put binding obligations in place

As already highlighted, one of the limitations of the current approach to just transition is the non-binding nature of the various instruments discussed above,[19] as well as the uncertainty over their future. This would be resolved by a **dedicated legal framework setting a common direction**, objectives and minimum requirements for the measures that Member States and companies should put in place. Trade unions and other organisations are

calling for a Just Transition Framework Directive that imposes obligations on Member States and employers to plan proactively for a just transition and to anticipate and manage change within companies.[20] This should include, *inter alia*, obligations to work with unions and civil society in drawing up just transition plans and workers' rights to training and reskilling. In order to ensure the meaningful involvement of affected workers and communities, the central elements of this kind of framework should be social dialogue, collective bargaining, and worker information, consultation and participation at the company level, as well as more general rights to public participation in just transition planning. A Just Transition Framework Directive could build on existing legislation here such as the Adequate Minimum Wages Directive, the Information and Consultation Directive, the Directive on public participation in environmental decision-making, and the public participation provisions in the European Climate Law.

3. Ensure coherence and coverage

A third lever would be to bridge the many currently siloed just transition-related governance mechanisms by **integrating the overarching EU social and energy policy frameworks**. The upcoming revision of the EPSR Action Plan provides an important opportunity to streamline social and energy transition objectives. Aspects of the new Action Plan could be specifically directed towards addressing the needs arising from the energy transition: investment in worker training and reskilling, job-to-job transitions, social protection, building renovation, switching to renewable heat to address energy poverty, and so on. It should be aligned with other just transition-related mechanisms such as the JTF, SCF and Fair Transition Recommendation, but also address issues not currently covered by these instruments.

A clear overarching governance framework that offers a strong, unified definition and clarifies the goals of a just transition, would enable mechanisms such as the myriad of abovementioned funds and their corresponding national plans to be used in a more effective and targeted way to strengthen the participation and inclusion dimensions of the transition. The upcoming preparation of Social Climate Plans is an opportunity for the European Commission to pilot this kind of integrated approach – in dialogue with Member States. The Clean Industrial Deal and related Acts, as well as the Anti-Poverty Strategy announced in Ursula von der Leyen's July 2024 Political Guidelines, should also be aligned with this frameworks and shaped and governed by its objectives and principles. When it comes to planning and implementation, it is important that political ownership of the transition does not rest solely with energy and climate ministers but is shared with social and economic affairs ministers. Finally, these revised governance systems must be included in the European Semester and its country-specific recommendations in order to effectively steer Member States' social and economic policies towards a just transition.

4. Secure sufficient and targeted funding

Closely linked to the above point, another way to promote a just transition is to **attach social and environmental conditionalities** to public funding, public procurement and state aid as well as to other benefits such as reduced regulatory burdens for businesses. Adding conditions to support from EU funds and regulatory benefits is arguably one of the most powerful ways to advance an inclusive transition, since it functions as a strong motivator for companies and Member States to align their decarbonisation efforts with social objectives. If they do not act in accordance with just transition benchmarks, they should not benefit from subsidies or

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other support. The EU has a basis to build on in this respect: its Taxonomy Regulation and the Do No Significant Harm principle, for example, as well as the recently introduced ecological and social conditionalities for Common Agriculture Policy (CAP) payments.

The Do No Significant Harm principle has been applied to six environmental objectives, but its focus has been entirely on environmental harm, to the exclusion of social criteria. The Commission has launched a consultation process with tailored guidance on how to apply the principle to the Social Climate Fund (SCF), but its draft document does not include social criteria.

The Do No Significant Harm principle could be a key driver for the Just Transition if it were expanded to cover social objectives alongside its environmental focus, and universally applied to all European funding. This revised take could be piloted with the upcoming Social Climate Plans and play a pivotal role in defining and allocating the next multi-annual financial framework (MFF). The upcoming revision of the Public Procurement Directive is another key opportunity to pioneer an integrated just transition conditionalities framework, i.e. one that combines social and environmental elements. A streamlined approach incorporating this enhanced Do No Significant Harm principle would close the door to subsidies for socially or environmentally harmful activities. Likewise, the 2025 review of the Just Transition Fund Regulation, along with any legislative proposals that follow it, would be another opportunity to incorporate conditionalities for more targeted use of just transition funding for social purposes. Another desirable step would be a revision of the 2022 guidelines on state aid for climate, environmental protection and energy, to ensure that these include social, labour and environmental conditionalities where state aid is permitted.

In addition to steering funding in the right direction, we also need to look at the numbers. EU centralised funding combined with greater fiscal leeway for Member States will be essential for the energy transition, and especially for strengthening participation and inclusion. **Much more is needed from a financial angle** in order to ensure a just transition across the majority of sectors. The Commission's Political Guidelines 2024-2029 refer to additional funding for the just transition and propose a new European Competitiveness Fund under the next MFF to ensure sufficient financial resources for the Clean Industrial Deal. Its concrete provisions will need to ensure that funding for the Clean Industrial Deal follows just transition principles and thus also strengthens the participation and inclusion of workers and citizens in the clean energy transition. Just Transition Observatory findings on sectoral transition impacts and needs could provide guidance here.

5. Foster participation, partnership and multi-level coordination

Finally, the impact of just transition governance on participation will also depend on the degree to which it succeeds in including all affected stakeholders in decision-making and funding allocation. The adoption of a bottom-up, people-centred approach for the TJTPs is one of the fundamental principles contained in the Regulation that established the Just Transition Fund, and public participation is also included in the other plans discussed above. However, effective implementation of these principles is lacking. The meaningful involvement of all affected actors at all levels (national and regional economic actors, social partners, civil society, research experts, environmental organisations, etc.) requires a multilevel partnership approach. **Stakeholders from the local to the European levels need to be co-drivers** in the design, implementation, monitoring and evaluation of the plans and governance more broadly. A stronger emphasis on these actions across all the socio-economic and energy transition-related governance plans and mechanisms discussed above – making them clear and mandatory – would be an important step towards a more inclusive

transition. The brief on local transition management discusses this proposal in more detail.

Concluding remarks

Governance of a just energy transition is critical to ensuring that the benefits of the transition are shared equitably and to minimizing the social and economic burdens placed on vulnerable workers and communities. Existing EU mechanisms such as the Just Transition Mechanism, the Social Climate Fund and more cross-cutting instruments such as the European Pillar of Social Rights provide an initial framework for delivering the governance to tackle the socio-economic impacts of the transition. However, these instruments have significant limitations, including a lack of coordination, insufficient resources, and the absence of binding legal obligations on Member States and businesses to ensure fair outcomes.

A strengthened, systemic just transition governance framework will be essential in order to overcome these challenges and ensure that the principles of transparency, accountability and inclusiveness are embedded in the transition process. This would involve better-informed policies as a result of granular data collection and awareness-raising, plus binding obligations, improved coordination between social and environmental policies, adequate financial resources, and greater involvement of all stakeholders, including workers, civil society and local communities. The universal application of clear social and environmental conditionalities in EU policy processes will be a key factor in strengthening participation and inclusion in the EU's energy transition. By adopting this approach, the EU can not only meet its climate goals but also ensure a socially just future for all its citizens.

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Endnotes

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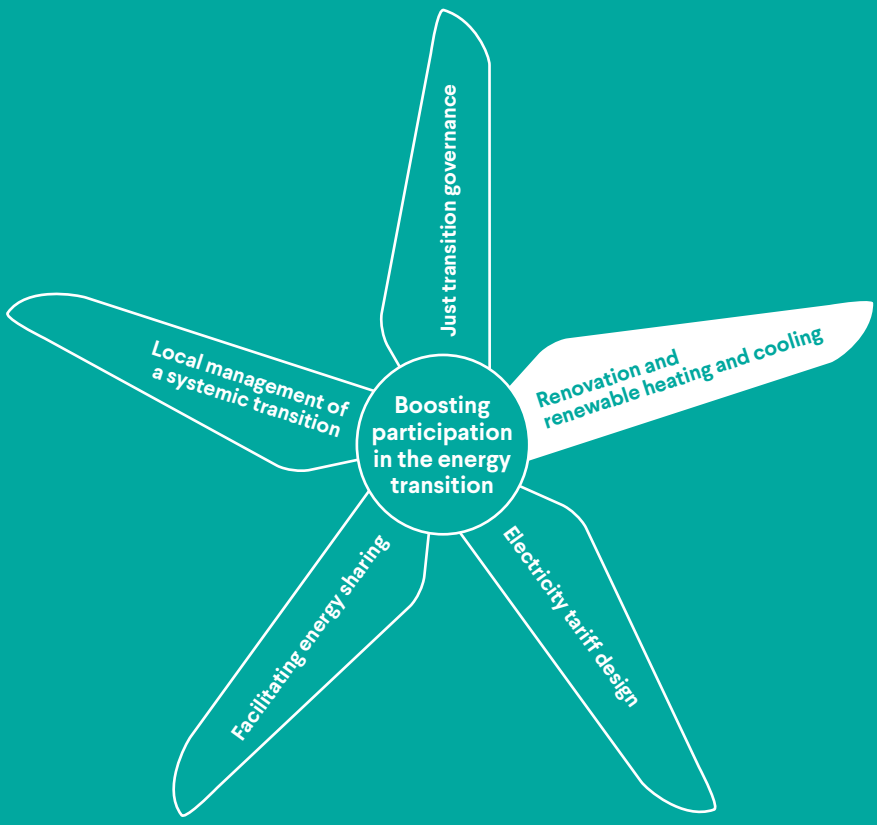
Renovation and renewable heating and cooling



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Introduction

Buildings are central to people's lives. They are our shelters against the cold, the heat, the rain. They are the places in which we live, learn, work and rest. They are where we spend 90% of our lives – more than 21 hours per day. Transforming the built environment will be key to a successful energy transition. Buildings represent 40% of the EU's total energy consumption and 36% of its GHG emissions – and that is just during their use phase. This is because a very large proportion of the building stock has poor energy performance. Much of it was built before the 21st century and still relies heavily on fossil fuels for heating.[1] Given that nine out of ten buildings standing today will still be there in 2050, building renovation and switching to renewable heating and cooling (H&C) will be key to reaching our climate goals. However, progress has been slow in recent years, leaving the building stock in the EU off-track to reach climate neutrality by 2050.[2] More action is needed to insulate our buildings and move to renewable energy to heat and cool them, be that on-site or via the grid. In addition to fighting climate change, this contributes to lower energy bills, improves health and well-being, reduces pressure on electricity grids, and increases the EU's energy independence and resilience. But as with all elements of the energy transition, these benefits need to be distributed fairly across society in order to achieve the broad backing needed for the transition to be a success. Action on buildings must include all segments of society.

After taking stock of recent achievements in the EU policy framework, this brief reflects on the state of play regarding support for renovation and renewable H&C, highlights gaps and challenges and presents some ideas on how to improve the current offerings and make the benefits more accessible, equitable and inclusive. The analysis will touch on **four aspects of social fairness: availability, accessibility, affordability and inclusivity**.•

• This approach is based on expert discussions within the Knowledge Community and former BPIE research on the social dimensions of building decarbonisation policies.

State of play: How renovation and renewable heating and cooling contribute to fair participation in the EU energy transition

The Energy Performance of Buildings Directive

The most important EU legislation for access to building renovation and renewable H&C is the 2024 revision of the **Energy Performance of Buildings Directive (EPBD)**.[3] The EPBD introduces Zero Emission Buildings (ZEB), which will be the standard for new-build construction from 2030 and will also set the tone for deep renovation. A ZEB is defined as a fully decarbonised building with a very high energy performance (although not necessarily entirely renewables-based). **The EPBD also strengthens renovation policies for existing buildings**. It introduces Minimum Energy Performance Standards (MEPS) that

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require every Member State to renovate the worst-performing 26% of non-residential buildings by 2033. Member States must also set a 2020 to 2050 trajectory at the national level for the progressive renovation of residential buildings,[4] with the aim of delivering 55% of this through the renovation of the worst-performing 43%. These savings can be delivered by means of a mix of policies (including MEPS), financial support and technical assistance.

