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EDITORIAL



Energy spaces: bridging scales and standpoints of just energy transitions

ABSTRACT

This editorial to the special issue: Transregional Configurations of Just Energy Transitions explores how discourses on justice are interrelated and influence transformation paths at different levels of society. We propose a spatial perspective that puts energy transitions and place-based research into context. For many years, discussions about the transformation of the energy sector focused on the climatological necessity of phasing out fossil fuels and on the technical and economic feasibility of doing so. In this special issue, we aim to reverse this logic: phasing out fossil fuels has become feasible, but phasing out the political, cultural, and social legacy of fossil fuel is a prerequisite for a just transition. The collection of articles contributes to place-based research, focusing on peripheral and fossil fuel producing regions in the global North and South. We also broaden the relational perspective on regional energy transitions by closely linking spatial and moral dimensions. The articles and this editorial show that the emergence of a region as a political arena or even as an institutional actor in climate and energy policy coincides with spatially defined (in)justice claims. In practical terms, this also means that a broader range of justice claims and regional spaces must be critically examined and incorporated into the design of energy transformations.

1. Introduction

A sustainable energy transition is associated with various justice claims and complex negotiation processes: activists, public experts and other interest groups have recently pointed out various concepts to shed light on increasing injustices (Cha, 2020; Evans & Phelan, 2016; Galgóczi, 2020; Petrić, 2019; Schlosberg, 2013; Walker & Day, 2012). The social complexity of the energy transition goes hand in hand with a startling moral complexity as demands have grouped into potent debates about climate justice, environmental justice, energy justice, each involving a plethora of moral standpoints. In the UNFCCC climate negotiations, for example, various actors struggle to determine ethical guidelines for just energy transitions while carving out binding agreements and collaborative pathways.

To complicate matters further, it is important to recognize the underlying spatial complexity involved in various demands – be it the need for planetary change, the protection of indigenous peoples' rights, or the demand to preserve traditional industrial jobs. To meet these demands, entails a new engagement in geographical, social and political space. The discourse about 'just energy transitions' which means a focused effort of 'mitigating the negative economic and social consequences of energy transitions' (Cha, 2020, p. 2) arguably began with Trade Unions in the 1980s that sought to foster global collaboration; among other subnational actors, they have currently reintroduced the historical notion to support their perspective on social justice in the international climate regime (Caldecott et al., 2017). In Central and Eastern Europe, among other places, this labor movement in climate policy has considerable impact on the framing and the speed of the energy transition.

Determining what is a just transition becomes tricky as multiple perspectives in society as well as the academic literature frame justice issues both through the lens of moral criteria and spatial scales. There are many different implications for political scales, geographic landscapes, or sociocultural places when considering the conditions and consequences of climate policy: be it health risks and migration pressures caused by

global heating and continued climate emissions, the loss of agricultural livelihoods due to biodiversity decline, or the loss of privilege and identities associated with the fossil fuel industry.

This moral and spatial complexity of energy justice is not merely academic. One concrete example is that energy poverty is lasting in certain areas, while energy reforms in other areas may protect communities (or a portion of them) from most risks (Stojilovska, 2021). Other consequences of the spatial dynamics of energy justice debates are evident in how political institutions articulate justice discourses unevenly across space. When continued coal mining, for instance, leads to the destruction of neighboring villages, different considerations of justice and their specific spatial expression clash in the same place (LaBelle et al., 2021; Gürtler and Herberg, 2021). In local struggles, some needs and demands receive more political recognition than others, while all implicate considerations of global interdependence, inequity and urgency.

This special issue explores how perspectives of justice culminate and clash at regional and trans-regional scale in the struggle for just energy transitions. The collected contributions examine how political institutions, cultural discourses, and actor strategies mediate between different demands for justice on the one hand and spatial orders on the other. Through a critical perspective, the authors show how regional energy transformations reveal a wide variety of local justice claims, while obscuring or implicitly excluding considerations of social-ecological and socio-economic harm. The following sections introduce and demonstrate the relevance of this approach.

