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Editorial: Just energy transitions for Europe and beyond

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Editorial on the Research Topic

[Just energy transitions for Europe and beyond](#)

The European Union's (EU) commitment to climate neutrality has repositioned energy governance at the center of political, legal and socio-economic transformation. Within the policy framework of the European Green Deal (EGD) and through instruments such as the Just Transition Mechanism (European Commission, 2020), decarbonization is framed not only as an environmental necessity but as a project of structural transformation. Energy transitions redistribute costs and benefits, reorder labor markets, reshape landscapes, and reconfigure geopolitical relations. They generate winners and losers, recognition and resentment, opportunity and dispossession. Yet the meaning of "just" within this transformation remains contested. This contestation is not merely semantic. It reflects competing normative frameworks, divergent political priorities and uneven material consequences across regions and sectors. Justice may refer to redistribution within coal regions, to procedural inclusion in decision-making, to recognition of historically marginalized actors, or to the externalization of environmental burdens beyond Europe's borders—dimensions long debated within just transition and energy justice scholarship (Heffron and McCauley, 2018). These dimensions often coexist but do not necessarily align, and policy instruments may advance one while neglecting or undermining others (such as intergenerational justice). As transition policies accelerate, however, clarifying what justice entails (and how it can be operationalized) becomes both analytically urgent and politically consequential (for an example of frameworks aimed at this goal, see IRENA, 2026).

The Research Topic, *Just energy transitions for Europe and beyond*, was convened against this backdrop of urgency and contestation. It proceeds from a foundational yet unresolved question: how can energy transitions be designed and implemented in ways that are fair, inclusive and attentive to socio-environmental impacts across multiple scales? The EGD provides an ambitious framework for climate neutrality, presenting both an opportunity and a test case for embedding justice into structural transformation. At the same time, global supply chains, fossil fuel dependencies and mineral geopolitics complicate any bounded understanding of "just transition." This Research Topic therefore brings together contributions that interrogate justice not as a rhetorical add-on, but as a structuring principle that must be clarified, operationalized and critically examined.

In doing so, it treats justice as both an analytical category and a governance problem. Rather than treating justice as an assumed virtue of decarbonization, the contributions examine how it is constructed, where it is limited, and how it may be re-imagined in light of contemporary transition dynamics. The contributions move across levels of analysis, from conceptual clarification and legal design to social contestation and geopolitical restructuring, revealing how justice is constructed and constrained in practice. The contributions also touch upon various dimensions of environmental and climate justice, including their distributive and procedural dimensions (Kuehn, 2000; Schlosberg and Collins, 2014).

A first step in this endeavor is not merely to endorse “justice” as a goal, but to understand how it is constructed across the domains that shape transition governance. Chiara et al. approach this by comparing two discursive arenas that do not always speak fluently to one another: institutional texts associated with the EU’s Just Transition Mechanism, and a corpus of scientific literature on energy and environmental justice published between 2020 and 2023. Using thematic analysis, they identify three overarching dimensions through which “just transition” is articulated—its *focus* (including the levels of abstraction at which problems are framed), its *justice* claims (the forms and dimensions of justice that are made salient), and its *actors* (who appears as a relevant stakeholder, with what agency, and in what relationships). Their comparison shows that institutional discourse is more strongly organized around economic–financial stances and tends to privilege distributive and restorative understandings of justice, whereas the scientific literature more consistently foregrounds social stances and emphasizes recognition and procedural dimensions. This divergence matters because policy design is shaped by the dominant interpretive frame: whether justice is treated primarily as compensation, participation, or structural transformation influences both instrument choice and institutional architecture. Yet the article also highlights cross-cutting threads that complicate a simple binary: across both arenas, a prevailing critical discourse interrogates policy and governance shortcomings, calls for more inclusive treatment of Global South actors and their agency, and points to the importance of strategies for public engagement and resilience. The comparison suggests that without sustained dialogue between scholarly critique and institutional design, “justice” risks becoming administratively operational yet normatively diluted.

If conceptual foundations establish the terrain, the other contributions test justice claims against concrete policy realities. The contribution by Preller Bórquez et al. interrogates the external justice implications of Europe’s decarbonization agenda through a focused legal analysis of the EU Corporate Sustainability Due Diligence Directive (CSDDD). By examining lithium extraction in Bolivia and Chile, the authors explore how the mineral foundations of renewable energy systems intersect with risks of forced displacement and environmental degradation in resource-rich regions. Situating their analysis within business and human rights frameworks and extractivism scholarship (Svampa, 2019; Gudynas, 2013), they assess whether the CSDDD’s due diligence obligations can identify and mitigate displacement-related harms in complex supply chains. The study reveals both the promise and

the limitations of regulatory due diligence as a tool for preventing the externalization of socio-environmental costs. In particular, it highlights the structural asymmetry between regulatory ambition in consumer markets and enforcement capacity in extraction sites. Justice, in this framing, requires not only ambitious climate targets but enforceable mechanisms that meaningfully address human rights risks embedded in critical mineral extraction, ensuring that the EU’s climate objectives do not inadvertently reproduce socio-environmental injustice elsewhere.