The EPBD also includes specific **provisions relating to the decarbonisation of H&C**[5] and reinforces the **National Building Renovation Plan** (NBRP), which is the strategic planning tool used at national level. Member States use this *inter alia* to report on the state of their building stock, calculate investment needs and list available financing sources. Member States must outline the policies they have put in place '*with a view*' to phasing out fossil fuel boilers completely by 2040 and achieving a zero-emission building stock by 2050.[6] The EPBD also encourages Member States to incentivise the use of renewable energy, including by redirecting financing streams.

The EPBD also improves the enabling framework for building renovation and the switch to renewable H&C by providing **new or better access to information, advice and financial support**. It reforms the Energy Performance Certificates (EPC) system, introduces an EU framework to supervise and facilitate the uptake of renovation passports, and gives a strategic role to a more diverse financial framework. Finally, it also offers more recognition, better integration and a stronger role for one-stop shops (OSS), a subject that we deal with below.

Fairness considerations are at the core of the EPBD. The social aspects of buildings policies are given more political recognition through the introduction of legal definitions for 'energy poverty' (in line with the EED) and 'vulnerable households'.[•] It puts a strong emphasis on the renovation of the worst-performing buildings, which are often occupied by people in energy poverty. There are requirements to make the enabling framework accessible and affordable for vulnerable and low-income households, and for Member States to introduce specific social safeguards to protect citizens, particularly tenants.[••]

[•] EPBD Article 2 § 28 defines them as 'households in energy poverty or households, including lower middle-income households, that are particularly exposed to high energy costs and that lack the means to renovate the building that they occupy'.

[••] EPBD Article 17 § 17 specifically mentions the need for Member States to 'address the eviction of vulnerable households caused by disproportionate rent increases following energy renovation […]'. Safeguards include for example 'providing rent support, imposing caps on rent increases, incentivising financial schemes that tackle the upfront costs of renovations' (EPBD Article 17 § 19).

One-stop shops

One-stop shops are a type of advisory service for building renovation and renewable H&C. OSS are (usually) physical places facilitating or offering energy renovation solutions. They mainly describe the available options for renovation and renewable H&C measures (in line with the policy framework) and help identify the best options and sequencing for a specific building, thereby simplifying and guiding the homeowner's decision-making process. Examples of OSS are varied, as there are a number of different models and a large range of options in terms of (1) how responsibility for delivery of the services is divided between public authorities and private entities, (2) the breadth and depth of the services provided,[7] (3) the target audience(s) and their level of involvement in the OSS, and (4) the funding sources.

While the EPBD does not provide an official definition of an OSS, it does include a specific provision on the topic. Article 18 defines (1) who is responsible for setting them up (usually public authorities, with the option of private stakeholder involvement); (2) how they are to be rolled out (minimum one OSS per region and/or per

80,000 inhabitants); (3) their intended users (public bodies; homeowners/households, with a particular focus on people affected by energy poverty and on vulnerable households; and private entities such as small and medium-sized enterprises (SMEs)); and (4) lists the services to be provided. It also clarifies the role of the OSS within the ecosystem, notably their key contribution to fulfilling renovation obligations.

OSS have real potential to improve access to renovation and renewable H&C solutions. Experience shows that **providing advisory services has more impact than simply (or mainly) providing financial support**, as it gives clarity and confidence about the renovation process, which ultimately triggers action. There is evidence that a lower but steady subsidy coupled with targeted information and advisory services has a more positive impact than higher but short-term financial support detached from any technical assistance.[8] **OSS make the energy transition more tangible for citizens and give them a place to voice their needs and concerns**, thereby enabling true participation by involving them in the decision-making about the building they own and/or occupy. All in all, **OSS symbolise the energy transition as a whole**, since they operate at the intersection of all its different aspects – legal, planning, financing, technological coordination and human – and create bridges between them at the level of the individual building.

What is missing?

EPBD implementation: questions raised and best practices required

While the EPBD undeniably makes many improvements to the support available for renovation and renewable H&C, the transposition phase, which runs until May 2026, brings new challenges. Implementing so many new or updated provisions in such a short timeframe creates the risk that **positive changes brought in at the EU level get 'lost in transposition' at the national level**.

In order to leverage the EPBD's potential for social fairness, its implementation must ensure that **households have *greater access to* renovation and renewable H&C solutions (policy availability)**. Delivery on the ground may be hindered by the lack of skilled workers and certifiers, as well as by a lack of capacity within national and local administrations and banks.

Support programmes should be *delivered more effectively* to their target audiences (policy accessibility). The EPBD asks Member States to focus their policies on the worst-performing buildings, which are often occupied by vulnerable households. But a lack of verified, consolidated granular data on the building stock makes it difficult to identify and target those buildings. Similarly, the EPBD calls on Member States to target support to energy-poor and vulnerable households, but the same identification issues can arise here too. In addition to this, the EPBD definition of 'vulnerable households' puts strong emphasis on economic factors, ignoring other, intersectional aspects of vulnerability.

Support programmes should be made *more equitable* (policy affordability). The EPBD recognises that measures and tools should be affordable and that some segments of the population need special support. But financing for renovation and renewable H&C remains a major challenge: there is not enough funding available, and it is often poorly targeted or poorly designed.

For example, with subsidies being disbursed once works are completed, while costs are upfront.

Support programmes should be planned and designed *with* stakeholders (policy

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inclusivity). Member States are required to consult with civil society and bodies working with vulnerable households[9] when drafting their National Building Renovation Plans. This is essential for successful policy design and must be done in a meaningful way, not as a box-ticking exercise.[10]

The road to socially fair one-stop shops

Availability: While there are more and more OSS, there is a risk of reinforcing current inequalities due to their greater concentration in Western/Northern Europe, higher uptake by affluent and highly educated households, orientation towards owners of single-family houses rather than condominiums in the private-rented sector, and a tendency for them to be clustered in cities rather than in rural areas. Another challenge is to ensure that OSS have sufficient human resources to respond to increasing demand.

Accessibility: There are high expectations on OSS to support the delivery of mandatory renovation and renewable H&C measures, but so far there has been insufficient tailored guidance and support for the creation and ongoing management of the OSS themselves.

Affordability: There is often a lack of sufficient funding or suitable business models to sustain OSS in the long term and/or to offer services at lower or no cost for vulnerable households.

Inclusivity: Even though OSS are nominally open to all citizens, the services directed at energy-poor and vulnerable households have often been sub-optimally designed. For these target groups, OSS must first offer support to resolve any legal issues (e.g. energy bill payments, disputes between tenants and landlords) before offering support for renovation. This is essential in order to reach some segments of society, and could be facilitated by improving coordination between OSS and stakeholders trusted by these groups (e.g. social workers).

How can the EU broaden access to renovation and renewable heating and cooling?

1. Support EPBD implementation with future-proofed policies for all

Build an EU Affordable Housing Plan founded on a rights-based approach

Right from the inception phase of the policymaking process for the EU Affordable Housing Plan, the Commission should be moving from a corrective to a preventive approach to protection, especially for vulnerable households. As part of this, it should **broaden the use of the EU Fair Transition Observatory**[11] to monitor and report on the social/distributional impacts of building policies (not only *ex post,* as required by the EPBD for social safeguards within the NBRP, but also *ex ante*); and should also adopt a broad intersectional approach to vulnerability, reflecting the diversity of its forms. The Affordable Housing Plan should **address the structural problems in the (rental) housing market** in addition to the energy-related ones, and should reflect on what is needed in the EU framework in order **to scale up innovative practices for the better use and management of the existing building stock** (e.g. repurposing vacant buildings, facilitating office conversion into residential spaces, and creating incentives to share living spaces).

It should also link EPBD implementation with the provision of housing that is not only affordable but also high-quality as a result of renovation, and should carefully consider new construction.

Reflect on how to integrate social fairness criteria into EU funds

With regard to affordability, the Commission should reflect on how to **embed social fairness criteria in all EU funds**, beyond Do No Significant Harm, as well as on how to ringfence funds for energy-poor and vulnerable households. This could be done as part of the Multiannual Financial Framework post-2027, the revision of the Public Procurement Directive and the reform of state aid rules. This is discussed further in the brief on just transition governance.

Support a holistic approach to EPBD implementation

The Commission should provide guidance and active support to Member States to aid the timely and consistent implementation of recently agreed legislation. A holistic approach to implementation, focusing on the EPBD and its synergies with other instruments[12] –, would help to avoid silo thinking that could have unintended consequences (often harming the most vulnerable in society). The Commission should also:

- bundle its buildings-related activities into a new Directorate-General for the Built Environment, bringing together staff dealing with buildings from all current directorates, and reporting to the newly created Commissioner for Energy & Housing.
- **create an EPBD Implementation Forum** for best practice sharing and data collection
- provide Member States with best practices for engaging with citizens meaningfully, creatively and effectively during the consultation phase of the NBRPs[13]
- **create an Energy Efficiency, Renovation and Renewable H&C Academy** to build capacity and improve skills, including for energy advisors and certifiers, as part of the proposed Union of Skills.

Fit for 55 Package and other instruments such as the Ambient Air Quality and Cleaner Air Directive (AAQD).

Update the Heating and Cooling Strategy

The Commission should **update the 2016 H&C Strategy**[14] **when working on energy system integration**. The Strategy should reflect the Energy Efficiency First principle,[a] set a target to move away from fossil fuel use in buildings by 2040 at the latest, and further elaborate on the low-temperature heat readiness concept introduced in some EPBD provisions.[15]

[a] Putting energy efficiency first (as defined in Governance Regulation Article 2 § 18) in energy policymaking avoids over-dimensioned grids and supports better infrastructure planning and investment.

2. Turbocharge the effective rollout of socially fair one-stop shops

Make one-stop-shops a political priority for EPBD delivery and provide guidelines for setting them up

Availability: The creation of OSS should be given higher political status by being put under the leadership of the Commissioner for Energy & Housing, and should also be frontloaded as a priority measure in EPBD implementation. They are an essential component for successful EPBD delivery. The Commission should provide an off-the-shelf kick-starter toolkit[16] and helpline on how to set up and maintain OSS in line with the needs identified in the NBRP and local H&C plans.[17] This advice should recognise that there is no one-size-fits-all for OSS and that their design should reflect their intended beneficiaries. It should be designed to respond to the specific needs of energy-poor and vulnerable households, thus providing a bridge between energy advice and other services such as income support or legal advice.[a] [18]

[a] Energy-poor and vulnerable households often prefer OSS that are integrated, providing end-to-end services, rather than OSS only providing broad advice.

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Ensure adequate funding for one-stop-shops is available

Affordability: it is essential to strike the right balance between public and private funding, depending on the stage of the OSS rollout, the services provided and the target audience. **In the initial phase, booster funding is key and should primarily come from public sources** such as Emissions Trading System (ETS) revenues, the Social Climate Fund, Energy Efficiency Obligation Schemes and subsidies redirected away from fossil fuels,[19] as well as from the post-2027 MFF. **Once OSS have been established, business models involving private money should kick in** so that they are sustainable in the long term and the remaining public money can be shifted to supporting access for energy-poor and vulnerable households. Banks could easily be brought into financing OSS and their services; this would promote renovation and renewable H&C to citizens in a business setting. Ultimately, OSS could also serve as a platform to check the conformity of mortgage and lending applications.

Promote an integrated, community-centric approach to one-stop-shops

Accessibility and inclusivity: Trust is vital to OSS success: they should be available in areas where energy-poor and vulnerable households live, work or benefit from other services.[20] This could involve transforming OSS into mobile physical places.[21] They should preferably be managed by local authorities or local stakeholders (e.g. social workers, neighbourhood associations, energy communities, charities, consumer organisations, condominium managers, health specialists, etc.).[22] Citizen participation is not just about using the OSS, but also extends to owning them, setting them up and managing them. **Community and cooperative approaches to OSS should be further promoted and supported**,[23] e.g. by integrating renewable energy communities[24] (which can have a positive role in fighting energy poverty)[25] with citizen-led renovation projects.

OSS could also act as intermediaries between communities and district heating network providers. This would improve the energy performance of buildings, help decarbonise district heating systems, and inform citizens about present and future heating options as well as other opportunities such as energy sharing.

Finally, more and better use of proactive digital outreach tools through social media channels for branding could help to reach the target population.

Endnotes

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3 Directive EU (2024/1275), April 2024. The transposition period runs until May 2026. For an in-depth discussion of the revision, see BPIE (2024). The EPBD decrypted: a treasure chest of opportunities to accelerate building decarbonisation. Retrieved from https://www.bpie.eu/wp-content/uploads/2024/04/082_BRIEF_The-revised-EPBD---decrypted_Final.pdf

4 Intermediary milestones are included with the target of reducing primary energy use by 16% between 2020 and 2030, and by 20-22% between 2020 and 2035.

