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Research article

What space for justice? The just energy transition partnership with South Africa

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ABSTRACT

Energy transformations not only reveal multi-dimensional claims for just distribution, recognition, and procedures, but also how justice claims depend on and shape the spatial context that they address. Stakeholders involved in the Just Energy Transition Partnership (JETP) with South Africa share the commitment to a just energy transition in the country, yet have differing conceptions of justice in mind. In this contribution, expectations and ideas of justice that various societal actors associate with the JETP are examined. The paper therefore asks what notions of spatial justice stakeholders bring up in the public debate about the JETP in South Africa. Conceptually, the focus is on four spatial justice aspects, namely on scalar, center-periphery, interterritorial, and infrastructure-related justice considerations. Based on qualitative expert interviews, a spectrum of spatial justice claims is revealed. The contribution finds that, firstly, the energy transition in South Africa has to address severe pre-existing injustices in South African society in a transformative manner, and therefore has to go beyond merely maintaining the status quo. Secondly, spatial justice debates have thus far been heavily focused on international relations, particularly on the negotiations within the International Partners Group and on the conditions of the JETP. Thirdly, subnational debates on spatial justice are only beginning to gain momentum, revolving around changes in center-periphery relationships, energy infrastructures, procedural justice, and ownership. The spatial perspective proves to be a helpful lens to illuminate the different, at times contradictory perspectives on justice in transitions.

1. Introduction

The success and acceptance of energy transitions depends crucially on whether these processes are perceived as just. This proves to be particularly challenging in countries that are highly dependent on coal such as South Africa (ZA). At the same time, however, justice is a concept with scope for normative interpretation, so there is no uniform idea of what would be just in a transition (Biermann and Kalfagianni, 2020).

Just Energy Transition Partnerships (JETPs) represent innovative plurilateral structures designed to accelerate the transition away from fossil fuels in Global South countries. Announced in 2021, the JETP with ZA is the first of its kind. Its ambition to place justice at the core of the partnership underscores the need for research into how this is discussed and implemented within the country.

Justice in energy transitions has become central in academic debates on energy policy and governance as well. The three-tenet framework (McCauley et al., 2013), for instance, is used widely to examine distributive, procedural and recognition justice. Other contributions focus on the spatial context of justice claims to understand debates and also conflicts about justice (Bouzarovski and Simcock, 2017; Bridge et al., 2013). This contribution seeks to add to the spatial analysis by zooming in on spatial and scalar dynamics about justice in ZA with a focus on center-periphery, interterritorial, and infrastructural relations that shape justice debates at the international and domestic level (Gürtler, 2023).

Against this background, this article thus investigates what spatial justice notions stakeholders bring up in the public debate about the JETP in ZA. While justice may seem like a universally shared goal, academic contributions have pointed out the heterogeneity of perspectives on what is just in energy transitions (Biermann and Kalfagianni, 2020; Van Uffelen et al., 2024; Wood, 2023). ZA constitutes a particularly interesting case to study spatial justice debates as it has a long history of spatial struggles over energy and justice and a pronounced

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justice-focused discourse on the energy transition. In addition, South Africa's role as a regional power and geopolitically significant actor, combined with its status as the first country with a JETP, makes it a particularly compelling case for investigation.

Qualitatively assessing ongoing debates about the partnership, this contribution finds that firstly, the JETP with ZA has to address severe pre-existing injustices which require a genuinely transformative approach, and therefore has to go beyond merely maintaining the status quo. Secondly, spatial justice debates have thus far been heavily focused on international negotiations within the International Partners Group (IPG) of the JETP, for instance on conditions of the partnership including financial scope and instruments as well as policy reforms. Thirdly, subnational debates on spatial justice are only beginning to gain momentum, revolving around procedural justice, changes in center-periphery relationships, energy infrastructures, and ownership.

The next section will present the analytical angle which focuses on different spatial relations on which grounds justice claims are formulated. Section 3 will introduce the case as well as the methodology of this paper. The results of this research are presented in section 4 and discussed in section 5. Section 6 concludes.

2. The analytical angle: spatial justice in transitions

Striving for just transitions (JT) has become a widely shared goal which is also at the heart of current energy debates in ZA. Just distribution, recognition, and procedures are central dimensions when discussing energy justice (McCauley et al., 2013) and just transition (McCauley and Heffron, 2018). In line with Nancy Fraser, these dimensions can be conceptualized as "rival conceptions of the substance of justice" (Fraser, 2009) which are interrelated. Some conceptions discuss additional dimensions of justice which are however transversal to the other three tenets of justice. Restorative justice addresses the correction of historical injustices (Hazrati and Heffron, 2021) or injustices that emerge through transitions. The following analysis combines these dimensions of justice with a focus on spatiality, as the various tenets of justice can manifest across different scales and spatial settings.

Despite the need for just transitions, perceptions of justice are highly heterogeneous as different claimants hold different ideas of what justice should mean. Generally, justice claims differ because claimants come to different conclusions about how to normatively define and assess key issues relating to justice. In transitions, partially conflictual justice claims have to be brought into interaction. This can lead to various forms of managed or unmanaged conflict, contestation, negotiation, and compromises.

In addition to the three-tenet framework of energy justice, this article foregrounds the spatial angle (Bridge et al., 2013). It argues that the heterogeneity of justice claims is often rooted in the fact that claimants emphasize specific justice aspects based on space and spatial boundaries, or that they refer to selective spatialities based on ideas of what justice should mean (Gürtler, 2023). This contribution thus focuses on spatial justice claims which can be conceptualized as "referring at the same time to moral (substance-related) and spatial dimensions of (in) justice and relating both to each other" (ibid. 2023).

Combining the spatial and moral dimension in such a way, at least four different spatial justice patterns can be observed (see Fig. 1). First, transitions have a multi-scalar profile, ranging from local to planetary (Stevis and Felli, 2020). They refer to different scales involved in decision-making and decision-taking. The most relevant scalar relations in the case of the South African JETP are twofold: on the one hand, the relationship between ZA and its partners in the IPG which represent a supranational system of climate finance, and on the other, the relation between the ZA government and its subnational partners such as provinces, municipalities, civil society, and local communities.

