

## Navigating tensions between rapid and just low-carbon transitions

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## PERSPECTIVE

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E-mail: [P.J.Newell@sussex.ac.uk](mailto:P.J.Newell@sussex.ac.uk)**Keywords:** carbon, transitions, energy justice, energy transitions, equity**Abstract**

In this Perspective, we suggest that research on just transitions and energy justice needs to better attend to the increasingly important trade-offs arising from issues related to speed and acceleration of low-carbon transitions. We identify and elaborate two important tensions that policymakers face when they want to simultaneously achieve both just and rapid low-carbon transitions. First, the way in which participatory processes may increase justice but slow the speed of action; and second the way in which incumbent mobilization can accelerate transitions but entrench injustices. Such an analysis shifts the focus from mapping justice dimensions to acknowledging the inevitable trade-offs and winners and losers produced by transition processes as a first step to better navigating them.

**1. Introduction**

Debates on low-carbon transitions increasingly pay attention to questions of justice and equity [1, 2], highlighting important dimensions that techno-economic analyses, which have long dominated these debates, ignore. Mapping different justice dimensions (distributive, procedural, epistemic), as others have done, is an important first step [3–5].

While we agree with the importance of these analyses of just transitions, such work needs to better attend to the increasingly important trade-offs arising from issues related to speed and acceleration of low-carbon transitions [6]. Building on recent debates about dilemmas in low-carbon transitions [7, 8], our contribution identifies and elaborates two important tensions that policymakers face when they want to simultaneously achieve both just and rapid low-carbon transitions. These tensions relate to (technical and financial) resources and legitimacy, which are both important in low-carbon transitions [9]. Our analysis thus shifts the focus from mapping justice dimensions to acknowledging the inevitable trade-offs and winners and losers produced by any transition process as a first step to better navigating them.

**2. Participatory processes may increase justice but slow the speed of action**

There are increasing calls for enhanced citizen and stakeholder engagement, as a way of introducing justice and equity dimensions in low-carbon transitions and increasing social legitimacy [10]. Whether through climate assemblies or growing attention to ‘energy democracy’ through forms of local and collective control over energy systems, there is a desire to involve a broader range of actors in sustainability transitions [11]. This is thought to be critical to ownership and social acceptance of new transition pathways, to encourage behaviour change among citizens [12] and help engage with grassroots innovations, as a democratic end in itself, and to help anticipate problems and gain a more rounded and informed sense of barriers and opportunities to accelerated transitions by ‘future proofing’ them.

The first tension is that, despite their undoubted promise and value, we need greater clarity about *which issues* and *for whom* enhanced citizen engagement works well. Such exercises can be useful at harnessing input to local plans for net-zero around issues where citizens have a direct stake in the outcome (such as local housing or transport policy) but

offer limited scope for identifying let alone addressing equity trade-offs across societies where one country's transition pathway might impact another. In part, this is because the uneven nature of opportunities for citizen engagement can serve to reproduce inequalities of access and representation which inhibit capacity to address a range of procedural and distributional justice dimensions both within and between societies. For example, demands to expand electric vehicles articulated by citizens in wealthier parts of the world are not balanced by high levels of citizen engagement of poorer and often indigenous communities affected by the mining and extraction that follow as a consequence of rising demand for materials such as lithium and cobalt for batteries [13]. Opportunities for participation are limited in the large number of countries around the world that are not rich, wealthy democracies, where some of the negative costs of transition pathways may be felt more acutely in terms of land acquisition (for biofuels or carbon sequestration), employment (of those in fossil fuel sectors) or the intensification of mining (for electric batteries). Added to this is the fact that even when using sortition and careful selection criteria, there is often a tendency for wealthier and more educated groups to dominate in participatory spaces such that the voices of more economically and racially marginalised groups within society are often not heard.

Public consultation and participation exercises are often run in parallel to formal decision-making processes and it is rarely specified how the former will impact the latter. Generic recommendations may be issued, but a commitment to address them is rarely forthcoming. Yet without meaningful commitments by governments, business and cities, for example, to act on recommendations resulting from citizen-led participatory exercises, they can provide a veneer of procedural legitimacy without doing anything to address distributional justice. A recent example illustrative of tensions between involvement and speed is the UK Citizens Climate Assembly, an open, deliberative process involving experts and citizens to solicit views on climate change. The Assembly involved an array of participatory and interactive elements including weekend workshops, seminars, discussions with experts, consensus building, and report writing. However, despite making some bold recommendations [14], it resulted in no concrete policy actions. Hence there is no guarantee that it helps to resolve tensions between different dimensions of justice issues [15]. A prior commitment to respond to and consider recommended actions, even if not acting on all of them, would have lent the process more weight and authority.