5 EPBD Article 2 § 4 defines renewable energy as 'wind, solar (solar thermal and solar photovoltaic), and geothermal energy, osmotic energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas'.

6 These objectives should also be read in relation to the "indicative target of at least 49% renewables in the EU final energy consumption in buildings in 2030" (Renewables Directive, Article 15a§ 1).

7 INNOVATE project (2020). How to set up a one-stop shop for integrated home energy renovation? Retrieved from https://energy-cities.eu/wp-content/uploads/2020/07/INNOVATE_guide_final.pdf OSS can provide a range of services from facilitation (providing general information about renovation benefits and potential suppliers) and coordination (overseeing the renovation process and coordinating with all suppliers on behalf of the homeowner) to all-inclusive services (offering full renovation packages to homeowners and bearing responsibility for the customer).

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10 BPIE evaluated the compliance of Member States against the requirements of the 2020 long-term renovation strategies and awarded an average mark of 2.1 out of 5 for the consultation phase. BPIE (2020). A Review of EU Member States 2020 Long-term Renovation Strategies. Retrieved from https://www.bpie.eu/wp-content/uploads/2020/09/LTRS-Assessment_Final.pdf

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15 Low-temperature heat readiness is an approach ensuring buildings are (renovated to be) ready for renewable heat, either by setting a minimum insulation standard or by requiring newly installed H&C systems to run at a certain (lower) temperature. This approach ensures proper sequencing and avoids closing down future options in terms of renovation and renewable H&C measures. See BPIE and BEUC (2023). Introducing the Heat Pump Readiness Indicator. Retrieved from https://www.bpie.eu/wp-content/uploads/2023/04/Full-report_Introducing-the-heat-pump-readiness-indicator.pdf and IFEU and RAP (2023). Towards low flow temperatures: Making buildings ready for heat pumps and modern district heating. Retrieved from https://www.ifeu.de/fileadmin/uploads/Publikationen/Energie/ifeu_rap_2023_Towards_low_flow_temperatures.pdf

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17 Best practice sharing to increase the impact of OSS on residential building renovation already exists in the EU PEERS Community of Practice project. See https://www.eu-peers.eu/

18 On the gap between short-term income/energy bill payment support and long-term energy advice, see Öko-Institut & e-think (2024). How to deal with rising energy prices: financial compensation for all VS targeted energy efficiency and renewable energy measures for low-income households. Retrieved from https://www.oeko.de/en/publications/how-to-deal-with-rising-energy-prices-financial-compensation-for-all-vs-targeted-energy-efficiency-and-renewable-energy-measures-for-low-income-households/

19 As of 1st January 2025, Member States are banned from providing financial incentives for the installation of stand-alone boilers powered by fossil fuels (EPBD Article 17 § 15)

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21 An example is the Belgian energy community Klimaatpunt, which supports vulnerable households in their neighbourhoods with their 'Klimaatmobiel'.

22 COMACTIVATE, *ibid*.

23 Energy and renovation communities and cooperative projects face specific challenges, such as defining the liability against banks or contractors (see for example the learnings from the OSR-COOP project – see https://osr-coop.rescoop.eu/).

24 Renewable energy communities are defined in Article 22 of the Renewables Directives (2018). The EU Solar Energy Strategy (2022) set the indicative objective of "*at least one renewables-based energy community in every municipality with a population higher than 10,000 by 2025*".

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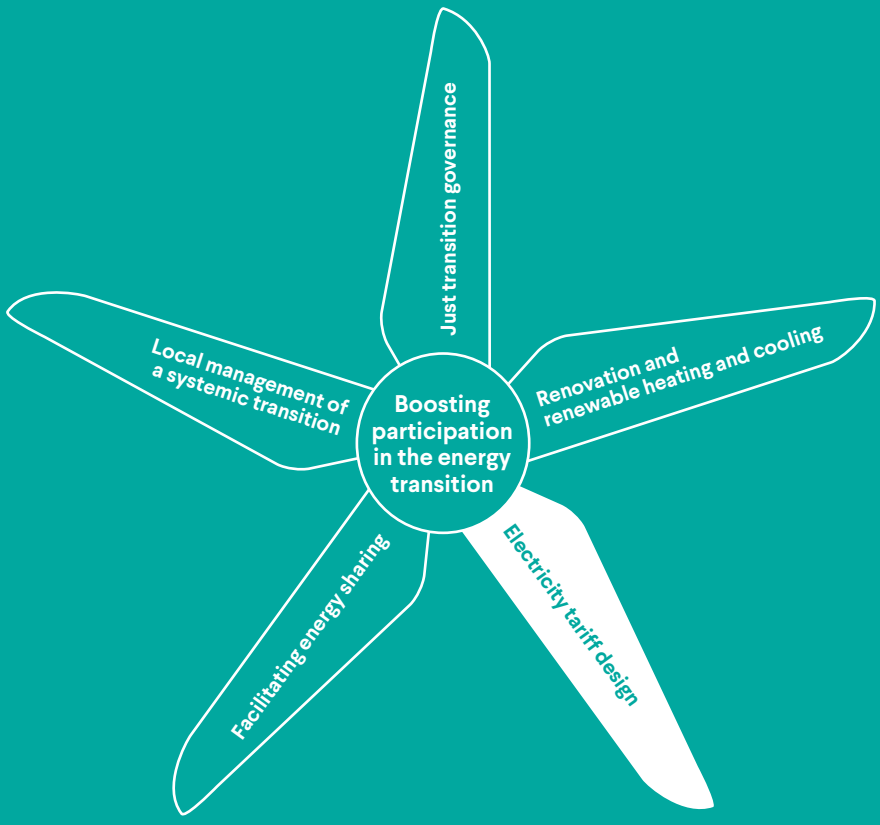
Electricity tariff design



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Introduction

Since the end of 2021, households in many EU countries have been exposed to extreme price hikes from wholesale electricity markets as a result of Europe's dependency on fossil gas.[1] The summer of 2024, the hottest on record, also reminds us of the toll that high energy prices take on the poorest and most vulnerable populations, who are the first to suffer from climate change. Making renewable electricity accessible and prices affordable for everyone is a social, ecological, security and economic imperative.

The energy price crisis has intensified the cost of living in the EU and highlighted how poorly designed electricity tariffs can deepen inequalities. Meanwhile, solar and wind power have helped lower wholesale prices. This brief focuses on household consumption of renewable electricity and the regulatory and contractual framework for retail electricity supply in the EU. A separate brief deals with citizen energy-sharing schemes to improve access to low-cost renewable electricity.

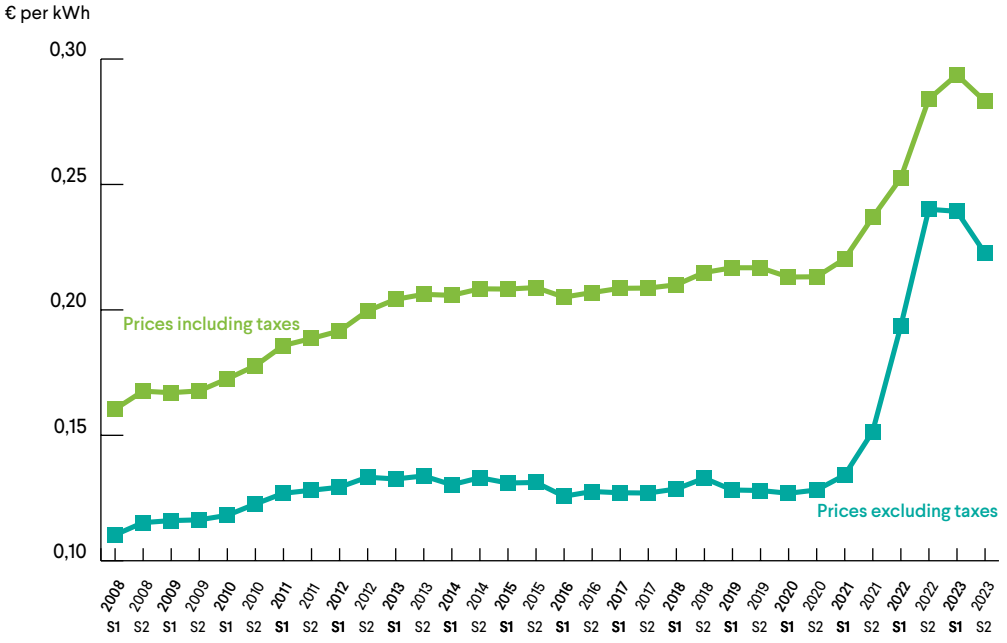

Figure 1 - Development of electricity prices for household consumers, EU, 2008-2023 (€ per kWh).
Source: Eurostat, Electricity prices for household consumers (nrg_pc_204)

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What is electricity tariff design?

Electricity tariffs have a number of different components: energy, network, taxes and levies. While the energy component of the price is subject to competition and can vary depending on the specific arrangements between market players and consumers, network tariffs and taxes are determined by law or the regulator.

Protecting citizens against future price hikes and geopolitical uncertainties requires suppliers to wean their portfolios off fossil fuels and increase renewable electricity supply. So far, however, most retail electricity tariffs in the EU have failed to pass on the cost advantages of renewable electricity sources to households. Fair tariffs should make electricity more affordable while ensuring equitable access and participation in the energy market. Such tariffs are essential for **building trust** in the energy transition by **fairly distributing the costs and benefits of renewable energy**. This requires innovative tariff designs that address the needs of all consumers, especially vulnerable and low-income households, which are most impacted by price volatility and least able to invest in renewable self-generation or energy efficiency improvements.

With high shares of cheap but weather-dependent solar and wind power, energy bills will increasingly depend on how and when energy is used. Those who can adapt their consumption patterns will see increasing rewards. Conversely, the relative cost for households unable to respond flexibly will probably become more significant.

The fossil energy supply crisis of 2021-23 demonstrated the importance of **long-term hedging**[•] on the electricity wholesale markets to shield end-consumers, particularly households, from extreme prices. Suppliers that had hedged their customers' electricity consumption on the long-term electricity market well in advance were less affected by the energy supply crisis than those that had not hedged and therefore passed on the extreme prices to their customers or even went bankrupt.

• 'Hedging' here refers to managing the financial risk associated with fluctuating electricity prices. It involves making agreements or transactions that protect against potential losses due to price volatility.

In 2023, EU households paid an average of 29 cents per kilowatt-hour of electricity. Even if citizens change their behaviour to maximise their use of low-cost renewable electricity, they still need to pay additional costs for transporting the electricity and taxes. The way **retail tariffs allocate network costs and taxes significantly affects cost distribution**. Network costs make up 25% of the household retail price (7 cents/kWh), while taxes, fees, levies and charges account for around 20% (6 cents/kWh)[2], with substantial differences between Member States and over recent years (figure 2).

Key objectives for electricity tariffs

Given this context, it is clear that electricity tariffs should be evaluated for their **incentive effects** and their role in mitigating the impact of electricity price crises. Electricity tariffs should meet three key objectives:

1. Create **incentives for load shifting** to enhance flexibility and encourage **energy saving** during longer periods of low (renewable) production
2. Offer **protection** against sudden increases in electricity prices
3. Ensure **affordability** through access to renewable electricity.

Current retail electricity tariffs in the EU typically either incentivise consumption shifts by means of variable pricing or offer price stability through fixed-rate tariffs, but rarely combine the two.