2. The kaleidoscope of justice

With this special issue, we aim to advance place-based energy research, by placing it in a global context. It is safe to say, that certain regions in the world are more burdened than others with the losses and damages that evolve from continuous climate emissions. At the same time, decarbonization in carbon-intensive regions is the critical lever for the relative success of a global energy transition. Several contributions in this issue look closer into traditional fossil-fuel regions, specifically in Eastern and Central Europe, that are struggling to phase out fossil fuels. In those regions, a variety of stakeholders are challenging the concepts of equity by bringing in social, economic, or environmental arguments in the policy-making process. These regional conflicts over environmental and social justice are a linchpin that co-determines not only the path of local democracy, but also that of global sustainability. Moreover, global environmental discourse is heavily influenced by energy debates in traditional industrial regions. The ripple effects of local justice debates in the Global North extend far beyond regional boundaries, as planetary challenges as well as power asymmetries are articulated across interconnected places. Therefore, the sites under study must be situated within the socio-ecological, spatial and moral contexts that are constitutive of injustices in the first place. In doing so, we oppose a view that sees transitions as occurring in a spatial and cultural vacuum.

To capture this contextualized view at regional energy transitions, we speak of the kaleidoscope of justice. This playful optical device is used as a sensitizing concept to capture spatial and moral complexities.

When looking through the distorted lens of a kaleidoscope, dazzling light effects and abstract insights can be recognized, admired and explored. The kaleidoscope thus underscores the multiplicity of subjective perspectives that can overlap and lead to fleeting optical effects, while using the objective conditions of light, eyesight, spatial standpoint, and technological mediation. We borrow this notion of the kaleidoscope not only as 'rational amusement' ((Brewster, 1858, p. 6), but as a methodological heuristic. The goal is to unravel the ways in which the energy transitions go hand in hand with multiple and overlapping perspectives, frictions and biases. Consequently, the metaphor helps us to characterize the contingent and situated nature of the just transition debate. Moreover, the kaleidoscope explicates a methodological problem: any perspective on moral struggles and social change is inevitably selective. As is the case with the tumbling pieces of glass and glitter in a kaleidoscope, perceptions of justice change depending on the position of the viewer and the lenses. While we (almost) agree on colors and patterns, their interactions trigger different reactions in different viewers.

Certainly, a just energy transition framework may eventually be negotiated between perspectives of labor relations, social movements, policymakers, and society at large. In this way, universal principles of justice have indeed been established – be it in the UN Declaration of Human Rights or at the regional level in documents

such as the Silesian Declaration. Once a concept of justice is broken down into conceptual and everyday interpretations, the result can be a division into 'universal' and 'particular' forms of justice (LaBelle, 2017). Yet even agreed-upon definitions remain contextual and contingent. Depending on the perspective of the recipient, notions of justice are both widely held and contested (Harvey, 1996; Jessop, 1990; Schlosberg, 2013; Walker & Day, 2012; Young, 1990). We therefore look at energy transitions by bridging the scales and standpoints that interconnect across space, while being articulated in particular places. In the next section, we propose a transregional turn in just transition region.

3. A transregional turn: beyond a localist perspective on energy spaces

Examining how spatial and moral framings are deployed in political contestation about energy transitions implies a critical look at three core issues: regionalism, global interdependence, and knowledge politics.