Second, spatial justice is based on assumptions about the relation between center and periphery. In this case, this is highly relevant for studying spatial relations at the subnational level. On the production side, the fossil fuel regime of coal mining and generation is more concentrated than a dispersed renewable energy system. On the consumption side, major energy users such as industrial plants or metropolitan areas might be located in particular parts of the country. A shift to renewables often implies that the center-periphery relation changes. But also in the civic space, civil society organizations' "presence, voice and resources" can be "weaker the further one goes from the centers of economic and political power" (Newell et al., 2024). In addition to subnational patterns of this kind, a country such as ZA can also be seen as part of another center-periphery relationship, namely as being a heavyweight in the Southern African Development Community (SADC) as well as in the continent as a whole.

Third, regions also stand in an interterritorial relation as non-hierarchically connected political and social areas. To start with, previous energy patterns have benefited them unequally in different ways. In the wake of energy transitions, these patterns change. Often, deliberate support for transition-affected regions can lead to justice debates regarding the question which regions should carry what burden and

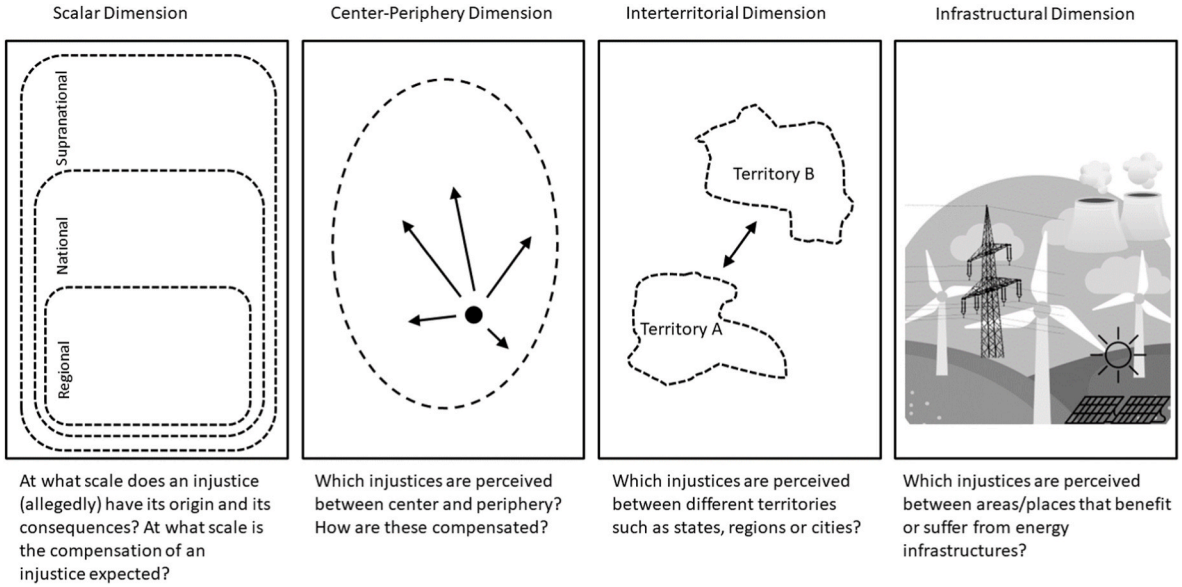

Fig. 1. Scalar and spatial aspects raised in justice claims. Source: Gürtler (2023).

should benefit to what extent from transition support.

Fourth, and related to this, are the questions of how benefits and burdens of energy infrastructures are distributed, and how affected regions can participate in decisions about them. Justice or injustice can be debated in relation to the established, fossil fuel energy system, the transition process itself, and a new energy system which is largely based on renewables (Hermwille et al., 2023; Kanger and Sovacool, 2022). Any change in energy infrastructure might at the same time overcome existing injustices and/or create new ones. The infrastructural dimension foregrounds material aspects of energy transitions but also their normative valuation, and includes mining activities, energy production, consumption, transmission in the form of power lines, ports etc. (Hess et al., 2021), and the siting of new facilities.

3. Case description: the JETP with South Africa

Energy production is geographically unequally distributed in South Africa. While the majority of coal generation and of South Africa's 78 operational coal mines are located in the eastern provinces of Mpumalanga and Limpopo (Bhorat et al., 2023; Cole et al., 2023), renewable energy production is mainly located in the West and in the South of the country, primarily in the provinces Western Cape, Northern Cape, and Eastern Cape. The majority of electricity consumption is centered in metropolitan areas such as Johannesburg and Pretoria (Gauteng province), but also in the Cape Area and along the Southern coast. The transmission grid largely reflects the patterns of the coal-based electricity system. Therefore, serious grid constraints exist in the Western provinces around the cape, complicating the exploitation of the potential of renewable energy projects in these provinces.

While Komati power station had already been closed in 2022,[1] 14 other coal-fired power plants are still operational. Plans to gradually shut down individual plants in the ageing fleet of coal-fired power stations have been revised in 2024. Eskom has announced that the decommissioning of the coal power plants in Camden, Grootvlei and Hendrina will not take place before 2030, contrary to the original intention to close them in the years 2023–2027. Shut down plans for all coal power plants can be found in the Integrated Resource Plans. The Presidential Climate Commission (PCC) – appointed in 2020 by the Presidency to develop a Just Transition Framework – warns in a 2024 report that the delay of power plant closures puts South Africa "even further off track" regarding decarbonization and entails a risk for affected communities who require reliable timelines to plan for training and redeployment activities (Presidential Climate Commission, 2024; see also Xaba, 2025).

The political agreement to commit to a JETP was announced at the 26th Conference of the Parties (COP) of the UNFCCC in 2021 by the countries of the IPG, namely ZA, the EU, US,[2] UK, France, and Germany. The aim is to support ZA in achieving the most ambitious pathway of its Nationally Determined Contribution (NDC). This involves accelerating the coal phase-down, thereby scaling up renewables and supporting those most affected by the transition such as workers and coal communities. The JET partnership mobilizes around USD 8.5 billion in multilateral funding, combining public and private grants, loans, de-risking, and investments[3]. The total investment needs for South Africa's energy transition are estimated to be much higher, thus the JETP only covers a small share of this. While the South African presidency has estimated the investment requirement (The Presidency, 2022) at 98 billion US dollars for the years 2023–2027, another study expects required investments of 250 billion US dollars over the next three decades (Blended Finance Taskforce and Centre for Sustainability Transitions, 2022).The ZA government has published a JET Investment Plan (JET-IP) with five main pillars: the electricity sector, new energy vehicles, green hydrogen, skills for a JT, and municipal just energy transitions. The question therefore arises as to whether all of these areas are equally genuinely focused on justice, or whether measures are also being implemented in areas that are necessary for the energy transition in general, even without a distinct justice focus. Stakeholders' perspectives on the JET IP have been gathered by the PCC in a consultative process (Presidential Climate Commission, 2023 for a critical perspective, see GroundWork, 2022).