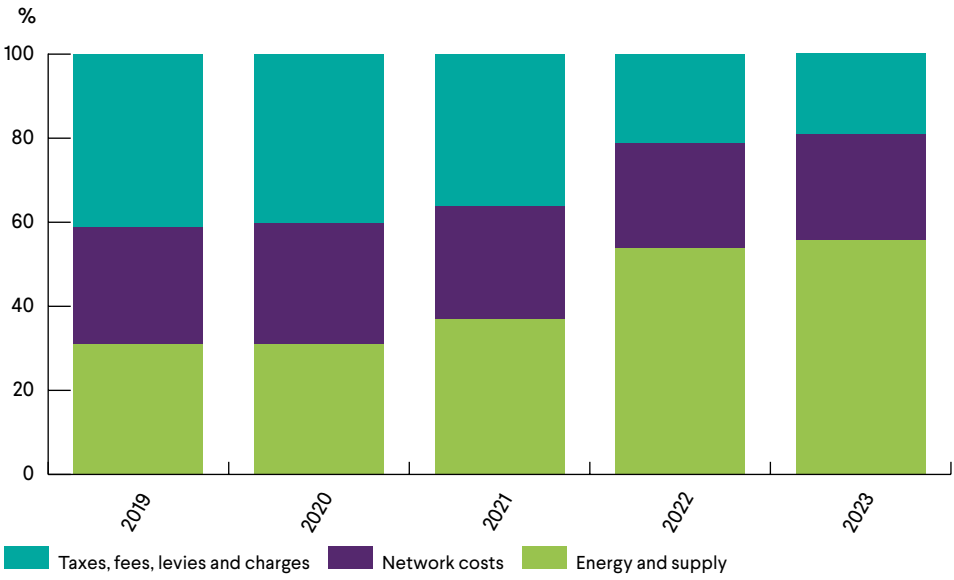

Figure 2 - Breakdown of the average electricity price for households 2019-2023 (%).
Source: Eurostat, Electricity price components (nrg_pc_204_c), own calculations

KEY OBJECTIVES FOR ELECTRICITY TARIFFS

Incentivise load shifting during low RES periods

Protect against sudden electricity price hikes

Ensure affordability through access to renewable electricity

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State of play: How tariffs contribute to fair participation in the EU energy transition

EU legislation gives citizens the right to access a fixed price tariff and obliges retail suppliers to offer dynamic price tariffs.[3] A variety of retail electricity tariffs are available in EU Member States. These include **static, fixed price** and **social or regulated tariffs** with capped prices per kilowatt-hour; highly **dynamic tariffs** with varying prices depending on the time of consumption; and block tariffs that include a basic amount of consumption (explained in detail below).[4]

Fixed electricity tariffs offer price stability by locking in rates for a set period. They can help consumers manage their budgets and avoid market volatility, but **consumers might pay too much** if wholesale market prices drop after they take out a fixed-price contract[5] and they might also have to pay an exit fee if leaving it early. Moreover, **fixed-price tariffs might hide wholesale market price signals**, reducing the incentive to use renewable electricity when it is abundant, such as during hours of sunshine or wind.

Dynamic tariffs are available in many Member States, allowing citizens to **benefit from low-cost renewables by adjusting their usage during specific periods**.[6] These tariffs, which are based on wholesale market prices, can pass on the cost savings of renewables to consumers. By embracing demand-side flexibility – e.g. by night-charging electric vehicles, using smart appliances and integrating solar panels with home batteries – EU consumers could save over € 71 billion on electricity bills by 2030.[7]

While beneficial for some, dynamic tariffs are not suitable for everyone and also require smart meters – which are still unavailable for many consumers in the EU.[8] For poor and vulnerable households, dynamic tariffs can pose a serious risk, as these households may not have the **financial flexibility** to manage energy bills that occasionally spike far above the average due to sudden price increases. These households are already financially fragile, so even a short period of elevated prices could push them into (further) energy debt. Moreover, many of them face barriers such as limited **digital literacy, lack of access to technology, and the inability to invest** in flexible assets such as electric vehicles, heat pumps or smart appliances. These **challenges are compounded by factors** such as age, location, working hours and family dynamics, which can limit the advantages of features such as time-of-use pricing. For example, older populations may struggle with new technologies, and

Provider	Description	Key characteristics
Tado	Smart thermostats with dynamic price contracts in several EU Member States	Balances energy use with real-time dynamic pricing to optimise heating costs
1komma5grad	Home energy management system optimising solar self-consumption with a capped dynamic price contract (Germany only)	Integrates solar self-consumption and provides a capped dynamic pricing structure to manage costs effectively
Octopus	Heat pump tariffs (UK only)	Offers variable pricing tailored to heat pump users to promote efficient energy use
EDF	Air source heat pump tariff trial (UK only)	Trial tariff aimed at making air source heat pumps more affordable through dynamic pricing

Table 1 - Examples of dynamic price contracts

low-income families often live in poorly insulated homes with outdated appliances, and may find the upfront costs of smart devices prohibitive. As a result, making dynamic tariffs accessible and effective for all consumers remains a significant challenge.[9]

A stable, cost-efficient renewable energy system relies on **dynamic interactions** between the grid and millions of solar panels, batteries, electric vehicles and heat pumps.[10] Effective retail electricity tariffs can encourage households to **adjust their consumption**, reducing grid strain and overall system costs. Time-based and capacity-based network charges can further incentivise households to adapt their usage to grid conditions. Greater demand-side flexibility can **decrease the need for grid expansion** and reduce reliance on fossil backup capacities.

Households that shift consumption to times when cheap renewable electricity is abundant support the market integration of renewables by effectively prioritising them over other forms of energy; this **reduces the need for public subsidies**. Fair tariffs that promote energy savings and efficiency also lower demand, **enhancing supply security** by decreasing reliance on imported fossil fuels. However**, high electricity taxes and charges can hinder the transition** from fossil fuels by making electric heat pumps and vehicles less competitive than fossil gas boilers and combustion cars, which may face lower taxation.[11]

On the supply side, retail electricity suppliers can offer price-stable renewable energy through long-term contracts such as Renewable Power Purchase Agreements (PPAs)[a] or Contracts for Difference (CfDs)[b] [12]. These mechanisms are intended to supply larger quantities of renewable energy and offer developers **stable revenue** – but need careful design. So far, these offers have been available to retailers and large-scale consumers. Governments can leverage them to promote renewable energy deployment and provide indirect benefits to households through innovative retail electricity contracts and consumer protection measures.[13] As policymakers focus on lowering industrial electricity costs via PPAs and CfDs, fairness for households must not be overlooked. For instance, PPAs and CfDs can reduce market liquidity and weaken flexibility incentives if they fail to transmit effective price signals.

[a] PPAs are long-term contracts between energy buyers and sellers, e.g. with prices for solar or wind power fixed for 10 years.

[b] CfDs are financial instruments backed by a public entity to support investments in assets with high upfront costs by providing stable revenues for power plant operators over a long period, independent of the price volatility of wholesale markets.

What is missing?

Collaboration between players to create fair electricity tariffs

Achieving fair renewable electricity tariffs will require coordinated efforts across multiple levels of governance. European institutions are responsible for establishing clear policy frameworks that promote flexibility while protecting vulnerable consumers. National governments and regulators tailor these frameworks to local contexts, designing tariffs that encourage – or *de facto* discourage – demand-side flexibility and protect low-income households from price volatility. Local authorities are pivotal in facilitating the deployment of smart grids and community energy projects that empower consumers. Energy utility companies are tasked with effectively integrating renewable energy and managing grid demand. Retail suppliers contribute by offering dynamic pricing models and stable renewable energy options through contracts such as CfDs and PPAs.

However, ensuring inclusivity and fairness requires the active involvement of vulnerable and underrepresented groups in tariff design, for example through focus groups or citizens' panels. Consumer organisations,

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ombudsmen and dispute resolution bodies are also uniquely positioned to leverage their frontline experience to shape tariffs that address consumers' needs. Ultimately, collaboration between all stakeholders is essential for the development of tariffs that are equitable and drive broad participation in the energy transition across the EU.

Transparency for building citizen trust

Consumers face significant barriers to engaging with the energy market, including a lack of awareness about the benefits of **switching** tariffs. The **complexity** of energy tariffs increases with time-of-use elements. Even for consumers with high digital literacy, comparing offers and making a well-informed choice can be challenging. During the energy price crisis, many EU households experienced extreme price increases, unilateral contract changes by their retail suppliers or even suppliers going bankrupt. These developments **undermined trust.** Both the delayed roll-out of smart meters and the privacy concerns about them in some Member States further complicate households' engagement. In some countries, environmental NGOs and consumer organisations have also criticised the marketing of renewable electricity tariffs as not always sufficiently substantiated and potentially allowing for greenwashing.[14]

Tailored tariffs aligned with targeted support measures

There is **no 'average' energy consumer** – the way we use energy is influenced by factors such as gender, age, ability, income, wealth and access to technologies such as electric vehicles, heat pumps and solar panels. Tariff design must take this into account. Tariffs should be tailored to reflect the energy demands of various consumer groups, particularly those traditionally underserved or marginalised. Not everyone is able or willing to engage with dynamic tariffs and flexible solutions, and this underscores the importance of **clear communication, inclusive design and accessible, user-friendly options**.[15] To be truly future-proof, tariffs must focus on justice and affordability and incorporate social tariffs for certain households in order to ensure fair and equitable access to energy for all.

Practical examples

The RenOnBill project in Italy demonstrates how **on-bill financing** schemes can significantly boost residential energy renovation. Allowing homeowners to finance energy efficiency upgrades through their utility bills reduces the upfront costs to zero. The resulting energy savings are used to repay the investment, making renovations accessible and financially viable.[16]

Under the Greek government's plan to shift lower off-peak electricity tariffs from nighttime to midday – when renewable energy production is at its highest – households can **receive vouchers to upgrade old appliances** to more efficient smart devices. This initiative will align energy use with renewable generation, and includes provisions for households with members who have special needs.[17]

Tariff design that gets the right balance between price protection and exposure

Many countries have introduced rebates, vouchers and social tariffs to help the most vulnerable pay their energy bills.[18] However, the key challenge in designing fair renewable tariffs is finding a way to balance two seemingly conflicting objectives: **nudging behavioural change through effective price signals** while also **protecting households** from extreme price spikes.

Although uncommon in the EU, **rising block tariff models** could help balance social protection with exposure to market price signals. These tariffs offer a basic level of consumption either free or at a reduced rate, with higher, dynamic pricing applied above this essential level. They can benefit low-income households with low energy consumption. However, block tariffs could send inefficient price signals, leading to overconsumption in cheaper blocks and underconsumption in more expensive ones. It would be counterproductive to attempts to reduce demand if, for example, consumers were incentivised to increase their electricity usage in order to stay within lower-cost tiers. Additionally, defining a basic supply per household is challenging, as needs vary significantly. For example, someone reliant on respiratory equipment has different energy needs from someone who works outside the home all day. During the 2021-22 electricity price crisis, some EU Member States introduced block tariffs to protect consumers from price hikes, without adequate differentiation or progressive targeting. As a result, some groups received benefits despite not being in need.[19]

Dynamic tariffs with price protection combine real-time energy pricing with a safety net against price spikes.[20] This model allows consumers to benefit from lower rates during off-peak times while shielding them from sudden increases in electricity costs. By integrating smart technology and price caps, this tariff system encourages efficient energy use and savings, providing a balanced approach to energy consumption and financial predictability. Although exposed to hourly changing prices, the price floats within clearly defined limits.

The risk of potential grid bottlenecks could be dealt with by using the network cost component of retail electricity prices as a lever to increase both flexibility and fairness. Replacing static network charges with **more differentiated, cost-reflective pricing** could drive better outcomes. Local grid operators could introduce time-of-use elements in network charges, rewarding users for adjusting their consumption. However, it is essential that these local price signals are aligned with those from wholesale markets in order to avoid conflicting incentives that could undermine the intended benefits.

How can the EU facilitate fair renewable electricity tariffs?

In the context of energy price and cost of living crises, better electricity tariff design could help broaden access to affordable renewable energy by helping households to respond flexibly to price signals. Well-designed tariffs should create incentives for load-shifting and encourage energy saving during periods of low renewable production; offer protection against sudden increases in electricity prices; and ensure affordability through access to renewable energy.

To deliver on this potential, the EU can take the following concrete steps.

1. Make electricity tariffs more transparent and user-friendly

Facilitate dynamic tariff adoption

EU institutions should provide clear guidance on renewable tariffs. Key actions include strengthening rules for transparent pre-contractual information, simplifying

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price comparison tools, and ensuring clear and accessible bill design, particularly for vulnerable and underrepresented consumers. The use of aids such as colour coding and plain language can greatly improve comprehension. Additionally, e-platforms offering real-time data and tools can enhance transparency, enabling consumers to monitor and better manage their electricity costs.

Align network charges with market signals

Local price signals should be aligned with those from wholesale markets to prevent conflicting incentives. EU institutions should offer guidance on fair and cost-reflective network charge allocations to encourage flexibility in energy usage, ensuring that consumers are not overburdened by disproportionate costs.