Justice, however, is not only a matter of transnational regulation; it is also lived and contested domestically. The examination of Dutch farmers’ responses to nitrogen reduction policy in Upham et al. explores how publicly circulating social representations in national newspapers reflect perceptions of injustice in the context of sustainability transitions. Using social representations theory, the authors analyze media discourse to identify recurring themes, including ongoing uncertainty about policy impacts, diminishing public sympathy, feelings of not being listened to by decision-makers, and concern for the future of farming, often accompanied by anger. Rather than evaluating the material justice of the policies themselves, the article treats these representations as indicators of how affected actors make sense of transition pressures and of what sociotechnical transitions scholars describe as “regime resistance.” In this respect, perceived injustice operates as a political resource, shaping mobilization dynamics and influencing the durability of transition coalitions. This approach highlights how perceptions of procedural exclusion and lack of recognition can frame legitimate grievances and shape political and emotional responses. It shows that even when policies may be distributively defensible on paper, they can falter in practice if they fail to engage meaningfully with the identities, histories and public narratives of those whose livelihoods are at stake, underscoring the inseparability of legitimacy and recognition in transition politics.

The Research Topic further expands its scope to interrogate justice in the global restructuring of energy economies. The contribution on fossil fuel-producing countries by Ediger challenges the implicit asymmetry in many transition narratives and legal frameworks that foreground decarbonization within importing economies while paying insufficient attention to the structural dependencies of exporting ones. Ediger argues that contemporary climate and energy governance frameworks—including those embedded in international energy law and EU transition discourse—largely center on emission reductions within importing economies, while offering limited normative guidance for countries whose fiscal revenues, employment structures and public welfare systems depend on fossil fuel exports. Rather than treating this as a purely economic adjustment problem, the article frames it as a structural justice issue within global energy governance. The argument implicitly challenges the territorial bias of much just transition scholarship, which often centers importing economies while marginalizing producer-state vulnerability. It argues that prevailing transition narratives risk reallocating the burdens of decarbonization disproportionately onto producer states, without adequately recognizing their development claims, sovereign rights over natural resources, or legitimate expectations of economic stability. By critically analyzing the distribution of rights and responsibilities in existing legal regimes, Ediger contends

that a credible global just transition must incorporate mechanisms for diversification support, institutional reform and equitable burden-sharing. Justice, in this account, requires recalibrating the normative architecture of global energy law so that producer countries are not rendered collateral damage in the pursuit of net-zero goals—a concern that resonates with broader debates on climate justice and equitable burden-sharing in international law (Rajamani, 2016; Okereke, 2010), and energy geopolitics. The latter draws attention to the volatile phase where fossil fuels and new clean energy systems coexist and compete, in a “messy mix.” Fragile fossil fuel producer economies, heavily dependent on fossil fuel rents, will face politico-economic instability, and less capacity to shield their populations from the costs of the transition (Bradshaw, 2026).

Finally, the perspective on mineral diplomacy in Greenland by Hale and Ali situates contemporary transition dynamics within longer histories of extraction and geopolitical engagement. By revisiting the case of the Ivittuut cryolite mine and examining renewed interest in Greenland’s mineral resources, the authors illuminate how strategic interests, local aspirations and asymmetrical power relations intersect. The historical continuity suggests that energy transition geopolitics does not replace extractive logic but often reconfigures it. Rather than treating Greenland as a passive backdrop to resource extraction, the authors reconstruct how U.S.–European strategic interests, industrial demand and diplomatic negotiations shaped the governance of a critical resource from 1930 to 1987. They then connect this historical episode to the present resurgence of interest in Greenland’s mineral wealth (including minerals essential to clean energy technologies), underscoring how external strategic pressures and internal aspirations for autonomy continue to intersect. Through this comparative and historical approach, the article highlights recurring power asymmetries in mineral diplomacy and cautions against patterns in which local agency and resource sovereignty are subordinated to external extraction agendas. It suggests that justice in energy transitions must address not only the distribution of economic benefits, but also decision-making authority and the equitable integration of local and indigenous governance claims into critical mineral governance structures.