Even worse, some consultation efforts are even intended to *suppress* public involvement. In Canada, for instance, industry groups trying to justify nuclear waste storage in marginalized and often indigenous communities deployed 'public consultation sessions'

not to solicit meaningful public input, but instead as a public relations exercise to either demonstrate consent and approval (when they got it) or to present the public as having fragmented values and opinions that would never be overcome (when they did not get it), which justifies them being overruled [16]. Similarly, in practice consultations around proposed carbon market projects are rarely announced far in advance, are very technical in nature and hosted in capital cities far from the poorer rural communities expected to host them.

This points to the way in which citizen participation can also serve as a strategy by state leaders to deflect responsibility for unpopular or controversial decisions onto lay citizens, or as a political strategy adopted by incumbents to delay action. Calls for deepening dialogue and participation with all stakeholders around just transitions illustrate this dynamic aimed at slowing climate action. The coal industry and other incumbents have embraced the just transition agenda to suggest that calls for more ambitious climate change need to be accompanied by plans to address a whole gamut of social, regional and economic inequities which predate contemporary calls for decarbonisation. For example, a roundtable at the Bonn climate negotiations in 2019 on Just Transitions continually emphasised the need to involve all stakeholders in transition planning, citing examples of coal rich areas in Europe, but without acknowledging the fact that under most scenarios consistent with the Paris agreement, those reserves could not be extracted, so that from a distributional perspective the key issue is how to support economic diversification and retraining of workers rather than prolong the life of that industry [17].

Resolving these complex and often intractable issues through ever expanding circles of participation and 'stakeholder engagement' can then become a strategy of delay: it prioritises a narrow notion of procedural justice in order to delay distributional justice. This suggests the need for participatory spaces to be aligned with the need for rapid and deep transitions so that the deliberation is more over different pathways and less the speed or depth of change required. But it also suggests the limits of seeing citizen engagement as a panacea for addressing all justice issues in transitions.

### **3. Incumbent mobilization can accelerate transitions but entrench injustices**

Since accelerating low-carbon transitions requires financial, technical, and organizational resources, policymakers inevitably have to work with major investors and incumbent firms (e.g. car makers, energy utilities, banks, construction companies, food retailers) whom they rely on for tax, investment and jobs. For example, literatures within political science and development studies on 'political settlements'

recognise the need to work with powerful actors and institutions to achieve change [18]. Indeed, much political economy analysis provides a mapping of power to understand where fractures and moments of change in the current political landscape might arise [19].

However, a tension arises from the fact that working with such incumbents to accelerate transitions may lead to transition pathways which are less attentive to social justice. One instance of this tension is that incumbents have the technological capabilities and intellectual property needed for scaling low-carbon innovations like electric vehicles, heat pumps, offshore wind, nuclear reactors, hydrogen or CCS. But such 'working with incumbents' is likely to privilege certain types of (large-scale) transition pathways and neglect others which seek to advance 'just transitions' rather than scale up technologies as an end in itself. Additionally, purchase subsidies for electric vehicles, heat pumps, or rooftop solar-PV may help accelerate early diffusion, but disproportionately benefit more wealthy consumers, thus creating unfairness [20]. There is an important role for governments here in both using innovation and industrial policy (through taxes, subsidies and regulation) to ensure incumbent technologies are affordable and accessible while also supporting niches and grassroots innovations [21].

A second instance of this tension relates to finance. Vast amounts of capital will be needed for low-carbon transitions, amounts that are likely unattainable for niche actors, smaller firms or community actors [22]. The IPCC, for instance, estimates that \$48.75 trillion over the next 15 years will be necessary to limit global warming to 1.5 °C [23]. The financial actors that are able to provide such large sums of money (like state development banks, pension funds or commercial banks) prefer to invest in large-scale options (e.g. offshore wind parks, urban tram systems) and rarely embrace justice concerns over short term returns on investment [24].

The majority of energy finance in the private realm remains ungoverned and is harder therefore to steer towards the fulfilment of social need. Hence policies which privilege levering and de-risking private investment, such as the Africa Renewable Energy Initiative which aims to create an 'energy revolution' and contribute to climate mitigation efforts are developed without a clear sense of whose energy needs will be met and how. In a context in which large numbers of people across the continent still do not have access to the grid and cannot afford connection charges, it is notable that the regional energy consultations only began in April 2018, two and half years after the launch of the initiative in December 2015 at the Paris climate summit [25]. The top-down nature of such efforts reduces their ability to address existing energy inequalities.