Conditions in ZA differs in many ways both from industrialized countries in the Global North and from other countries in Africa. On the one hand, severe challenges exist related to unemployment, inequality, and poverty (these are discussed in section 4.1.). This makes mine and power plant closures highly challenging for the hosting communities (Marais et al., 2021). The particularly high dependence on coal also makes the energy transition in general challenging. 73.4 % of electricity was generated from coal in 2023, while renewable energy provided 13.4 % of South Africa's electrical energy demand (CRSES, 2024). The mineral-energy-complex (MEC), characterized by a conglomerate of intertwined energy, extractive industry, and manufacturing actors, has locked ZA into high-carbon pathways and is still dominant (Hanto et al., 2022; Swilling et al., 2016). Furthermore, the state-owned energy utility Eskom is heavily indebted. Trade unions in South Africa adopt heterogeneous positions on the green transition, and have moved back and forth between reactive and affirmative strategies (Cock, 2019; Kalt, 2022; Mohr, 2025). On the other hand, ZA has several advantages that can support a JT. Politically, ZA has a vibrant and active civil society including initiatives that organize resistance to coal and challenge the related environmental inequality (Cock, 2019). Furthermore, the South African judicial system has been mobilized to support environmental and labor concerns in the past. ZA's political system is relatively stable despite problems with corruption and state capture. Economically, an industrial basis in the country can help facilitate the technological implementation of the energy transition. This was demonstrated, for instance, during a first wave of renewable energy deployment, when the Renewable Energy Independent Power Producers Procurement Programme (REIPPP) led to significant development of local industrial capacity in the renewables sector (Swilling et al., 2022).

3.1. Methodology

The present study is based on qualitative empirical research in ZA. At the heart of it is a set of 14 semi-structured interviews (see Table 1) with experts and stakeholders (Bogner et al., 2009). In the preparation for the series of interviews, nine preparatory conversations were held. The interview partners – public servants, academics, activists, employees of think-tanks and foundations, and a journalist– are all based in ZA. All interviews were carried out in March 2023 in ZA, nine of them in-person, and five of them virtually. They lasted 30–75 min.

The sampling of interview partners ensured a heterogeneity of perspectives. This included both consenting and critical voices towards the JETP (see Table 1), and variations in the extent of direct involvement with the partnership. Based on the interview analysis, seven interviewees can be categorized as speaking rather positive about the partnership, four have a rather negative view, and three interview partners had an ambiguous perspective.

Thematically, the interview questionnaire focused on the following topics: personal involvement with the just energy transition in ZA, vision of a JT, perceptions of governance arrangements, and the discussion of

[1] For a discussion of the justice implications of the decommissioning of Komati power station, see (Mwale et al., 2024; Tladi et al., 2024; Xaba, 2025), for capturing critical community voices, see (GroundWork, 2022).

[2] In March 2025, the USA under President Donald Trump has announced the termination of its membership of the International Partners Group (IPG) for the JETP in South Africa. The implications of the US withdrawal are currently evaluated by South Africa and the other partners.

[3] While the original sum of USD 8.5 billion is the reference point in public debates, additional funding had been pledged since 2021, amounting to around USD 11.7 billion

Table 1
List of conducted interviews.

Interview #	Date	Interview mode	Sector	Rather positive	No clear tendency	Rather negative
1	06-03-2023	In-person	Academia			x
2	06-03-2023	In-person	Foundation (labour-related)	x		
3	08-03-2023	In-person	German public agency	x		
4	09-03-2023	In-person	South African government agency	x		
5	09-03-2023	Virtual	Journalism			(x)
6	09-03-2023	Virtual	Foundation, close to South African government	x		
7	09-03-2023	In-person	Think-Tank			x
8	10-03-2023	In-person	Foundation (labour-related)	x		
9	13-03-2023	In-person	Environmental NGO		x	
10	15-03-2023	In-person	Environmental NGO		x	
11	15-03-2023	Virtual	Foundation, close to South African government	x		
12	27-03-2023	Virtual	Academia			x
13	28-03-2023	In-person	Environmental NGO		x	
14	28-03-2023	Virtual	South African government agency	x		

context conditions of the energy transition in ZA. The central and most comprehensive part of the interview focused on the JETP. Here, the focus was on the genesis and prospects of the partnership, the different pillars of it, expected outcomes (also regarding beneficiaries and losers as well as spatial effects), and the governance of the partnership. Spatial justice was a central focus throughout all interviews.

4. Results

The analysis of the public discourse on spatial justice and the JETP in ZA has revealed three major findings. Firstly, the energy transition in ZA has to address severe pre-existing injustices in South African society in a transformative manner, and therefore has to go beyond merely maintaining the status quo. Secondly, spatial justice debates have thus far been heavily focused on international relations, particularly on the negotiations within the IPG and on the conditions of the JETP. Thirdly, subnational debates on spatial justice are only beginning to gain momentum, revolving around changes in center-periphery relationships, energy infrastructures, procedural justice, and ownership.

4.1. Addressing severe injustices through a transformative energy transition

The JETP unfolds in a challenging setting as the South African society contends with multiple issues at the same time. This has implications for strategies that target the energy sector: the expectation is not only that the energy transition will technologically lead to a reliable supply, but that it will be used as a leverage to alleviate social problems. Efforts to achieve an energy transition are therefore also measured by their potential to alleviate injustices. The JT Framework which was adopted by the ZA government acknowledges the "triple challenges of poverty, unemployment, and inequality" which are further exacerbated by climate change (Presidential Climate Commission, 2022, p. 2). Societal injustices have shaped ZA for centuries and are deeply rooted in the history of the country, as discussed below. In addition, corruption and state capture constitute a challenge, in the energy sector and beyond. The following results first focus on overall injustices, before zooming in on the energy sector.