Taken together, these contributions reveal justice not as a settled endpoint but as a field of negotiation structured by law, discourse, political economy and geopolitical power. It operates across multiple scales—from conceptual framing and regulatory design to community perception, macroeconomic restructuring and geopolitical strategy—shaping both the legitimacy and the distributional outcomes of energy transitions. It encompasses distributive questions about who pays and who gains; procedural questions about who decides; and recognition questions about whose identities and vulnerabilities count. It also extends across borders, linking EU climate ambition to Andean salt flats, Arctic mineral deposits and hydrocarbon-dependent economies. The collective insight of the issue yields two broad implications. First, justice must be embedded at the core of transition governance and must shape the design of legal instruments, governance mechanisms and international arrangements from the outset, rather than appended as a compensatory afterthought. Normative clarity, rights-based safeguards and participatory mechanisms are

preconditions for legitimacy. Second, the scope of just transition debates must expand beyond national boundaries to account for global interdependencies. The EU’s pathway to climate neutrality is inseparable from its relationships with fossil fuel-producing states, mineral-rich territories and global supply chains. Justice claims that remain territorially bounded risk reproducing the very inequalities that transition policy seeks to overcome. However, political boundaries continue to be shaped, and reinforced, by nationalism which can then reproduce these inequalities.

These two implications coalesce into a third. Embedded justice in transitions, and extra-territorial approaches, must not succumb to the transactional, hard power tactics increasingly applied in global energy and political systems amid the emerging new global order. Europe must balance its energy governance and diplomacy to respond to the shifting international energy and global supply chains context, while maintaining internal and external justice agendas. Short-term gain at the expense of justice must not be succumbed to. Maintaining trust in Europe’s efforts will require commitment to long-term visions for a just European and global transition, despite recurring global shocks such as the Middle East turmoil in 2026. This will stand in sharp contrast to the volatility of the geopolitical landscape, breakdown of the rules-based international system, and preponderance of hard power, realist approaches by nation states (Kovrig, 2026; Von Burgsdorff, 2026).

These challenges are sobering, and exist within a context where fossil fuel corporations continue to build powerful political alliances, and discourses of climate denial or delay hinder climate action and the energy transition (Kinol et al., 2025; Gentile and Gupta, 2025). Delay creates greater injustice and burden, particularly on the young and future generations (Opal and Nathwani, 2023). More comprehensive conceptualizations of justice, including intergenerational justice, are central to just energy transitions. This demands respect for future generations’ environmental and energy justice (Motupalli, 2022), evaluation of the intergenerational equity of energy transition costs (Opal and Nathwani, 2023), and the questioning of socio-environmental impacts, (nuclear) waste (Towers and Cotton, 2024) and technologies that pivot the burden of emissions from polluting sectors (such as carbon capture and sequestration) onto future generations (Babatunde et al., 2024). Beyond humans, inter-species transition impacts, both current and intergenerational, are increasingly perceived as justice challenges (Bossert, 2024). Indigenous Peoples, like Europe’s Sámi communities, call for intergenerational equity and stewardship of land, alongside recognition of their sovereignty, and spiritual-cultural connection to the land. There are significant, positive movements toward intergenerational approaches in governance that could support just energy transitions. For example, the European Commission’s Strategy on Intergenerational Fairness adopted in March 2026, aims to ensure policy decisions are made with a fair balance of benefits and burdens across generations (European Commission, 2026). It has built upon the pioneering Wellbeing of Future Generations Act 2015 of Wales in the United Kingdom, which has worked to ensure that future generations have at least the same quality of life as current generations do now (Welsh Government, 2015).

To conclude, this collection of articles calls for sustained interdisciplinary research engagement capable of linking conceptual analysis, legal critique and empirical case studies. Conceptual precision must be matched by institutional imagination. For policymakers, the implications are equally pressing in the context of current geopolitical dynamics surrounding energy and critical minerals. Embedding justice into energy transition strategies requires measurable safeguards, transparent decision-making and international cooperation capable of addressing structural economic disparities. Without such integration, accelerated decarbonization risks intensifying rather than alleviating inequality. In an international context marked by geopolitical fragmentation and uneven commitment to climate ambition, the legitimacy and resilience of transition frameworks depend increasingly on their capacity to address distributive and recognition-based concerns. As energy systems continue to transform, the central challenge is not only to reduce emissions but to shape pathways that are institutionally durable and ethically defensible. The contributions gathered here do not offer a singular blueprint. Instead, they collectively deepen the conversation about what justice entails in an era of structural transition. By interrogating concepts, policies, perceptions and geopolitics, they affirm that the future of energy will be judged not only by its carbon intensity, but by the fairness of its foundations and the distribution of power embedded within them.

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