Promote sub-metering devices for dynamic tariffs:

Sub-metering devices should be promoted in order to give consumers more granular control over their electricity use. This would enable households to differentiate between essential and flexible electricity consumption, such as charging electric vehicles during low-price periods, thereby making dynamic tariffs more practical and appealing.

2. Deliver on climate and social goals via renewable electricity tariffs

Amend the Energy Taxation Directive to promote renewable electricity use

The current tax structure often favours fossil fuels: it needs to be reformed to align with environmental objectives. Energy taxation should incentivise the use of renewable electricity, particularly in the heating and transport sectors. For example, reducing excise duties for renewable electricity can encourage its use and accelerate electrification.

Develop renewable-friendly safeguards for households in energy poverty

Protect vulnerable groups through the introduction of safeguards such as universal basic supply rights, either through block tariffs or dynamic tariffs with safety nets, to ensure energy is affordable. Financial instruments and subsidies should be improved so as to assist low-income households with their bills and encourage the installation of energy-efficient appliances, thereby supporting their participation in the energy transition.

Assess the social impacts of tariffs

Standardised metrics should be developed to measure the social and economic impacts of the various tariff structures and ensure affordability. These assessments could incorporate risk profiles (similar to those used in financial services) to guide consumers based on their consumption patterns. Having an understanding of different consumer groups' financial flexibility and risk tolerance enables tariffs to be better aligned with their needs and protections, ensuring a fairer market.

Promote stakeholder collaboration and shared responsibility

Effective tariff design requires active cooperation between government bodies, regulators, energy companies and civil society. This collective effort can ensure that tariffs are economically viable, socially equitable and environmentally sustainable. Local authorities can play a vital role in

disseminating information, organising educational campaigns and supporting vulnerable consumers. They should coordinate closely with initiatives such as the Energy Poverty Advisory Hub, Citizens' Assemblies and the Just Transition Platform. Consumer organisations, ombudsmen and similar bodies can further support these efforts by bridging the gap between policy and public awareness.

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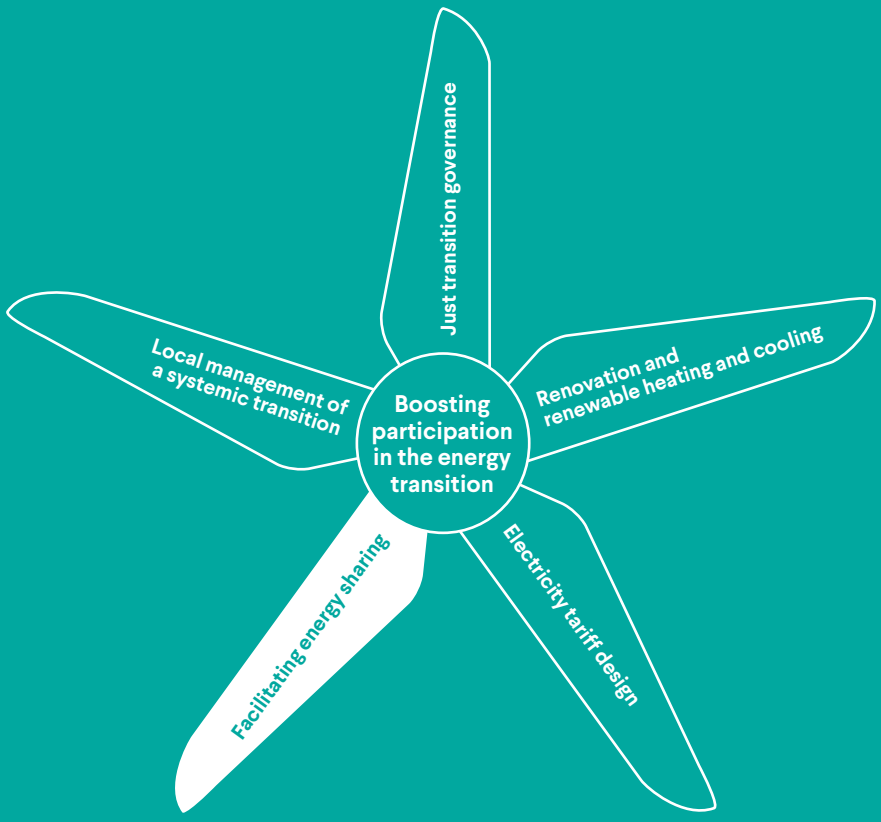
Facilitating energy sharing



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Introduction

In principle, citizens in EU Member States can now choose from a broad range of renewable energy technologies to participate in the energy transition. Solar photovoltaic power has become the cheapest source of electricity generation in most regions of Europe.[1] Households usually invest in renewable energy individually, unless they are part of an energy community. For middle- and high-income households, having the means and knowledge to benefit from solar panels on their own roof is achievable. But for vulnerable and low-income households, as well as for tenants and people living in multi-unit buildings, financial and technical barriers can make access to this cheap renewable electricity difficult.[2]

Against the backdrop of the recent energy price crisis, energy sharing could be a tool to help overcome inequalities in engagement in the energy transition and at the same time optimise the functioning of a flexible, cost-efficient renewable energy system. This brief focuses on the household perspective and complements the brief on designing fair renewable electricity tariffs.[3]

What is energy sharing?

Energy sharing builds on the concept of citizens (and small business owners)• producing their own electricity and/or heat where they live. However, energy sharing goes beyond individual self-consumption by single households with solar panels on their roofs (see fig. 1). It is a new tool that allows citizens to **self-consume renewable energy without owning generation capacities**. Consumption does not have to take place where the renewable electricity (or heat) is generated. In a group of generators and consumers, either a single generator or the group as a whole decides to allocate a certain volume of electricity directly to other consumers. While this currently constitutes only a small share of the market, energy sharing could be a social innovation that complements traditional top-down contracts with retail suppliers – still the most common way for citizens to interact with EU energy markets.

• Technically and legally speaking, the energy sharing issues discussed in this brief apply to both citizens and small and medium sized enterprises (SMEs). However, given that the focus of this toolbox is on citizen participation, the remainder of this brief will refer only to citizens.

In legal terms, energy sharing can be understood as the **collective self-consumption** of renewable energy. Until recently, this activity was limited to citizens living in the same building or to members of renewable or citizen energy communities with collectively owned generation capacities (see fig. 2). The revised Electricity Market Directive[4] now opens up energy sharing to all consumers, be they households or businesses (see fig. 3), regardless of the place and ownership of the generation. In practical terms, it matches electricity supply to electricity demand for a clearly defined group of consumers at defined times, outside of the established retail energy markets. Given that energy sharing schemes can be driven by either non-profit or for-profit entities, the entity behind the scheme can influence the degree to which fair participation is a goal.

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Figure 1 - Individual self-consumption

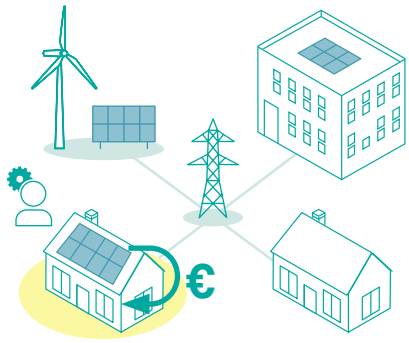


Figure 2 - Energy community

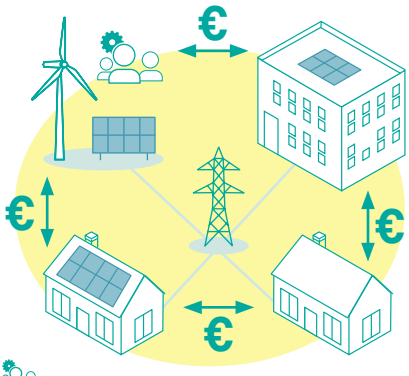
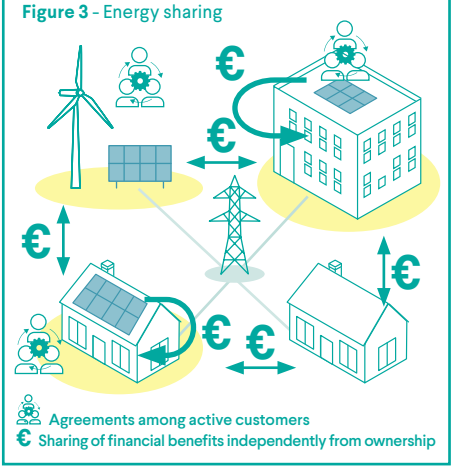


Figure 3 - Energy sharing



Increased participation, expanded renewables and less pressure on grids – three potential benefits of energy sharing

Expectations of energy sharing are diverse and high. Priority must be given to objectives that can be achieved using uncomplicated, financially attractive models. We have identified three potential[5] policy objectives: **increase participation, expand renewables** and **ease pressure on grids**.

Firstly, energy sharing could offer new opportunities to **participate** in the energy transition. There are several dimensions to this participation:

1. Financial: Consumers get access to cheaper electricity than with fixed or dynamic price tariffs. They could also have the opportunity to invest in renewable energy sources.
2. Emotional: There is an intrinsic motivation to join an energy sharing scheme for the opportunity to support measures against climate change and/or to consume self-produced energy. Positive involvement of citizens in the energy transition can increase its social acceptance.[6]
3. Procedural: Opting for an energy scheme enables citizens to actively engage in the implementation of the energy transition.

Secondly, energy sharing can push the energy transition forward by **expanding renewable energy capacities**. New, participation-based business models can incentivise private investment in renewables and increase social acceptance for more renewable energy installations in general. Only newly built plants help progress the energy transition; if only existing plants are used for energy sharing, there is no additionality to renewable capacities.

The third objective is to **avoid grid bottlenecks**. This can be subdivided into two elements: (1) if electricity production is

increased close to where it is consumed, grid expansion can be reduced for both transmission and distribution; and (2) consumers – especially those with high electricity consumption due to heat pumps or electric vehicles – can optimise their use of shared electricity by shifting some of their demand to the appropriate hours. Whether or not these hours coincide with those in which there are bottlenecks in the distribution grid depends heavily on how the energy sharing has been implemented. Depending on the local grid topology and the specific profiles of local generators and consumers, energy sharing could actually increase the mismatch between consumption and grid bottlenecks.

While participation and renewables expansion are core objectives of energy sharing, there is still some debate as to whether energy sharing is an appropriate instrument for reducing grid expansion and therefore whether this should be a factor in how energy sharing schemes are configured.

State of play: How energy sharing contributes to fair participation in the EU energy transition

Citizen benefits

Energy sharing was originally defined legally as an activity between members of energy communities or occupants of the same building.[7] It makes it possible to broaden participation beyond groups such as homeowners and the more affluent, who are already actively engaged. Setting up energy sharing schemes in an inclusive way enables **procedural participation**.

The SunSud energy sharing project is an outstanding example of a highly inclusive bottom-up tariff design process with tenants of a social housing block in Brussels.

Ideally, it brings citizens together to identify their energy needs and learn collectively how to better manage their energy consumption and plan new renewable energy installations. Energy communities such as cooperatives are a success model in this regard because they allow citizens to invest through **collective ownership** while also engaging them through strong **democratic governance** structures.[8] While an energy community is a *legal entity*, energy sharing is an *activity* that can be managed by other entities such as local authorities, retail suppliers, cooperatives or other citizen-led groups. Collective ownership and democratic governance are not mandatory components of energy sharing schemes, and energy communities can operate without energy sharing. However, energy sharing schemes facilitate direct access to affordable renewable energy without the need to buy shares and become an owner, which can be a hurdle for certain groups.

There are currently only a small number of energy sharing schemes in the EU,[9] but the recent reform of the Electricity Market Directive opens the door to engagement by a wider range of stakeholders. It also asks public authorities that set up energy sharing schemes to ensure that at least 10% of the shared electricity is accessible for **vulnerable or energy-poor customers**.

Under an energy sharing agreement, citizens can supply other citizens with renewable electricity whenever it matches with their demand at a given time. In theory, this means that all EU citizens could meet at least some of their demand from shared renewable kilowatt-hours and thereby **participate 'emotionally'** in the energy transition by adding this mode of remote self-consumption to their existing retail electricity tariff arrangements. Energy sharing schemes should be configured so as to allow excess electricity that is not used for the collective self-consumption to be assigned an appropriate value. This would create an incentive to install as many rooftop solar panels as possible, rather than just enough to meet the needs of a single consumer, and would make the energy transition faster and cheaper.