3.1. Regionalism

First, the energy transition is taking place primarily, but not exclusively, at the regional level. In current research and policy, a place-based view of the energy transition is often associated with the term 'energy regions.' But what is an energy region? Defining a region is always amorphous and requires a combined symbolic and material effort (Lefebvre, 1991, p. 27), which, as the geographic and sociological literature repeatedly points out, often involves contested interpretations and political processes (Agnew, 2013; Bulkeley, 2005; Löw, 2016; Varró & Lagendijk, 2013). This literature reminds us first of all, that it is not enough to limit the spatial dimension to the notion of place, thus reintroducing the seemingly self-evident concept of the local lifeworld as container space. The interplay energy/space is often simplified in current discussions. For example, it is often assumed that the upcoming transitions will exacerbate socioeconomic inequality and political polarization between lagging regions and vanguard regions (see discussions in Gaventa, 2021; Hochschild, 2018; Hudson, 2005; Jaeger, 2021; Mau, 2019; O'Sullivan et al., 2020). This literature also reminds us that a regionalist view of the energy transition is political. For example, when populist movements celebrate remarkable electoral successes in former industrial regions such as the Rust Belt in the United States, the industrial North in the United Kingdom, or the coal regions in Eastern and Central Europe (Gaventa, 2021; Haas et al., 2022; Jaeger, 2021). In these and similar regions, a discussion about workers' rights in sustainability transformations does indeed pick up on locally rooted fears and memories that may evoke past experiences of deindustrialization. Hence, scholarly engagement with 'energy regions' may indirectly promote a political narrative that exaggerates divisions between energy producers and energy consumers, peripheral and urban regions (Gürtler & Herberg, this issue). We therefore suggest that regional energy research should begin by examining the processes that constitute energy regions in the first place. That is, how do energy production, industrial clusters, infrastructural ties, transformation alliances or other transition dimensions foster a region as a spatial entity or even as a institutional actor in the policy space?

3.2. Global interdependence

A second critical element, is a comprehensive understanding of energy spaces in relation to their global dimension. The emerging and currently escalating energy geopolitics caused by renewables (Global Commission on the Geopolitics of Energy Transformation & Van de Graaf, 2019) fosters a revamping of the global order that energy scholars have pointed out before (Yergin, 2020). The sociocultural, socioeconomic and geopolitical consequences and the prevalent justice debates are manifold. Concretely, consequences may be severe electricity shortages and energy poverty. These are closely tied to the spatial and temporal design of climate and energy policies (LaBelle, 2020; Radtke, 2022). Therefore, a recognition in studies into energy justice is needed that the multidimensional legacies of fossil fuel economies are unevenly distributed across local and global spaces (Bouzarovski et al., 2016; Goldthau & Sovacool, 2012; Woerdman, 2004). In this issue, Lehmann



and Tittor, for example, stress the 'triple inequalities of decarbonisation policies' that impact renewable energy projects in Latin America.

3.3. Knowledge politics

Last but not least, the emphasis on energy spaces also implies a focus on knowledge beyond the energy systems. For example, as Karakislak et al. (2021), there are deeper connections with underlying values that explain perceived (in-)justice of regional energy transitions. Energy transition frameworks – and their moral value – fundamentally depend on one's concept of knowledge and expertise (cf. Irwin, 1997; Lave, 2015; Turnhout, 2018). The epistemic dimension is much discussed, but struggles about epistemic justice increasingly take on a deeply spatial format, too, especially when considering that social and environmental injustices play out on various political scales (Fraser, 2009, 2021). The key political arenas of energy policy are usually dominated by European and North American actors, especially when it comes to the discourse about a Green Deal or the impact of Trade Unions on energy justice debates. While Northern justice claims receive a lot of attention in academia and beyond (Jenkins et al., 2016), minorities in transition regions from across the globe do not have the same access to shaping the interpretative flexibility of just transition pathways (Swilling & Annecke, 2012). The selective involvement of knowledge, expertise and cultural framings often skew debates of energy policy against the interests of vulnerable groups in the Global South and regional peripheries in the Global North. From the spatial vantage point, the political economy and knowledge politics co-determine the path of energy transitions. A just energy transition therefore needs to tackle issues of epistemic injustice.

Hence, in this issue we aim to create room to study transition processes as a combination of transregional politics and regional cultures. This means that the marginalization of peripheral regions, which was recently dubbed as 'energy peripheralization' (O'Sullivan et al., 2020) goes beyond distributive justice. It also means that the role of recognition and participation connect to spatial questions, such as: What characterizes the cultural legacy of fossil fuel in a place in question? How are risks and benefits distributed across geographic and social space? Who is involved in the decision making towards future transitions? Or, as Sovacool and Dworkin (2015) pointedly asked: 'Where are the injustices? Who is ignored?'