Generally, the triple challenge of inequality, poverty, and unemployment was emphasized in most of the interviews to understand the scale of the challenge for a justice-focused energy transition. According to official numbers, the unemployment level is currently at 32,9 %, while the youth unemployment rate is even at 45,5 % (StatsSA, 2024). ZA is the most unequal country in the world with a Gini index of 63.0 (World Bank, 2024). Poverty levels are extremely high at around 60 % (ibid. 2024). Energy poverty represents a particular form of poverty with several knock-on effects. One interview partner connected the status quo regarding unemployment to the magnitude of the transition challenge:

> "If we think about Mpumalanga, and we do a one-for-one job swap, so that those who lose their jobs in the coal phase-out, there are equivalent amounts of jobs created in the renewable energy, unemployment in Mpumalanga would still be 40 percent. And youth unemployment would still be 65 percent." (Interview 4 = I4)

Additional challenges regarding job creation in renewable energy include that the new occupations are not automatically decent jobs and that there is often uncertainty about the required skill sets and work conditions in these new jobs (Mohlakoana et al., 2024).

The high levels of inequality are rooted in the history of colonialism and apartheid which excluded and marginalized black communities. These spatial injustices can be traced back to:

> "the way the apartheid government planned where to put people, and people from poor black communities are often very far from their places of work, and don't have access to the same kinds of resources. […] So the combined colonialization, imperialism, apartheid and more recently corruption legacy of ZA […] make[s] it relatively unique in terms of historical injustice." (I4)

According to another interview partner, these inequalities additionally have an impact on the spatially unjust distribution of the burdens of the energy crisis, claiming that "when they do load shedding, they do more load shedding in black working-class areas" (I1).

Furthermore, the colonial history continues to nourish suspicions regarding the former colonial powers. One interviewee noted that "questions around the relationship with international business, international government are still embedded in questions about colonial justice" (I2) and therefore have an impact on mutual relations until today.

In addition to that, corruption has become an increasingly heavy burden on the energy system. The energy crisis and high levels of load shedding are effects of state capture and corruption. Eskom "has been the vehicle of a large kind of state capture" (I7) in the form of a systematic, well-organized, and repeated illicit appropriation (Chipkin et al., 2018). Despite the "massive recognition of the extent of corruption in the state" over the last few years, "the general response of that is a sort of apathy, and sense of powerlessness, and people are retreating into sort of private concerns" (I12).

These developments necessitate further discussing the particularities of the energy system. Severe injustices exist today through the coal-based energy regime. First and foremost, negative health effects through coal mines justify that:

> "There's a need for a real kind of grounding of why it is important to have this transition. The signs are there, the floods that we have, induced natural disaster that we have, and the fact that people in Mpumalanga are breathing poisonous air, […] that they find streams polluted because mines do not decommission mines properly" (I9).

The mineral energy complex in ZA has been a historic source of injustice. Based on the supply of cheap black labor and racist labor policies, this turned ZA into the most coal-dependent economy in the G20, complemented by the extraction of other minerals such as gold (Burton et al., 2022). One expert linked the suffering from local environmental burdens to the promise of protection in the South African constitution:

> "[South Africa] is a fossil economy per excellence. […] Everything here revolves around mining. […] And that has created […] social inequalities. It has also led to dumping of massive amounts of CO2 and methane etc. in the atmosphere. It has led to pollution of water sources etc. And that is why one of the first things in the ZA constitution was to guarantee the right to an unpolluted environment." (I8).

Overall, these pre-existing injustices provide the backdrop against which the outcomes of the JETP will be measured. This has several implications. First, as there are still powerful voices that call into question the need for the phase-out of coal in ZA, it is important to stress the risk that injustices of the current energy system will prevail if insufficient change is applied. Through regime optimization (Kanger and Sovacool, 2022) involving only marginal changes to the coal-based energy system, previous injustices could persist. Second, the JETP simply cannot ignore the high level of inequality and injustice, although there is at the same time a certain danger of seeing the JETP as a panacea. Aiming for a more limited transition solely in the energy sector would undermine the legitimacy of the energy transition in ZA. There is a need for an open debate about how transformative the energy transition should be, including discussing fundamental issues such as ownership structures. At the same time, however, there is also a danger of overburdening the partnership with exaggerated expectations. Third, ZA's proven determination to put justice at the heart of this energy transition goes beyond what other countries are planning in the energy field. Securing the status quo and just switching the sources of electricity is not an option for ZA, given the interdependent challenges described above. Employment is an instructive example showing that "ZA is just a different case" because the discussion is not just about people losing jobs, but also about "all the people that didn't have jobs in the first place" (I10). Given the challenging initial situation in ZA, a high ambition level is needed.

4.2. Justice at the international level: negotiating the terms and conditions of the partnership

Debates about spatial justice and the JETP focus predominantly on the scalar relationship between ZA actors (national level) and its international partners. The JETP is embedded in a system of global climate cooperation as evidenced by the fact that new partnership developments are announced in multilateral forums such as the COPs of the UNFCCC. The interviews reveal that these international negotiations dominate the debate about spatial justice in ZA.

Relevant parts of the ZA government as well as the international partners share the motivation to turn this partnership into a success, even if their interests do not fully overlap. A part of the ZA government around the Presidency and the Department of Environmental Affairs (DEA) considers the JETP as a chance to overcome the electricity crisis and to end load shedding. At the same time, reducing the emission intensity of the ZA economy is seen as a way to overcome a competitive disadvantage of ZA. However, it must be noted that the post-fossil transition is controversial within the ZA government as "some of the ministers seem like they've not bought into the transition" (I9). Therefore, it "is not necessarily a whole of government […] response, [and …] If X is said, not everyone will always stand behind it" (I3). Those in the government who are skeptic towards the JETP and support maintaining coal are to be found in particular in the Department of Mineral Resources and Energy (DMRE) (see also Von Lüpke, 2025).

The motivations of the donor countries in the IPG have only been discussed indirectly through the perspectives of the mainly South African interviewees. One highly relevant reason for them seems to be the chance of reducing emissions in a country so heavily fossil-dependent that the emission reduction impact is comparably large. Investing in climate change mitigation is seen here as getting "value for money" (I13). Additionally, interviewees discuss other motivations of donor countries, including ensuring reliable electricity supply for multinational companies, reducing the carbon intensity of produced goods to be able to export them from ZA in the light of the EU Carbon Border Adjustment Mechanism (CBAM), diversifying international suppliers, building an export-oriented green hydrogen industry, or using public funding to unlock private funding in the donor countries themselves (I3, I11, I13). One interviewee was concerned that lending schemes such as the JETP lock ZA into unequal trade relationships in which donor states will be in a stronger position to urge ZA to buy certain technologies from them (I1). Overall, the question to what extent the JETP is in the self-interest of the Global North has been very present in many of the interviews. At the same time, the majority of the interview partners emphasized the opportunities for ZA rather than the risks. Whether the JETP's claim to deliver on justice can be fulfilled is also being closely and critically observed by civil society in the donor countries.