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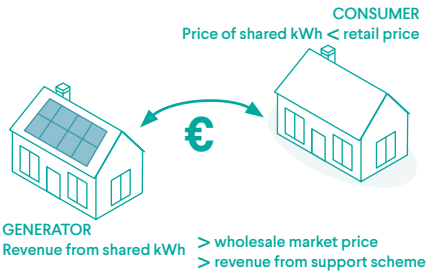
Figure 4 - Energy sharing business case



Participating in an energy sharing scheme can be **financially advantageous** to citizens provided the scheme is designed to **benefit both electricity generators and consumers**: the generator needs to achieve a higher revenue per kilowatt-hour from selling the electricity this way than they would get from the wholesale market or a support scheme; and the price per kilowatt-hour must be lower for the consumer than the retail price that would be payable if no shared electricity were available. The financial attractiveness of energy sharing schemes is not a given:

- A non-profit or not-for-profit organiser that does not impose any profit margin can make energy sharing financially attractive but might have higher administrative costs (especially for early movers) than commercial organisers with bigger, diversified renewable generation portfolios and years of experience.
- If retail suppliers charge disproportionate administrative fees for customers participating in energy sharing, the cost advantages of energy sharing can be jeopardised.
- Residual electricity contracts for energy sharing customers can be more expensive than standard contracts. This is because it can be assumed wholesale electricity prices are higher at times of low energy sharing utilisation due to low solar irradiation.
- For consumers on a dynamic price tariff, the price of the shared kilowatt-hour might be less attractive.
- For generators with access to an attractive support scheme, sharing might be less appealing.
- Success is heavily dependent on the level of taxes, levies and grid tariffs that apply to energy sharing.

Transition benefits

By enabling participation as described above, energy sharing could at the same time contribute to the **expansion of renewables**. How much of a contribution it could make depends on three main factors:

1. How **complex** is it, both for the energy sharing organiser and for citizens? This will influence the transaction costs and therefore whether it needs support (either direct or indirect by reducing price elements).
2. Will it be **financially attractive** for consumers?
3. Will it be able to incentivise and finance **additional renewable plants** or will it only ever use existing ones?

Energy sharing has the potential to **ease energy infrastructure** in two ways. Firstly, if energy sharing results in electricity being generated closer to the place of consumption, **less additional grid capacity is needed** to connect the two locations. Secondly, energy sharing price signals can nudge consumers to **shift their demand** to hours when cheap shared electricity is available. This optimisation could be beneficial for the grid provided that these hours coincide with those with the highest grid loads. This kind of demand-side flexibility frees up grid capacity, both for more renewable installations to feed into it, and to supply an increasing number of electric heat pumps and electric vehicles.

However, these benefits do not occur automatically, whether through energy sharing or individual self-consumption behind the meter. In order to ensure that participants in energy sharing schemes shift their demand reliably, clear price signals that reflect local grid congestion and prices on the electricity markets are needed.

Reducing grid fees for locally-based energy sharing would level the playing field for behind-the-meter and collective self-consumption. In the long term, capacity-based grid fees seem to be the more targeted approach. An additional instrument such as curtailment or load-shedding would be required for both individual self-consumption and energy sharing in order to ensure that grid congestion is reduced.

From the perspective of overall energy system optimisation, it is inefficient for individual consumers to use battery storage and demand response to increase their individual self-consumption or shared electricity consumption without taking grids and markets into account. This kind of behaviour ties up capacities that could be used at other times to stabilise the grid or reduce market scarcity. Nevertheless, **energy sharing can help consumers to flex their demand**. Energy sharing schemes should ideally take account of both market and grid signals: for example, by combining them with hourly changing dynamic electricity tariffs and time-of-use grid fees.[■]

Key players

Who are the **the key actors involved in energy sharing**? EU legislation grants energy sharing rights to households, small and medium-sized enterprises and public bodies, as well as to members of energy communities. Member States can also include additional consumer groups. An **energy sharing organiser** (e.g. an energy community, local authority, aggregator, retail supplier or other company) is responsible for allocating and billing the shared kilowatt-hours in conjunction with **distribution system operators** and the **retail electricity suppliers** that cover the residual demand whenever no shared electricity is available. **Landlords**, **social housing companies** and **local authorities** are well-positioned to ensure that vulnerable and underrepresented consumer groups are included.

■ Dynamic price tariffs and grid fees are discussed in another brief in this series. See other brief from this collection 'Electricity tariff design'.

What is missing?

EU Member States will have to transpose the new right to share energy into national law by 17 July 2026. In order to unlock the potential of energy sharing for citizen participation, national policymakers and market participants will require guidance on implementation, as well as consistent monitoring.

Guidance on the allocation of potential benefits

Since energy sharing schemes are still new in the EU, the **rights and responsibilities of key players** need to be better defined in order to foster citizen participation effectively. The benefits both for participants and the energy system as a whole can differ significantly, depending on who is behind the energy sharing scheme. In principle, an energy sharing scheme can involve anything from two neighbours in the same building to thousands of consumers across an entire EU Member State. Locally-anchored energy sharing schemes driven by not-for-profit stakeholders have different impacts from more profit-driven energy sharing schemes created by traditional market players.

Guidance is needed on developing **sharing coefficients** that ensure fair allocation of kilowatt-hours across a group of highly

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diverse consumers with different consumption patterns.[10] This can give citizens priority over large companies in accessing shared electricity. Nevertheless, some more disadvantaged households may be unable to adapt their consumption to the available shared energy, whether due to technical hurdles, digital illiteracy or lack of contractual transparency.

Fair allocation of network costs

Energy sharing organisers, grid operators and regulators need to establish together principles for the fair allocation of system costs across different grid levels and types of consumer. How they allocate or remove network costs is not only critical in terms of the financial benefits for participants: it is also a key element for steering behavioural change, leveraging demand-side flexibility and reducing overall energy system costs for society. **Appropriate grid tariffs**[11] and well-designed energy sharing schemes can reduce the strain on electricity grids, lower network costs and accelerate the integration of additional renewable capacities into the grid.[12] The distributional effects require proper assessment. Grid *fee* reduction for energy sharing without a reduction in grid *costs* would shift the financing gap to citizens and companies that do not use energy sharing. Here again, stronger guidance is needed to prevent unfair allocation of these costs.

Examples of good practice

The Austrian government has set up a system of tiered network tariffs for energy sharing, with different grid fees depending on the **geographical scope of the energy sharing scheme** and thus its potential impact on the electricity grid infrastructure. Energy sharing schemes that do not use the public electricity grid at all – solar self-consumption within multi-unit buildings, for instance – are partially exempted from network tariffs. There are reduced network tariffs for schemes that share electricity (or heat) between generators and consumers within limited local or regional grid zones; while schemes that share electricity across the whole of Austria pay the full network tariffs.[13]

The grid operator and regulator for the Brussels region in Belgium also promote energy sharing schemes by reflecting the grid topology in the network tariffs for shared electricity. The grid operator grants **rebates for energy sharing between generators and consumers behind the same grid *substation*** and offers support with the metering and billing procedures for not-for-profit energy sharing organisers. According to a cost-benefit analysis commissioned by the regulator, improved matching of renewable supply and local demand can result in benefits that could outweigh the revenue losses from reduced network tariffs.[14] However, more research on these potential benefits is needed.

Transparency and local capacity-building for energy sharing

In addition to financial attractiveness, complexity also seems to be a deciding factor for whether energy sharing will or will not play a significant role in the energy transition. Many citizens already struggle to understand their bills. Adding a second bill or revenue stream from energy sharing could be seen as too complicated and put some citizen groups off. It is therefore essential to design simple, well-tailored energy sharing models. There must be sufficient support to provide citizens with the knowledge to participate, ideally at the local level. Energy communities are the go-to legal entity to set up energy sharing schemes and provide appropriate support to potential participants, but this role can also be taken on by local authorities, energy agencies, one-stop shops, consumer rights associations, landlords or tenants unions, especially for vulnerable and low-income households.

Depending on how clearly energy sharing is defined at the national level, different measures may be needed in order to guarantee **consumer rights protection**. There is a risk of confusion due to the wide range of different models for energy sharing: commercial or non-profit, local or nationwide, based on existing or new renewable power generation. Standardised **pre-contractual information** and/or a **labelling obligation** together with a standardised overview could provide guidance. **Online price comparison tools** are key for households' engagement in energy markets but do not yet incorporate energy sharing offers. Citizens need to better understand the potential to save money from different energy sharing offers, particularly with regard to the sharing coefficient for the allocation of available kilowatt-hours. Grid operators and retail suppliers need to be able to depend on robust, simple and privacy-proof routines for data exchange and billing. The shortage of skilled labour is one of the main bottlenecks for accelerating the energy transition: staff capacity should not be tied up in overly complicated energy sharing schemes. The revised Electricity Directive confirms that all existing consumer rights also apply to new energy sharing schemes, with one exception: since the energy sharing organiser does not have to be a licensed retail supplier, **alternative dispute resolution** (ADR) bodies cannot intervene formally. Since ADR is an important safeguard for consumer rights, Member States should extend its jurisdiction to energy sharing.

Monitoring objectives and targets for the rollout of energy sharing

No EU Member State or institution has so far developed measurable targets for the rollout of energy sharing. As yet there are no clear strategies for mobilising its potential and allocating its benefits; nor has there been a broader **analysis** of its strengths and weaknesses compared with other instruments that could perhaps achieve the three main objectives of participation, renewables expansion and easing pressure on grids more effectively. This applies at both the EU and national levels. In parallel with addressing these shortcomings, it is also necessary to better assess the social impact of energy sharing schemes in terms of inclusiveness and fair participation, using standardised metrics. This could help to target public support more effectively.

How can the EU improve energy sharing as a tool that benefits citizens?

We have identified three main areas where EU institutions could act to improve the rollout and functioning of energy sharing.

1. Build capacity and raise awareness

Provide financial support

EU institutions should offer financial assistance to local authorities, local one-stop

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shops and other potential not-for-profit energy sharing organisers so that they can **advise citizens and businesses who want to engage**.

Establish templates for energy sharing contracts

Simplified template contracts should be set up, including sharing coefficients for different use cases, to facilitate the participation of vulnerable and underrepresented consumer groups. Energy sharing organisers should be obliged to use these templates.

2. Deliver on transparency, inclusiveness and consumer rights

Promote energy sharing amongst underrepresented groups

Energy sharing must be actively promoted to consumer groups that are currently underrepresented in the energy transition. These include vulnerable and energy-poor households, tenants and people living in multi-unit buildings. It should be mandatory for energy sharing organisers that receive public support to provide **at least 20%** of the shared electricity to **these kinds of underrepresented consumer groups**.

Ensure all necessary information is easily available to consumers

There should be an obligation on EU Member States to: (a) develop an **independent, transparent, easy-to-use online price comparison tool** for energy sharing offers; (b) introduce **standardised pre-contractual information** that includes the impacts of sharing coefficients; and (c) investigate ways to guarantee consumer protection in energy sharing.

Provide for alternative dispute resolution

Member States should ensure that their national regulatory authorities and/or law-makers implement provisions to explicitly guarantee a remit for **alternative dispute resolution bodies** for new energy sharing schemes.

3. Facilitate energy system benefits

Monitor and evaluate the success of energy sharing schemes

EU institutions should monitor the success of different energy sharing schemes in addressing the three objectives of greater participation (e.g. diversity of consumer groups engaged), renewables expansion (e.g. new capacity installed) and grid-easing (e.g. reduced peak load). They should provide approaches and indicators for an energy system analysis to **evaluate the strengths and weaknesses** of different energy sharing schemes as well as alternative tools to fulfil these objectives.

Work with key energy system players to ensure costs and benefits from energy sharing are allocated fairly

Guidance should be provided for regulators, grid operators and retail suppliers with regard to allocating energy system costs and benefits from energy sharing in a fair and cost-reflective way. This should be done (a) by introducing **tiered network tariffs** that reflect grid usage and reward flexibility and (b) by developing standardised methodologies and procedures for retail suppliers to account for shared electricity use so as to **limit administrative fees**.