One particularly interesting set of empirical case studies in this regard, relates to (former) coal regions in Central and Eastern Europe (in this issue, LaBelle et al., Karakislak et al, Stojilovska, Gürtler and Herberg). Especially the structurally weaker regions in North-Eastern and South-Eastern Europe, which have contributed to the immense fossil fuel-based wealth that was generated in the 20th century, are heavily affected by upcoming efforts of transition towards a post-carbon economy. Transitioning industrial regions such as Silesia in Poland can certainly look back on experiences of profound industrial and post-socialist transformations, which potentially hampers or fosters the self-efficacy of affected communities. In these settings, the three aspects discussed - the social and material construction of a region, global interdependence, and the knowledge politics of energy transitions - are closely interrelated, and prone to conflict.

4. Contribution of the special issue: transregional configurations of just energy transitions

The theoretical discussion above confronts us with a dual task of (1) defining and capturing the spatial reconfiguration of justice at the regional scale (2) accounting for a myriad of cultural perspectives on justice that each address the various approaches to the spatial reconfiguration of energy systems. Changing energy systems while including conflicting stakeholder demands is a spatial and moral conundrum. The collection of papers in this special issue is grouped around the main insight that the emergence of a region as a political arena in climate and energy policy coincides with spatially defined claims of justice. Researchers prepared the contributions alongside the following questions:

• Which empirical insight is there into the place-based intersection of various concepts of justice in transition?



- Who has the sovereignty to define a region, to interpret what is happening, and to postulate what is deemed desirable both in terms of results and trajectories – that is: which actors are hegemonic or sidelined in public discourse on regional just transitions?
- · Which conceptualizations of justice in transitions exist, where do their strengths and shortcomings lie, which blind spots need to be reflected upon - and how can they complement each other?

The special issue consists of the following contributions.

Michael LaBelle, Roxana Bucată, and Ana Stojilovska examine a Romanian coalfield, the Jiu Valley, and argue that the European Union's Just Transition Mechanism offers hitherto excluded groups the opportunity to influence the way funds are distributed after previous institutional arrangements in the region have perpetuated an unjust deindustrialization process. The authors propose a 'radical paradigm' that examines and understands the deep structural problems and social practices that characterize the affected regions. This perspective contributes to the transregional perspective in the special issue: it contrasts the exogenous influence of just transition policies with local practices, thus advancing a concept of positionality in just transition research.

Irmak Karakislak, Jan Hildebrand, and Petra Schweizer-Ries qualitatively examine the deployment of wind energy projects and ground the issues of social acceptance and perceived injustice in the social norms that shape local lifeworlds in times of uncertainty. They suggest that place-based energy research should focus on the interaction between social norms and the perceived justice of renewable energy projects. Consistent with several other contributions, this paper puts the discourse of just transition on its feet by using cultural dynamics in situated communities as a starting point.

Ana Stojilovska, in her paper on energy poverty and the role of institutions, focuses on one particular role in just transition processes, the ombudsman, especially in the Austrian and Northern Macedonian systems. According to Stojilovska, the independent ombudsman has an unexplored institutional capacity to address and alleviate energy poverty. In a relational framework, she emphasizes the relationship between formal institutions and citizens as a constitutive element of procedural justice. In their critical mediating role, local political institutions can promote energy poverty, but also point out barriers such as energy monopolies and help develop consumer rights laws.

Rosa Lehmann and Anne Tittor discuss renewable energy projects, particularly bioenergy and wind energy projects in Argentina, Mexico, and Nicaragua, that are currently being challenged on multiple dimensions of justice and local resistance. The authors describe the tight spot in which social groups facing energy injustices are confronted with the consequences of both climate change and climate change mitigation. The protest against renewable energy projects by marginalized groups, they argue, needs to be understood in this contradictory field of injustices. The authors claim that groups with low energy use and little impact on global climate change cannot necessarily be expected to promote local renewable energy projects. This argument contributes to the important debate about transregional injustices in the energy transition.