The question of benefits and risks culminates in distributive justice debates about the choice of the financial instruments. Most of the interview partners demanded that the JETP should have a higher share of grants and a smaller share of loans. The position of the ZA government would be that it "need[s] more grant funding, it needs to be more concessional, we need to streamline the terms and conditions" (I3). This implies that it is not only about the grant-loan ratio, but also about the diverse and challenging terms and conditions imposed by the lenders in the various donor countries. For some of the interviewees, it was clear that the partnership should not be a voluntary commitment from countries in the Global North, but rather that "there's an ecological debt […] because […] most of the companies that have mined […] are not ZA companies, [but] are registered somewhere whether in Europe […], in Canada or Australia" (I9). From this perspective, the JETP becomes an issue of compensating losses and damages and thus a matter of restorative justice. An environmental NGO member emphasized that "seeing that about 3 or 4 % of [it] is in grants, the rest is all concessional loans, guarantees, […] is disappointing" (I13). Despite of the "climate debt that should be owed to the Global South", he described ZA as being in an interesting position "because obviously we are a big polluter ourselves, but we also need help, you know, we're not a rich economy, so we need help to get off coal, too, and I think that's why we're such a unique case for the JETP" (I13).

Furthermore, several interviewees voiced concern that not all of the pledged money will be additional. A member of the Presidential Climate Finance Task Team mentioned double counting as a threat:

> "So they're counting projects like a GIZ project that I know was completed […] ages ago. […] And they are counting without us having a definition. It allows people to double count" (I14).

In addition to debates about the type and scale of the different financial instruments, there is a vocal part of the ZA society rejecting any type of foreign debt and development aid and arguing that ZA should "literally not accept loans, [but only] accept a grant" (I9, similarly in I1). They fear a "damage [to] ZA's economic sovereignty, because we already are deeply in debt" (I12). Others worry about a power imbalance in negotiations between one recipient and several major donor countries (I7). However, there are other voices countering these claims, arguing that there would be already a high concessionality and many grant elements (I3). Others expressed understanding for the fact that domestic political issues in donor countries might have prevented more grants (I11). Furthermore, a PCC secretariat member worried about absorptive capacity:

> "So we could double the grant money, triple the grant money, then how do we spend it? I think we are going to struggle to spend what we have now" (I4).

The argument that risks and conditionalities for the loans of the JETP would be too high is also countered by pointing to the fact that ZA has "raised a lot of foreign debt at a much more expensive rate" (I11) which has not been criticized to the same extent.

The other major concern of being treated unjustly relates to conditionality and attempts of the IPG to shape domestic policy through policy reform. On the one hand, involved stakeholders problematized that "there was a lot of push from the West for us to reform policy, and there was back and forth, and ZA said 'absolutely not'" (I14). On the other hand, the issue of policy reform is partially considered more neutrally as an attempt of donor countries to ensure that their "investments are not constrained by policy, legal and regulatory barriers" (I11). The major issue regarding policy reform is the privatization of Eskom, and the ZA government insisted that "we want to be able to decide what elements of Eskom we would like to privatize, or [of] the energy system entirely, and we want to do it at our own pace" (I14). There is a divide between those who prefer public ownership of Eskom and those who believe that privatization would lead to a more effective energy system.

Another bone of contention related to policy reform seems to be technical assistance. The following quotation reveals the extent to which the attitude of international partners is perceived as presumptuous and inappropriate:

> "There's an assumption that because we haven't gotten it right, we don't know what we're doing. […] So, there's a lot of talk about 'we can deploy technical assistance that looks like this', and [we are] really pushing back, saying: 'in a different way that's kind of also colonial, and also maybe pushing at reform in ways that we don't want to'. We should be defining success for ourselves" (I14).

While the demand that the partnership should be country-driven is reinforced, a stakeholder close to the labor movement turned this argument around by saying that donor countries should not hide behind this claim. He underlined that "there's always strings attached", and therefore in terms of procedural justice, donor countries "could have insisted on that as part of the process" (I2) just as they insisted on specific energy policy goals.

Overall, diverging views on conditionality of the funding and policy reform confirm studies that have diagnosed a lack of mutual trust between JETP partners (von Lüpke et al., 2023). Another contested issue at the international scale relates to differing ideas about the use of gas as a transition fuel which is not only controversial between donor and recipient governments, but also domestically in ZA (I13).

4.3. Justice at the domestic level: changing spatial relations in South Africa

It is still early to analyze demands for justice concerning the domestic relationship between the national and sub-national levels. The extent to which different provinces will benefit from the JETP is, for instance, not yet clear. Domestic concerns thus complement and interact with the omnipresent debates about the international dimension of the partnership. This section addresses the relation between the state and the subnational level on the one hand, and between different regions on the other hand, thereby focusing on center-periphery, interterritorial, and infrastructural aspects.

4.3.1. Relation between the state and the subnational level

Overall, the early phase of the JETP appears as a largely top-down driven process, centrally steered out of the ZA presidency. Local communities and civil society consider it as a justice deficit that they did not get sufficiently involved early on. The most frequent criticism concerns procedural justice and the degree of transparency and consultation during the development of the JETP. "Most of it has been decided before consultation happens" with "relatively little transparency until quite late in the planning stage for most of civil society about what was actually being agreed to" (I7), an interviewee argued, while "local groups, who naturally also want a slice of the cake, […] do not know how the cake is divided up, also spatially" (I3). Furthermore, stakeholders claimed that "the sequencing of events [needs] to be right" (I13), thereby criticizing belated consultation with limited possibilities of adjusting decisions. So far, there are only "very broad top line figures, […] but what will happen in the implementation on the ground is still a long way off" (I13).

Another issue in terms of procedural justice seems to be unequal access to the participatory process as "people in precarious conditions cannot leave their work to go participate in this debate, which is a big problem, because all those who work in the mines, in the coal belt etc. cannot afford to lose a day's wages" (I8). This problem is known from participation research, but is particularly urgent in ZA due to the structure of the labor market.