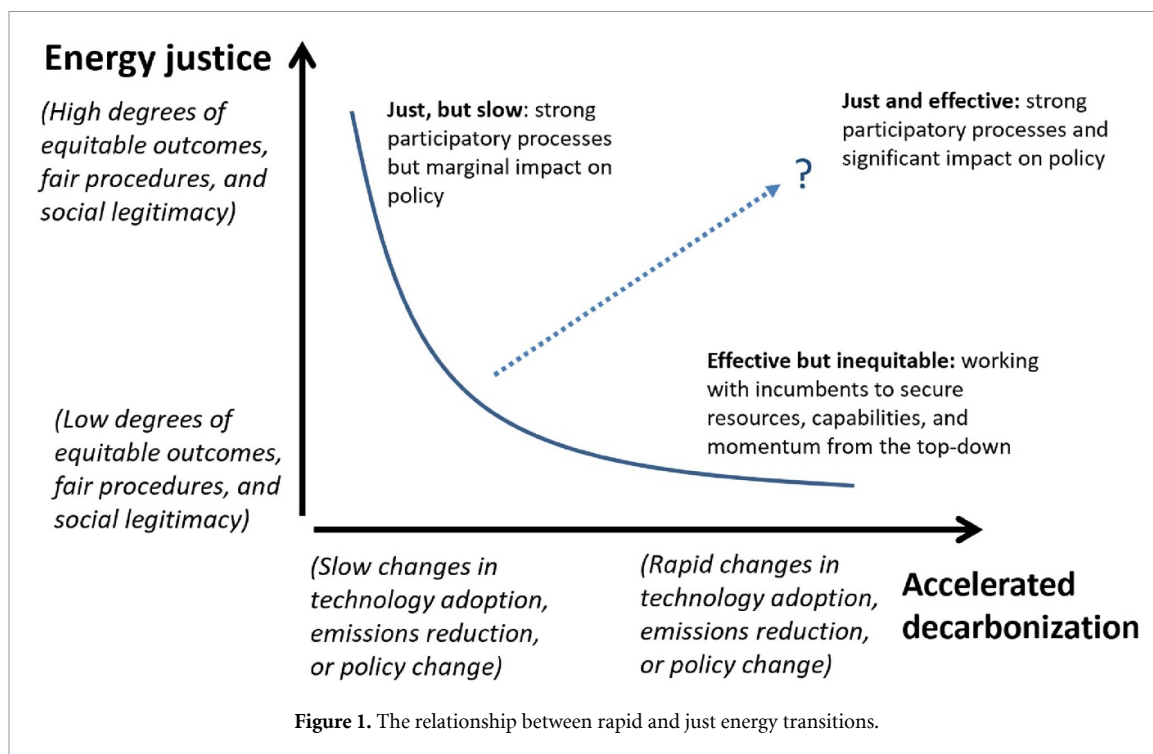
## 4. Policy and research for just and rapid transitions

We have identified several reasons for tensions between just and rapid low-carbon transitions, suggesting that participatory processes may enhance considerations of justice but slow the speed of action, while working with incumbents may accelerate transitions but entrench injustices (figure 1). Further research should address these dilemmas head on instead of focusing either on justice or speed. This means paying greater attention to the ways in which institutions and incumbent actors handle the trade-offs between different justice dimensions (from procedural to distributional to recognition and intergenerational justice) and why some political systems and governance systems are better placed to manage these trade-offs than others.

However, the inability to manage just transitions in the past may explain why so many low-carbon transitions have been inequitable so far. This casts doubt over whether we ought to expect accelerated low-carbon transitions to be more equitable. Because policymakers increasingly aim to work with powerful financial actors and incumbent firms, there is a high probability that a future low-carbon society will also be unfair and inequitable. The reason is that the structural power of business and finance gives them greater influence in policymaking [26], often reducing space for the consideration of justice issues in the absence of counter-veiling social pressure and deliberate attempts to engage with diverse publics and a plurality of transition pathways.

Exceptions to this are possible when low-carbon innovations are both economic and improve justice, so that rapid diffusion has beneficial consequences (e.g. China's rapid diffusion of 185 million cookstoves throughout deprived areas) [27]. Another exception is when civil society campaigns are able to propel an issue into the media, leading to high public attention, which then creates pressure on policymakers to address it [28]. In the roll-out of smart meters, for example, Dutch policymakers, who had designed a top-down program with energy companies, changed technical settings and consultation procedures when they encountered strong civil society protests over social exclusion and privacy concerns [29]. Thus, while policymakers usually listen closely to incumbents, they can, for electoral and political reasons, switch camps if there is high public attention on an issue. These and other examples suggest the need for typologies of how, when and where transition pathways can develop which are able to grapple with multiple justice dimensions in accelerating transitions in a socially just manner.

In this sense what constitutes a just transition cannot be defined in the abstract or *a priori*, but rather has to be understood in the contexts in which it emerges and is developed. The nature of tensions



between business demands, political interests, and civil society concerns and the extent and ways in which they can be resolved will differ by context and so this agenda needs to be further advanced through detailed empirical analysis of how particular political systems navigate these complex dilemmas and on whose terms.

Any policy or socio-technical pathway, even a low-carbon one, inevitably produces uneven costs and benefits across society, time, and space. Although there will always be short term losers from transitions, including low carbon ones, recognizing the inherent tensions between rapid and just transitions is a critical first step towards devising policy architectures and forms of social engagement that begin to minimise the costs and impacts of adjustment.

### Data availability statement

No new data were created or analysed in this study.

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