Endnotes

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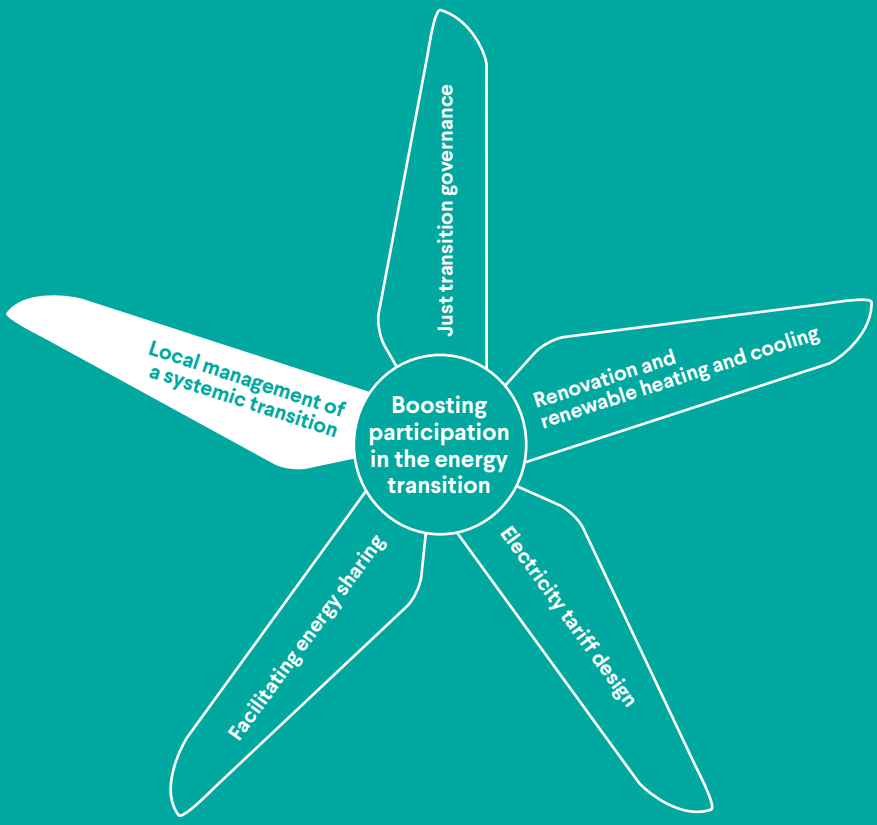
Local management of a systemic transition



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Introduction

The 2019-2024 EU mandate was marked by a perfect storm. From a global health crisis to war on Europe's doorstep, from energy price surges to climate disasters, crises impacted the policy agenda on all fronts. These five years exposed and amplified the main shortcomings and challenges of the EU, highlighting the **importance of our energy transition for security, sustainability, safety, resilience and equity**,[1] and therefore how inherently connected it is to the need to develop a more sustainable, secure, safe, equitable and resilient model for our economy and society.

The mandate also showed the **importance of local and democratic infrastructures and citizens' initiatives in the energy transition** – as seen, for example, in households voluntarily limiting their energy usage to make it possible to cut ties with Putin's gas supply, or in local initiatives to shift to renewable energy sources. Local actors – elected representatives, local administrations, businesses, social stakeholders and citizens – are critical because they live and operate in the territories where energy production and consumption patterns are shaped. As highlighted by the Place-based Climate Action Network (PCAN),[2] localised efforts can lead to better strategies, drawing on specific knowledge and local experiences that larger, top-down approaches might overlook.

But local ownership of the transition is equally important for another reason. The European Commission proposed a Green Deal in 2019 following a wave of climate strikes demanding action, and opinion polls still show broad support for action on climate change.[3] Now, though, as the impacts of energy transition policies on lifestyles, sectors, communities and geographies are becoming increasingly apparent, it is becoming more contested. These impacts vary depending on the place, and so do the policy solutions to them, which is why **local transition management will be vital for achieving the public support** needed for the energy transition.

Building on these lessons, this brief calls for a **territory-focused, whole-of-economy approach to the EU's energy transition**. It will focus on reinforcing democratic processes to deliver transformative strategies that are designed for society, by society. It calls for citizens, economic and social actors and elected representatives to share the driver's seat, working together to create a vision for each territory and plan its goals and implementation. This kind of shared ownership and fostering of local transition – or rather, transformation – management is the only way to ensure that the burdens and benefits of this new stage of the EU's energy transition are distributed equally across geographies and social groups. The start of the European Commission's new mandate (2024-2029) is an opportunity to act on this and to strengthen fair participation and inclusion through local management of a systemic, whole-of-economy energy transformation.

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State of play: How local transition management contributes to fair participation in the EU energy transition

European Green Deal legislation addressing municipalities

Legislation in the European Green Deal acknowledges the role that local government must play in delivering the energy transition. For example, the recast Energy Efficiency Directive requires local authorities to integrate energy efficiency into their long-term planning and ensure that measures do not negatively affect energy-poor households.[4] The Renewable Energy Directive places a similar obligation on local authorities to include provisions for renewables roll-out in urban planning[5]. It is now compulsory for cities with more than 45,000 inhabitants to map heating and cooling (with the aim of decarbonising). There is however no comprehensive framework enabling cities to know about all their obligations and to translate these into a strategic planning tool that can be used by municipalities and local stakeholders. Moreover, the requirements often tackle only one dimension of the transition, and stop short of empowering local actors to enact systemic change.

A common energy and climate language for local authorities through the Covenant of Mayors

The Covenant of Mayors for Climate and Energy framework has been key to developing a common language for local actors and for helping national and EU decision-makers to incorporate local potential into energy transition policies. Since 2008, over 10,000 municipalities have created a **Sustainable Energy and Climate Action Plan** (SECAP) as members of the Covenant of Mayors. This strategic planning document sets out commitments to 2030 and the actions required to meet them. It is based on an inventory of the municipality's greenhouse gas emissions and an assessment of the risks and vulnerabilities it faces.[6] After validation, the plans are used as a basis for implementing and monitoring the local energy transition, and encourage municipalities to commit to going beyond headline EU targets. The initiative is a unique, inclusive movement welcoming municipalities from all Member States, in all their political, geographical and demographic diversity. The Covenant commitment is often included in the criteria for accessing EU funds.

A myriad of initiatives to support the local level

An increasing number of EU programmes are now available to support municipalities in their transition. Initiatives offering technical assistance, cooperation platforms, networks and awards have accumulated[7] to the extent of becoming challenging to navigate.

For example, the Green City Accord[8] is extending energy and climate targets to other resources such as water and urban biodiversity. The flagship Climate-neutral and Smart Cities Mission[9] has redirected a significant portion of the Horizon Europe budget to **supporting 100 cities to reach climate neutrality** by 2030. Each city's strategy, or Climate City Contract, must apply a cross-sectoral approach and be co-created by the city, local stakeholders and citizens. The Green Capital and Green Leaf awards[10] recognise efforts made by cities in their green transition, with separate categories for bigger and smaller cities.

A wider example of this place-based and whole-of-economy approach is the **New European Bauhaus (NEB)**. Under its three core principles of 'sustainable, inclusive and beautiful', this policy and funding initiative tackles the green transition in the urban

environment alongside changes in lifestyle. It does this through multi-stakeholder co-design, focusing on neighbourhoods and on-the-ground engagement, and including industry, education and the cultural sectors. The sustainability element of NEB is similar to the 'Positive Energy Districts' concept,[11] which shifts the focus from the energy performance of specific buildings to the energy performance of whole districts, and the interaction and integration between their buildings. The NEB approach of placing culture at the core of urban transformation is an excellent example of the systemic thinking that the energy transition needs.

Vital cohesion funding

Cohesion funding during the latest funding period has supported strategic planning for the green and digital transitions, as well as urban renewal in some neighbourhood projects combining social, economic and green development. The funds are often seen as a crucial lever to "oblige" local and regional authorities to work together on common projects and ensure that they are aligned with strict environmental and social goals through planning and ex-ante conditionalities. They do act as a vital incentive for positive change, but by their nature are not always systemic or sufficiently long-term, resulting in partial results.

What is missing?

The European Green Deal and its related legislation set out ambitious objectives covering renewable energy production, energy efficiency targets and building and renovation regulations, plus an overarching commitment to achieving climate neutrality by 2050. As shown above, numerous initiatives have been introduced to involve local actors in these initiatives and objectives, thereby increasing inclusion and participation in the EU's energy transition. However, two critical elements for realising the full potential of the EU's energy transition approach are still missing: first, a systemic vision to transform the economy and society as a whole and second, genuine place-based strategies to formulate and deliver this vision effectively.

A systemic and transformative whole-of-economy approach …

In order to succeed, the energy transition must be accompanied by broader systemic change. Our relationship with land and resource usage – especially energy – requires a complete overhaul in order to be sustainable. Strengthening participation and inclusion in the EU's energy transition requires this overhaul to be well-planned and its implementation to take all citizens on board. This necessitates a coherent narrative on how the transition to a renewable energy economy can also provide key societal benefits, such as liveable environments, accessible mobility, water, heating, cooling, quality food, housing, healthcare and community-based projects that enhance collective knowledge and resilience.

The scale of this challenge is immense and requires the alignment of EU policies and instruments to support such systemic change. This kind of shift would ensure that the energy transition simultaneously addresses pertinent social and ecological concerns. However, as noted in the brief on Just Transition Governance, this alignment has yet to be completed.

… with a place-based focus

While a transformative narrative is essential, it cannot be defined or implemented solely at the EU level. The optimal transformation pathways vary due to local factors such as available resources, and must interact with broader – often locally specific – objectives such as resilience and energy security. Disparities in human, financial and natural resources across regions mean that local

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authorities are starting their energy transitions from vastly different positions, leading to potentially divergent futures across Europe.

Renewed dialogue between all levels of government

A structural voice for local communities and ecosystems in the shaping of their futures is still too absent from EU policymaking. Economic actors, municipalities, educational and healthcare institutions, farmers and citizens across the EU should all have bigger roles to play. This will require moving toward a genuine place-based approach that reflects the specific needs and capacities of different regions far better. These local strategies need to feed in to regional, national planning of the transitions and all levels of governments need to enter into an iterative and continuous dialogue.

Adequate means to deliver local transitions

In addition to the lack of meaningful EU democratic engagement with local actors, another key challenge is the shortage of financial and human resources at the local level as well as the relevant competencies to manage the transition. Years of austerity have left many local authorities without the staff or capacity to handle the complex responsibilities of the energy transition. Moreover, current funding instruments, although great incentives for local government innovation, are not fully aligned with the need for long-term, multisectoral, place-based strategies. Programmes such as the Mission Climate Neutral Cities and the New European Bauhaus show potential, but they need to be made accessible to all municipalities. Embedding their guiding principles into the core of EU funding would foster more integrated, sustainable programmes. Achieving territorial and social cohesion is not only an EU founding objective, but also a prerequisite for healthy democracies, resilient to change.

Incentives for collaboration

Finally, more attention and support for knowledge sharing and local collaboration is required. Despite the many divergent paths that exist locally, synergies can be created. For example, cities with high energy demand but limited space for renewable energy generation could partner with rural areas rich in renewable resources. Programmes such as the Interreg Renewable Energy Partnerships facilitate this but are underused.[12] It is only through collective reflection and engagement that we can ensure this potential is realised and that all citizens have equitable access to scarce resources – wherever they live.

Current EU exchange programmes between regions and cities have already proved to be an excellent incubator and cross-fertilisation tool for amplifying innovation in local administration. However, their value is too often underestimated in comparison with overrated technical innovations, and support programmes are limited in duration and so do not offer the continuous forum for engagement that is required. Additionally, such programmes often benefit the same cities; they need to be available to all municipalities.

How can the EU support a locally managed, systemic, place-based energy transition?