The ZA government did not have a transparent communication about the JETP in the early phase, presumably to "keep as much room for negotiation as possible" at the international level (I3). Civil society and community representatives demonstrated a certain degree of understanding for this, acknowledging that the preparation of the partnership happened under serious time constraints. This should be rectified now in a later stage, as "people accept […] 'here's the plan'", but because they were not involved, they demand getting "an amendment by indicating […] what we think works for us, what we think is important, so that we can have that element of procedural justice" (I9). At the same time, increasing frustration can be observed as long as this demand has not been met, and there is the sincere hope that this will change in the future.

In addition to state-society dynamics, the relation between different government levels (national, provincial, municipal) is subject of debates about spatial justice. Given that the JETP is still in an early stage, several interview partners mentioned that it is not yet clear what the effects of the JETP will be on the different provinces and municipalities. The ZA provinces differ regarding the transition challenges ahead of them, but also regarding the extent to which they embrace the energy transition and the opportunities of the JETP, as discussed here:

> "The Northern Cape Premier […] has been talking a lot about JETP because he wants his province to become the country leader in renewables. […] They are betting big on solar, and also on wind because they've got coastline. Mpumalanga is less so. They are still really trying to ensure that most of Eskom's coal fleet stays where it is. […] But beyond them, the powerhouse of the ZA economy, Gauteng, already is investing massively in solar. (I8)"

Other provinces, including Kwazulu-Natal and the Western Cape, are embracing the transition towards renewables as well (I8).

Apart from different perspectives on the benefits or challenges of the energy transition, interview partners also discussed the formal communication channels to involve provinces in government decisions. One expert highlighted structured ways for provinces to give input, as "consultations happen extensively through the National Council of Provinces [and] all the provincial premiers are involved in the JETP partnership" (I8).

However, when it comes further down to the municipal level, municipalities in the coal belt face capacity problems to deal with the incoming funding and opportunities. There is a risk that "now people [are] coming in with well-cooked projects, [and] a lot of institutions have flooded the area […], and municipalities are being put under pressure" (I9). This pattern can also be observed in other rural municipalities in coal regions: while capacities for the usual tasks are already limited, transition projects become an additional challenge on top. The legacy of the past and the strained resources in these municipalities have

to be taken into consideration (I9). Particularly Mpumalanga has not yet developed sufficient resilience or explored adequate opportunities for diversification (Nel et al., 2023).

4.3.2. Justice between center and periphery

The JETP will not only have local and regional effects based on hierarchical top-down relations, but will also produce changes in the relations between territories at the same level. To start with, striving for a just energy transition means that established patterns in the relationship between center and periphery can change fundamentally. In the established fossil-based system, energy from coal is generated in rural ZA, for example in Mpumalanga, which – despite its infrastructural integration with neighbouring Gauteng can be described as an "energy periphery" (Nel and Marais, 2025). In these regions, the coal industry brought benefits, especially in the form of direct and indirect employment, but also led to a lack of diversification which constitutes a severe transition challenge. However, these peripheral regions also bore above-average environmental burdens, including dangerous levels of air and water pollution. There is hope that the JETP could have the effect that "people can start breathing better and living better" (I8, similar I1, I9). Paradoxically, another disadvantage in these regions exists in the form of energy poverty as "about 3–5 million people who are not connected to the grid are in places like Limpopo and Mpumalanga" (I8). While this shows the peripheral, under-serviced structure of coal regions, it is important to note that homelands and townships across the country were deliberately peripheralised due to apartheid policies and are still affected by energy injustice today.

Contrary to the energy generation in rural areas, energy consumption is highest in the urban centers of ZA, particularly in Gauteng:

> "Mpumalanga has really been the stronghold of electricity generation up to now, because the resources were there in part, but also because the load centers, i.e., the purchasing centers, especially Johannesburg, Pretoria, this Gauteng belt, are simply there" (I3).

The "geographical proximity between production and demand" (I3), between center and periphery, has been seen as an advantage for the future of Mpumalanga, as it means that the existing grid infrastructure can be used also for alternative forms of energy generation. This supports the idea that the former coal region should now become a renewable energy region:

> "Maybe our best solar is in the Northern Cape, but we've still got pretty good solar in Mpumalanga, and there's a big argument for doing a lot of solar in Mpumalanga so that we can retrain and reskill people from the coal industry […] Also, there are a lot of skills that are directly transferable at the moment already in those industries" (I13).

Retraining and educating people in rural areas such as Mpumalanga is also a matter of justice because otherwise stronger urbanization will cause problems. The urban pull to the centers ihas been seen as a danger because if "the only economic activity in these rural regions collapses, all those people migrate to towns and they […] struggle to eke out a living and that leads to a lot of precarity and pressure on urban systems" (I8).

This is why the JETP puts particular emphasis on the aspect of skills development. Interview partners mentioned the JT project around the decommissioned Komati power station (I13) or the identification of pilot areas for hydrogen projects (I8) as examples of opportunities for rural regions in ZA. From a viewpoint of skills development, however, the transition project at the decommissioned Komati power station has been criticized for failing to deliver on providing new employment to the community, next to a number of other criticisms (Mwale et al., 2024; Tladi et al., 2024; Xaba, 2025).Not all former coal employees will remain in the energy sector, and therefore, "transforming the logistics of coal towns and changing them to do different societal needs like building of schools and hospitals", enabling a "socioeconomic transformation of the areas where workers of power stations and mining companies are based in rural ZA" (I8) is seen as another key aspect. Overall, new investments through the JETP in rural places provide a way to deliberately steer the effects of the transition spatially. In addition, decentralization can be a way to let people participate in the benefits of the energy transition, as a transformative approach would imply that:

> "… we don't just want this highly concentrated coal industry to turn into a highly concentrated renewable energy industry, these big companies or even big state-owned institutions operating in a very small part of the country, and that's where all the energy wealth is, or wealth generated from energy - how can we have it more decentralized, more spread out?" (I13).