In a case study in an East German coal mining region, Konrad Gürtler and Jeremias Herberg describe a moral field of tension in which local politicians operate. Conflicts over industrial and post-socialist history on the one hand and conflicts over energy production and climate policy on the other confront mayors in Lusatia with the need to navigate between community needs and higher-level priorities. By emphasizing the recognition-based dimension of just transition, the mayors question the effectiveness of transition funds. The authors propose the concept of 'moral rifts' to describe the ways in which political cleavages are rearticulated and scaled in local meaning-making. On a normative level, this also helps to distinguish between legitimate demands for recognition and populist frames of regional homogeneity.

References

Agnew, J. A. (2013). Arguing with regions. Regional Studies, 47(1), 6-17. https://doi.org/10.1080/00343404.2012.676738 Bouzarovski, S., Tirado Herrero, S., Petrova, S., & Ürge-Vorsatz, D. (2016). Unpacking the spaces and politics of energy poverty: Path-dependencies, deprivation and fuel switching in post-communist Hungary. Local Environment, 21(9), 1151–1170.



Brewster, D. (1858). The kaleidoscope, its history, theory and construction with its application to the fine and useful arts. J. Murray. http://archive.org/details/kaleidoscopeits00unkngoog

Bulkeley, H. (2005). Reconfiguring environmental governance: Towards a politics of scales and networks. Political Geography, 24 (8), 875-902. https://doi.org/10.1016/j.polgeo.2005.07.002

Caldecott, B., Sartor, O., & Spencer, T. (2017). Lessons from previous 'coal transitions'. High-level summary for decision-makers. IDDRI and Climate Strategies.

Cha, J. M. (2020). A just transition for whom? Politics, contestation, and social identity in the disruption of coal in the Powder River Basin. Energy Research & Social Science, 69, 101657. https://doi.org/10.1016/j.erss.2020.101657

Evans, G., & Phelan, L. (2016). Transition to a post-carbon society: Linking environmental justice and just transition discourses. Energy Policy, 99, 329–39. https://doi.org/10.1016/j.enpol.2016.05.003

Fraser, N. (2009). Scales of justice: Reimagining political space in a globalizing world. Columbia University Press.

Fraser, N. (2021). Climates of capital. For a trans-environmental eco-socialism. New Left Review, 127, 94-127.

Galgóczi, B. (2020). Just transition on the ground: Challenges and opportunities for social dialogue. European Journal of Industrial Relations, 26(4), 367-82. https://doi.org/10.1177/0959680120951704

Gaventa, J. (2021). Power and powerlessness in an Appalachian Valley-Revisited. In I. Scoones, M. Edelman, S. M. Borras, Jr., L. F. Forero, R. Hall, W. Wolford, & B. White (Eds.), Authoritarian populism and the rural world (pp. 80-96). Routledge.

Global Commission on the Geopolitics of Energy Transformation & Van de Graaf, T.. (2019). A new world: The geopolitics of the energy transformation. Retrieved Marko 27, 2023, from https://biblio.ugent.be/publication/8588274

Goldthau, A., & Sovacool, B. K. (2012). The uniqueness of the energy security, justice, and governance problem. *Energy policy*, 41, 232 - 240.

Gürtler, K., & Herberg, J. (2021). Moral rifts in the coal phase-out-how mayors shape distributive and recognition-based dimensions of a just transition in Lusatia. Journal of Environmental Policy and Planning, 1-16.

Haas, T., Herberg, J., & Löw-Beer, D. (2022). From carbon democracy to post-fossil capitalism? The German coal phase-out as a crossroads of sustainability politics. Sustainability: Science, Practice and Policy, 18(1), 384-399. https://doi.org/10.1080/ 15487733.2022.2069542

Harvey, D. (1996). Justice, nature and the geography of difference. Wiley.

Hochschild, A. (2018). Strangers in their own land: Anger and mourning on the american right. The New Press.