1. Create a future-proof vision for the energy transition with local actors

The energy transition is more than a technical shift: it is a comprehensive transformation of societies, economies and territories. As in the 1950's, when our cities were transformed to adapt to cars, a huge transformation will also happen now, freeing towns, villages and cities from their fossil dependencies. For Europe to lead in achieving climate neutrality by 2050, the EU's approach to local energy transition management must undergo a fundamental rethink. Movement in three

key directions can provide the foundation for a systemic, future-proof vision:

Towards fossil-free places

Fossil energy has been the engine of urban and economic development for over a century. This dependence on fossil fuels has entrenched unsustainable systems that are not only environmentally destructive, but also economically inefficient. The EU's reliance on imported energy is a vulnerability. Shifting to renewable energy sources mitigates climate change, enhances energy security and independence, and is the social and economically sound choice, too. It is also an opportunity and a means to switch our dependencies away from transnational oil companies with entirely different interests, and onto locally owned renewable energy generation aligned with the concerns of its consumers. Transitioning away from "petro-cities" to communities powered by renewable energy means reimagining urban planning and mobility systems, decentralising energy infrastructure planning and management, and reducing the ecological footprint of our communities, while also transferring power to local entities to make them drivers of their own energy transition.

Towards community wealth and risk resilience

Resilience is a key concept in the face of mounting climate crises. However, resilience should not be seen merely as the ability to bounce back after a disaster, but as the capacity to anticipate and adapt in the face of future challenges. Strong, cohesive communities are more likely to withstand social, economic and environmental shocks. As demonstrated by the work of Elinor Ostrom, Nobel laureate in economic sciences, community-driven resource management is often more effective than centralised approaches in ensuring long-term sustainability. Moreover, there is evidence that strong communities – where people care for their neighbours, other generations and their environment – are better equipped to resist disasters.[13]

Towards a whole-of-economy just transition for a well-being society

A just transition is not just about energy: it is about the sustainable use of all natural resources and reimagining our economies and societies to prioritise well-being over GDP growth. Public services such as transportation, health and education need to be aligned with climate and energy transition goals to create a well-being economy where the benefits of the transition are shared broadly.

2. Reinforce place-based practices in EU policy-making

In order to make this vision a reality, the EU must adapt its policy design processes to integrate place-based approaches that harness the unique strengths of local communities. Decentralising policymaking empowers local actors who understand their communities' unique challenges and opportunities, fostering more innovative, responsive and context-specific solutions. Each territory can set its own priorities from a list of tangible targets that are shared by most local communities. Building on the work of other organisations such as the Fabrique des Transitions[14] and the Donut Lab[15], we propose the following steps to foster long-term engagement and trust, ultimately facilitating local transition management:

Engage: empowering local communities to lead the transition

Engagement at the local level is key to ensuring that EU policies reflect the diversity of local conditions and capacities. The EU's energy policies must support the development of local management infrastructure that enables local actors to co-design and

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implement solutions. Municipalities are often constrained by a lack of human and financial resources, limiting their ability to take the lead in the energy transition, as well as to ensure law enforcement. Therefore, EU programmes and policies, including the European Semester, must prioritise investment in municipal capacity, particularly in rural and underserved areas in order to ensure to every citizen the "freedom to stay"[16].

Moreover, local initiatives can be dramatically strengthened by empowering citizens to take an active role in the transition. **Houses of Change** – local agencies for transformation – could act as hubs for mobilising citizens, disseminating knowledge and encouraging active participation in the energy transition. These agencies would ensure that citizens have access to accurate data on the energy and food systems around them, allowing them to engage meaningfully in co-creating solutions. This kind of information makes the transition tangible and relevant, shifting the conversation from newsrooms to neighbourhoods (see the sections on **one-stop shops** in the Renovation and Renewable Heating and Cooling brief).

Cooperate: sustaining collective ambition over the long term

To ensure long-term success, the energy transition must be co-owned by local communities. This requires new forms of collaboration, including soft institutions such as **local mission boards** (structures to promote change, provide advice and attract partnerships with private actors) and **Climate Citizen Assemblies**. These participatory frameworks can build consensus, foster innovation and avoid the divisive controversies that have hindered progress in some regions. For instance, local citizens' assemblies on climate change have proved successful in building broad-based public support for ambitious climate policies by engaging citizens in a structured deliberative process.

Cooperation cannot succeed without clear roles for each stakeholder involved. A coherent framework that includes political leaders, municipal transition teams, EU/state/regional representatives and local economic and social stakeholders (businesses, non-profits, citizen groups) is essential for creating an enabling environment for change. Each stakeholder must be empowered and held accountable within their respective areas of responsibility.

Act: aligning actions with a systemic vision and investing in local governance

Building on the approach of the successful New European Bauhaus initiative, the EU needs to greatly increase the number of its positive, co-owned initiatives to form and deliver energy transitions throughout its territories. It must also align financial support with local transformation strategies. The **Integrated Territorial Investment[17] mechanism**, part of the EU's Cohesion Policy, has proven to be a valuable tool for translating territorial visions into concrete investment plans. Extending this mechanism while also offering greater flexibility in terms of financing, especially its timing, could empower local authorities to **plan for the long term rather than being constrained by short-term funding programme cycles**.

Furthermore, the partnership principle at the core of cohesion policy and funding needs to be upgraded or complemented. To truly embed a systemic energy transition, the EU needs to **complement the partnership principle with local pacts** that go beyond the stakeholder consultation that is often limited to national level partners. This is key to ensuring that EU funding is better planned and spent, and could help resolve

the recurring problems around absorption. Local pacts can build on the strengths of the **Climate City Contract model** in the EU Mission for Climate-Neutral and Smart Cities 2030: a cooperative process for planning and designing a territorial contract based on an open iterative process with space to revise, adapt and rewind and involving local, regional, national and EU institutions as well as economic and social actors at local level.

Other areas where the EU could better empower local ownership over transitions include EU public procurement and state aid rules, the reform agenda, the EU budget and fiscal scrutiny via the Stability Pact/EU Semester procedure. For example, current rules make it extremely difficult for cities and local citizens or companies to invest jointly in energy communities. The same goes for local purchasing, which can reinforce the community and improve circularity and climate impact. It is imperative that the next mandate generates more, not less, democracy in these frameworks and initiatives. Investing in local institutions and having them co-decide the pathways of their own transitions is the only way to fight disparities in the application of the legislation.

Evaluate: learning by doing and amplifying success

Finally, evaluating the success of local energy transitions must go beyond simply monitoring technical performance: it should also **measure the social, economic and environmental value created**. Current EU exchange programmes serve as important incubators for fostering innovative practices between regions and municipalities. Equally, the aforementioned EU Mission for Climate-Neutral and Smart Cities as well as the URBACT programme use a cohort structure that connects cities that are on similar transformation paths, in order to promote a sense of shared purpose and community over an extended period of time. This approach is

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one form of **learning community** for peers who may face many different intersecting challenges, including resources, demography or climate.

However, these programmes, which are relatively cheap to set up, must be expanded and made available to small and medium-sized municipalities beyond those that already participate in similar forums. This approach, based on "learning by doing" in peer groups, can foster a culture of continuous improvement and enable the replication of successful models across Europe.

Concluding remarks

A locally managed, systemic and place-based energy transition is essential for achieving prosperity and well-being in Europe. By re-localising energy production, engaging local actors, strengthening community wealth, ensuring a just transition and fostering cooperation at all levels of governance, Europe can build a sustainable, resilient future. The time for a bold and inclusive shift toward locally tailored energy systems – a shift that not only reduces emissions but also strengthens the social fabric and builds economic resilience across the EU – is now.

Endnotes

1 Ursula von der Leyen reminded us of this in her speech to the new European Parliament before being re-elected as President of the Commission: '... high energy bills are a major driver of energy poverty for people. I have not forgotten how Putin blackmailed us by cutting us off from Russian fossil fuels. But we withstood together. We invested massively in homegrown cheap renewables. And this enabled us to break free from dirty Russian fossil fuels.'

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5 Renewable Energy Directive 2023/2413, article 15

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Postface

By Matthew Jones & Jörg Mühlenhoff

The best way to provide citizens with security from unstable fossil fuel prices and ensure affordable access to energy for current and future generations is to double down on the energy transition.

This cannot happen unless European Institutions and national governments make a concerted effort to bolster participation in the energy transition. We must find ways to make the transition fair and inclusive: spread the benefits of the energy transition equally to all segments of society, offering people a tangible stake in it and the opportunity to see its benefits in their community, in their home and in their pocket.

This publication will not solve all of the problems with how people engage with or are excluded from the energy transition. Structural inequalities and the fragility of welfare states are systemic issues that must be addressed in parallel. Our report offers a starting point, showcasing five diverse and practicable areas where the EU could act to widen participation in the energy transition.

Three of them, energy sharing, electricity tariffs and one-stop-shops, focus on specific levers that could be pulled to extend access to existing instruments to a broader segment of the population. The other two areas have a wider focus, and examine how to adapt governance processes at European and local level to ensure that more European citizens enjoy the benefits of the transition and have a role in driving it.

Throughout the five briefs in the report, we found that new legislation under the European Green Deal has already provided a robust architecture for allowing citizens to tap into the benefits of the energy transition. EU institutions and Member States must now stay on course with this path. The architecture to make the transition fairer is often already there, but some tuning is required to fully deliver on this potential.

Our Knowledge Community of more than 30 experts from EU institutions, local authorities, think tanks, trade unions, industry and NGOs identified several common threads across different action areas:

1. **Benefits of the energy transition are huge, but not yet accessible to all citizens.** While some citizens can already benefit from cheap renewable energy through their engagement in energy markets, barriers such as high investment costs and a lack of awareness remain. Widening access to cheap renewable energy to everyone will not happen overnight; those who are currently unable to benefit will need support. In the context of a new wave of calls for deregulation and simplification, this must be underscored. **Stronger social safeguards are critical to avoid people being left out.** Social conditionalities must be reinforced, for instance through targeted support schemes for building renovation and price corridors for retail electricity tariffs, offered to those in need.

2. **District and community-based approaches are key to ensure an inclusive energy transition.** Local approaches to the transition can be far more effective than ones focusing on individual households. European households do not exist in isolation – they are part of communities and

neighbourhoods, towns and cities. As proposed by the brief on local transition management, a place-based approach to the energy transition takes account of the specific needs and capacities of different areas and brings together communities so that they can better tap into the economic benefits of the EU's energy transition. Strong local authorities are indispensable to better withstand social, economic and environmental shocks. There are also technical advantages to a collective approach. Energy sharing schemes offered on a district level could benefit from reduced grid distribution fees. Neighbourhoods with buildings where apartments have similar technical profiles could benefit from standardised renovation options to reduce costs. And confidence and trust, essential ingredients for widening participation in the transition, could be bred by including well-known local stakeholders.

3. **Less tangible benefits of an inclusive energy transition need to be priced into decision-making.** While efforts to improve participation and inclusion in the transition require political and often financial investment, benefits can be difficult to measure. A central premise of this publication is that these benefits are ample, not only from an individual perspective but also a societal and democratic one. If people feel more included in the energy transition, they are more likely to support it. This public support in its turn eliminates backlash and creates political space for transition policies. It is therefore a defining condition in the road to a climate-neutral, renewables-based future, and needs to be priced in as a benefit to political decisions being made now.

The design of the next EU funding period can play a key role in addressing these points. Multilevel governance and mandatory public participation channels in fund allocation would help to better direct money to where it will have most impact. Strong green and social conditionalities are critical to ensure that EU funds really are widening access to the energy transition (for example, the Court of Auditors found in their 2024 special report on the Green Transition that Recovery and Resilience Facility (RRF) funds marked for climate action were vastly overestimated). Capacity of local stakeholders to work with citizens and explain how they can benefit from the transition needs to be reinforced.

This collection aims to provide actionable ideas for policymakers to make the energy transition fair and open to all. It comes in a context where political winds appear to be blowing towards competitiveness, industrial policy, security and defence. At the same time, upcoming initiatives of the 2024-2029 EU legislative mandate such as the Affordable Housing Plan, the EU Fair Transition Observatory and particularly the Citizen Energy Package come with opportunities. One thing is clear. The success and sustainability of the transition will hinge on its fairness and inclusivity.

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Boosting Participation in the Energy Transition

The transition to a green economy can protect European households from volatile fossil fuel prices through cheap and safe renewables, strengthen democracy and reduce the magnitude and impacts of the climate crisis. But more needs to be done to ensure that every person and community benefits.

The political briefs collected in this report describe practical steps that EU institutions should take to boost fair participation in the energy transition and have been prepared based on the expertise of a diverse group of experts. They cover five action areas, ranging from optimisation of energy sharing, electricity tariffs and renovation and renewable heating and cooling, to improving procedures for just transition governance and facilitating local management of the transition.

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