4.3.3. Ensuring justice between different regions: a point of contention still to come?

Spatial justice claims also address the relation between territories at the same level, whether these are formally separated as municipalities and provinces or by social and constructed boundaries between communities (Gürtler and Herberg, 2021). There is a strong focus on the coal provinces Mpumalanga and Limpopo which are most affected by the transition. This is "partly driven by funding availability – it's relatively easy to raise funding to work on those areas – and partly it's a bandwidth thing" (I4) as governance actors such as the PCC do not have capacities to focus on all affected provinces equally. Nevertheless, interterritorial concerns and the needs of other provinces have been anticipated in the JETP, thereby also addressing provinces that rely on the automotive sector such as KwaZulu-Natal, Eastern Cape, and Gauteng. One development expert argued that skills for clean energy branches are needed all over ZA, not only in coal transition regions:

> "The Northern Cape and Mpumalanga are worlds apart. […] So, you can't assume that someone who has just worked in coal in Mpumalanga will somehow move to the Northern Cape to work in the energy sector. But we need people from everywhere who are capable of working in an energy landscape that is distributed, clean and labor-intensive. And this is of course national level policy and not just Mpumalanga" (I3).

Despite this argument, many of the interview partners still agreed that those regions most severely affected by a transition are also the ones that require the most support. One interviewee argued that "clearly those who suffer the most are the miners, so they need extra help" (I1). Otherwise, the transition would not be equitable. In this context, he advocated an attitude of solidarity between the regions of ZA. However, he observed that a solidaric approach, sufficiently helping transitions regions such as Mpumalanga, is not reflected in the prevailing political decisions, arguing that the logic of "competitive advantage, […] not just countries competing, cities competing with each other, […] that's what we have to move away from" (I1).

One interview partner expected that the spatial targeting of certain territories, based on a deliberate decision to support them, will not work so well. Her expectation was that "in terms of spatial, […] those areas that are rural and remote and left behind, they will still be the ones, the same ones - there won't be any change" (I10).

4.3.4. Infrastructure-related justice claims: regime and transition injustices

Infrastructure-related justice claims refer to injustices that either already exist in the established energy system, emerge during the transition, or are inherent to a new energy system (Kanger and Sovacool, 2022). Regarding spatial injustices of the established energy system, several direct effects of fossil fuel infrastructures have already been discussed above, for instance high levels of air and water pollution (I9).

A severe preexisting injustice persists in the form of energy poverty which affects 16 % of ZA's population and is in large parts a shortcoming of the current energy infrastructure. That problem is even more dramatic as "often people have access, but they can't actually afford the

energy that they have access to" (I13). The current solar boom does not mitigate this problem so far, as mainly wealthy companies and residents can afford to put solar panels on their rooftops.

However, overcoming these injustices of the old system implies that transition strategies need to consider potential transitory injustices. Reducing or ending coal mining and combustion means that existing coal infrastructures become devalued through the JETP. This may result in transitory injustices unless there are "sufficient programs to fast-track substitution" (I11). Cushioning these effects is a matter of justice as the JETP is "displacing a set of assets that are key to the country's energy security and economy, that are key to […] people who probably have a potential to be employed for quite a while" (I11). This also effects other infrastructures such as for the coal export. Next to direct effects on coal areas, the interviewee mentioned "indirect impacts in that the investments, not all of it necessary will happen in the coal mining areas, so there are distribution and spatial injustices in that some places will benefit more than others" (I11).

The issue of ownership is also debated intensively in relation to infrastructure, namely when discussing how the electricity grid and energy generation can serve citizens. One problem of the ZA grid has been a "rampant kind of looting of infrastructure" (I13). This could be changed when infrastructures are built for the people, and they can participate and benefit from them, as argued here:

> "How can that also be turned around by giving people ownership in the infrastructure [and] making sure that the infrastructure is seen as benefiting them directly? So, 'This is ours, […] and therefore we need to make sure it's maintained'. So how can we give people buy-in in the transition? And I think it speaks a lot to […] seeing ownership as not only financial ownership. […] So, looking at ownership also in terms of participation and inclusion, […] making sure that people are consulted and benefit from it, because hopefully that will enable people to take better […] care of infrastructure that's built. If it's built for them. And I think the problem with the transition that's happening at the moment is, people can see all these solar panels and things being built, and it looks like it's for the rich, it's for the mines, it's for the smelters, it's for people who have the capital […]. And I think there's a real threat there that we lose the opportunity to show that the renewable energy economy can benefit people directly, and therefore should be built with them in mind." (I13).

The question of public or private ownership of energy production and transmission infrastructure is one where interview partners expressed strongly divergent views. This points to a conflict that is rooted in different ideas of what would provide the more equitable outcomes. Those who favored public ownership hope to turn the crisis-prone public energy utility into a "Green New Eskom […] provid[ing] power to the whole country" (I13), even though they acknowledged the challenges. Support for such an overhauled Eskom could be high, given that with renewable energy, "there's less, there is definitely not no, but there's less opportunity for corruption in that there's no fuel purchases and supply chains" (I13). Others, however, favored private ownership of infrastructure, arguing that "under the circumstances which ZA faces now, I would be inclined to say that people who have skin in the game will protect the asset more than people who don't have skin in the game" (I11).

When it comes to the spatial steering of where the transition to renewable takes place, one interview partner noted that a deliberate targeting of certain regions based on existing infrastructures has not taken place in the past in the renewable energy auctioning program (REIPPPP). The system was based on lowest production costs only, and therefore supply-driven, but not demand-driven or with a view to existing infrastructure or social justice. In one of the last bid windows, capacities were commissioned in areas with favorable production conditions yet insufficient grid capacity. Therefore, the expert concluded:

> "REIPPPP is reaching the limits of just looking at costs and not grid availability. So, it might end up favoring Mpumalanga soon because it has grid capacity, especially now while the big power stations are going off the grid[4]" (I3).

Overall, various standpoints regarding the requirements for a justice-focused energy transition in terms of infrastructural changes have been revealed. While it is obvious that some of the most severe injustices from the old fossil-based energy regime can be overcome, it is less clear whether this will also transformatively mitigate wider injustices such as energy poverty. In addition, the challenge of avoiding new injustices through the transition itself, for instance in coal-dependent communities, is tremendous.