Hudson, R. (2005). Rethinking change in old industrial regions: Reflecting on the experiences of North East England. Environment and Planning A: Economy and Space, 37(4), 581-596. https://doi.org/10.1068/a36274

Irwin, A. (1997). Risk, the environment and environmental knowledges. In M. Redclift & G. Woodgate (Eds.), The international handbook of environmental sociology (pp. 218-226). Edward Elgar.

Jaeger, A. (2021). Rebel regions. New Left Review, 128, 47-68.

Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. Energy Research & Social Science, 11, 174–182. https://doi.org/10.1016/j.erss.2015.10.004

Jessop, B. (1990). State theory: Putting capitalist states in their place. Pennsylvania State University Press.

Karakislak, I., Hildebrand, J., & Schweizer-Ries, P. (2021). Exploring the interaction between social norms and perceived justice of wind energy projects: A qualitative analysis. Journal of Environmental Policy and Planning, 1-14.

LaBelle, M. (2017). In pursuit of energy justice. Energy Policy, 107, 615-20. https://doi.org/10.1016/j.enpol.2017.03.054

Labelle, M. C. (2020). Energy cultures: Technology, justice, and geopolitics in Eastern Europe. Edward Elgar Publishing.

Labelle, M. C., Bucată, R., & Stojilovska, A. (2021). Radical energy justice: A Green Deal for Romanian coal miners. Journal of Environmental Policy and Planning, 1-13.

Lave, R. (2015). The future of environmental expertise. Annals of the Association of American Geographers, 105(2), 244-252. https://doi.org/10.1080/00045608.2014.988099

Lefebvre, H. (1991). The production of space. Blackwell.

Löw, M. (2016). The sociology of space: Materiality, social structures, and action. Springer.

Mau, S. (2019). Lütten Klein: Leben in der ostdeutschen Transformationsgesellschaft. Suhrkamp Verlag.

O'Sullivan, K., Golubchikov, O., & Mehmood, A. (2020). Uneven energy transitions: Understanding continued energy peripheralization in rural communities. Energy Policy, 138, 111288. https://doi.org/10.1016/j.enpol.2020.111288

Petrić, D. (2019). Environmental justice in the European Union: A critical reassessment. Croatian Yearbook of European Law and Policy, 15(1). https://doi.org/10.3935/cyelp.15.2019.360

Radtke, J. (2022). Smart energy systems beyond the age of COVID-19: Towards a new order of monitoring, disciplining and sanctioning energy behavior?. Energy Research and Social Science, 84, 102355.

Schlosberg, D. (2013). Theorising environmental justice: The expanding sphere of a discourse. Environmental Politics, 22(1), 37-55. https://doi.org/10.1080/09644016.2013.755387

Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. Applied Energy, 142, 435–444. https://doi.org/10.1016/j.apenergy.2015.01.002

Stojilovska, A. (2021). Energy poverty and the role of institutions: Exploring procedural energy justice-Ombudsman in focus. Journal of Environmental Policy and Planning, 1-13.



Swilling, M., & Annecke, E. (2012). Just transitions: Exporations of sustainability in an unfair world. United Nations University Press.

Turnhout, E. (2018). The politics of environmental knowledge. *Conservation and Society*, 16(3), 363–371. https://doi.org/10.4103/cs.cs_17_35

Varró, K., & Lagendijk, A. (2013). Conceptualizing the region – In what sense relational? *Regional Studies*, 47(1), 18–28. https://doi.org/10.1080/00343404.2011.602334

Walker, G., & Day, R. (2012). Fuel poverty as Injustice: Integrating distribution, recognition and procedure in the struggle for affordable warmth. *Energy Policy*, 49, 69–75. https://doi.org/10.1016/j.enpol.2012.01.044

Woerdman, E. (2004). The institutional economics of market-based climate policy. Elsevier.

Yergin, D. (2020). The new map: Energy, climate, and the clash of nations. Penguin.

Young, I. M. (1990). Justice and the politics of difference. Princeton University Press.

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