5. Discussion

This contribution shows that approaching debates about justice in the energy transition from a spatial angle provides a promising lens to uncover diverging viewpoints. It thereby responds to the call for developing "a systematic analytical, philosophical and empirical investigation" of justice and allocation as increasingly important political and social goals (Burch et al., 2019, p. 9). Given the analytical benefits, this spatial approach has potential beyond the case study at hand. It reveals that striving for a genuinely just energy transition is not only a necessity – it is also complex, at times contradictory, and requires a societal negotiation process that spells out different actors' priorities for a JT. The analytical approach taken here allows for revealing the spatial and scalar contexts that actors refer to, accept, emphasize, or reject. Many justice claims revealed in this article refer implicitly or explicitly to space and scale, and these can serve as a key to understanding differences or commonalities. The spatial perspective furthermore enables tracing dynamic debates, e.g., a shifting emphasis from international to domestic justice debates, thereby relating both to each other.

Particularly the last point implies an invitation to bring the three main findings of this contribution into a conversation and to discuss them holistically. The demands for justice outlined above in relation to transformative and restorative approaches and the international and domestic debates on spatial justice have an inherent connection. The initial shortcomings in transparency and participation (350 South Africa, 2022), for instance, which were partially justified by creating space for negotiations at international level, should now be followed by a subsequent stronger involvement of stakeholders and communities. Moreover, experience with the coal phase-out in other countries also suggests that domestic conflicts will increase as soon as it becomes clearer which provinces and social groups will benefit from the transition and to what extent, and how the international funds will be spent subnationally. Both the international and domestic justice debates cannot be understood without discussing the aspect of pre-existing, historic and still dominant injustices that require to be addressed also through the energy transition. The institutional environment for the JETP implementation should not only take into account learnings from previous infrastructure projects, but should also develop in a way that acknowledges the multi-scalar expectations and concerns regarding the JETP (African Climate Foundation et al., 2022).

These serious, already existing injustices are one reason why the debate about justice in the energy transition plays a much greater role and is more lively in ZA than in other countries. If compared to coal phase-out debates in the Global North, the justice focus is much more prominent and nuanced. References are frequently made to existing injustices, as the interviews have shown. It is furthermore noteworthy that energy justice as a concept, with a focus on redistribution, recognition and procedural justice, was repeatedly used in the public debates

[4] This refers to completed or planned closures of coal power stations in Mpumalanga.

to structure discussions, for instance in the multi-stakeholder and public consultations on the JT Framework. The necessity for a genuinely transformative, in large parts restorative energy transition also points to the idiosyncratic conditions in ZA. Relating this to energy transition literature underlines the demand to not only look at justice at one point in time, but rather to take regime injustices, transitory injustices, and new energy system injustices equally into account (Hermwille et al., 2023; Kanger and Sovacool, 2022). This also highlights that the deliberate choice to focus on the spatial dynamics of justice does not contradict the need to focus on other aspects, such as temporality.

With regard to transferability to the contexts of other JETPs, the previous point implies that the country-specific conditions are crucial for the respective partnership. ZA was the first country to implement a JETP, but in the meantime, similar agreements have been developed with Indonesia, Vietnam, and Senegal (Hege et al., 2022). The hope, voiced by several interviewees, that other partner countries could learn from the ZA experience, must therefore be treated with caution. Given the highly different contexts, it can be expected that no two JETPs will be the same. At the same time, there is a certain risk that international donor countries will try to apply standardized approaches to different contexts. To prevent this, the promise of a genuine country-driven process must be fulfilled (Newell et al., 2024).

The passionate debates about justice in the ZA energy transition also make clear that justice remains a contested concept. This contribution thus confirms research that has pointed to the plurality of desires and viewpoints in the just transition in South Africa (Barnes, 2022). There is no straightforward, implementable definition of justice. An overarching consolidated energy justice approach would not be desirable (Wood, 2023), and should certainly not be defined top-down. Rather, debates about what is perceived as just, legitimate and acceptable must be conducted within society as a whole. The ZA case is an encouraging example in this respect as plurality is acknowledged, despite the fact that some controversies have been delayed or are still pending. Promoting an open societal debate on justice would also allow to develop shared priorities, for instance regarding systematically prioritizing the needs of the poorest (Kashwan et al., 2020). It further should be noted that even under favorable circumstances, "the long-term transformation of energy systems will prove to be a messy, conflictual, and highly disjointed process" (Meadowcroft, 2009). Therefore, a certain tension between great ambitions and realistic hopes cannot be denied.

A limitation of the approach in this paper is that the analytical distinctions between center-periphery, interterritorial, and infrastructure-related spatial justice issues are not always entirely clear-cut. These dimensions can overlap, as a particular region can for instance be at the same time peripheral and host particular infrastructures that justice claims refer to. Another limitation is that the choice of interview partners is, by its nature, selective; for example, community voices in Mpumalanga could not be sufficiently taken into account here as first-hand impressions (see Mohr, 2025; Nel et al., 2023; Nel and Marais, 2025; Tladi et al., 2024), while on the other hand the perspective of the donor countries could also only be weakly illuminated (see Von Lüpke, 2025). Another systematic limitation of interview studies is that interviewees do not always openly and fully disclose their assessments and views. In some cases, response behavior may have been strategic or motivated by social desirability. Despite these caveats, the spatial perspective has proven to be a helpful lens to enlighten the different, at times contradictory, perspectives on justice in transitions.

6. Conclusion

This article examines what notions of spatial justice are raised by stakeholders in the public debate about the JETP in ZA. The analytical approach focused on the spatial perspective and thus analyzed scalar, center-periphery, interterritorial, and infrastructure-related debates about justice. ZA was chosen as a case because it represents an idiosyncratic context in which a just energy transition has to deal with exceptional conditions and challenges and because it was the first country to participate in such a JET Partnership. A deeper understanding of the debates surrounding the JETP in ZA and the spatial justice dynamics was achieved through semi-structured expert interviews conducted in the country. Three results deserve to be highlighted: Firstly, pre-existing injustices such as high levels of poverty, unemployment, inequality, and corruption as well as the legacy of apartheid and colonialism represent conditions under which only a transformative approach will be considered successful. The JETP therefore has to go beyond maintaining the status quo. Secondly, spatial justice debates have thus far been heavily focused on the scalar interaction between international donor countries and the ZA government. Particularly the scope and the conditions of the funding as well as policy reforms are points of contention. It is notable that, thirdly, domestic debates on spatial justice are only now gaining momentum, with a focus on procedural justice and the change in regionally unequally distributed burdens and benefits from the energy transition. At this stage, the JET partnership can be described as "imperfect but necessary" (I11) which also highlights the possibilities to realize the ambition of a truly justice-focused energy transition through amendments to the current trajectory.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

The data that has been used is confidential.

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