

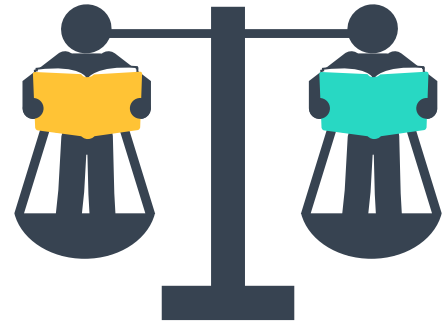
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Epistemic justice: How can diverse forms of knowledge improve policy making?

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ABSTRACT

Epistemic justice is a key concept for sustainable transitions. Besides providing opportunities and contributing to equitable knowledge creation, including knowledge on climate, energy and mobility, epistemic justice can lead to more effective policies and minimise their negative impacts. However, there are some procedural and institutional barriers preventing proper integration of the concept into policymaking. SSH research has a potential to deviate from dominant narratives and ideologies and thus, contribute to successful practices and policies.

SUMMARY

- Epistemic injustice refers to the silencing and marginalisation of forms of knowledge and meaning making.
- Bridging the epistemic injustice gap is necessary for just and sustainability transitions in climate, energy, and mobility.
- Consideration of epistemic justice provides opportunities for participation and contributes to equitable knowledge creation, more effective policies, and reduction of unintended impacts of policies, especially on marginalised communities.
- The recognition of the importance of epistemic justice in Social Sciences & Humanities (SSH) research and on policymaking level has been growing.
- There is a lack of discussion of integration of epistemic justice in practice among and across scientists, stakeholders and decisionmakers.
- There is an urgent need to re-evaluate what data are used and whose voices are heard while scrutinising policies; qualitative data and a wide range of epistemologies can contribute to problem understanding from various perspectives and improve implementation of policies.
- There is an opportunity for collaborations between SSH & Science, Technology, Engineering and Math (STEM) to better inform policymakers in questions of climate, energy, and mobility in relation to epistemic justice.

KEY DEFINITIONS

Epistemic justice is concerned with fairness in knowledge production, dissemination, and utilisation while promoting more inclusive knowledge creation and credibility of marginalised voices. Epistemic injustice refers to knowledge shaping by power relations and exclusion of marginalised groups from these processes [1].

Equity refers to fairness and justice while addressing existing disparities and recognising different starting points of individuals and groups of people [12]. **Marginalised communities** are those experiencing exclusion from conventional social, political, economic, and cultural dimensions of life due to (but not limited to) discrimination of race, gender, sexual orientation or identity because of unbalanced power relations among social groups [13].

Introduction

Epistemic injustice refers to the silencing and marginalisation of forms of knowledge and meaning making. Epistemic injustice can be created through structures and processes that exclude or devalue knowledge, having knowledge co-opted, and misrepresentation or distortion of knowledge [1]. It intersects with issues of gender [2], race [3], sexuality [4], and more. It is also a framework for understanding fragmentation and exclusion of SSH and non-Western-European voices in sustainability research and policy.

In energy, climate and transport (and sustainability more broadly) research, epistemic injustice is further embedded by boundary keeping around what counts as 'knowledge', and dominant framings of quantitative objectivity [5]; connected to perceptions of quantitative measurements having more validity over qualitative science. Pushing to meet policy agendas, that are often based on meeting quantitative goals, has been shown to close down critical contributions of SSH to foster epistemic justice [6]. Epistemic injustices create incomplete and incorrect understandings of problems, their causes and impacts, and equitable interventions.

This literature brief will unpack the ways in which epistemic justice is important for research in energy, climate and transport issues, and will create recommendations on how to achieve it. These will pertain to decolonization [7] and epistemic sensitivity, and will detail methodological [8, 9], institutional [10] and governance actions [11]. The brief is targeted to EU audience but draws upon many non-European examples to demonstrate the range of epistemic injustice examples that are still relevant to European context and the impacts of actions in one place and it's (non)transferability to another. By that, the brief highlights the SSH research potential to bridge the injustice gap and contribute to climate, mobility, and energy effective policymaking.

Current Understandings

Significant Findings to Date

There has been a growing recognition of the importance of epistemic justice in SSH research, including interlinked concepts of decolonisation of knowledge [14], the role of recognition [15], and power relations [16]. However, **the efforts to understand and use epistemic justice in SSH (or STEM) are not mainstreamed in research or policymaking** and the debates among various scholars and actors have not started, yet [LS, MS]. In context of the climate crisis, energy and mobility, the research on SSH, epistemology and justice is siloed in various fields or established concepts such as political geography [e.g. 17], anthropology [e.g. 18], development [e.g. 19], distributive justice [e.g. 20], intergenerational justice [e.g. 21] and participation [e.g. 22], but the focus on epistemic justice is insufficient [MS].

Aiming for epistemic justice in research can help to ensure that issues and related policies around climate, energy and mobility are understood from and formed by various perspectives. That is especially important for the effectivity of policies. **Consideration of a diverse range of social groups and their voices is necessary if policymakers want to achieve**

their goals in practice [MS]. Marginalised communities are often the ones that experience the impacts of the climate crisis and issues related to energy and mobility first hand. The understanding of their views of problems, their experiences and needs are a key to successful solutions [MS]. Without inclusion of all epistemic perspectives in meaning making and knowledge production and policymaking, climate change will deepen the inequities and hence, make related policies ineffective. **Diverse knowledges, experiences and practices of local communities and indigenous people are vital for successful policies.** If these epistemologies, needs and values are excluded, policies can end up being ineffective in practise or benefiting only some groups of people [23].

Currently, materials that are used for scrutinising policies on climate change, energy, and mobility, tend to originate from dominant narratives and ideologies in science that largely influence what counts as legitimate knowledge.

These are often based on STEM research coming from Western countries and Western university models causing disproportionate power and privilege in knowledge production that is picked up by policymakers [LS]. There is extensive research and numerous documents dealing with climate, energy, and mobility issues, including IPCC [e.g. 24, 25] or UNDP reports [e.g. 26] but the knowledge on different epistemological views is still lacking and the quantitative science dominates [LS].

The problem of not incorporating a sufficient number of qualitative SSH and epistemic justice research into core documents that are used by policymakers is manifold. Some of the barriers include:

- In general, there is a lack of discussion of epistemic justice importance in research and policymaking.
- There is a small number of SSH and epistemic justice studies, and the knowledge on different epistemologies of societal groups is not collected in a systematic manner.
- Quantitative (and STEM) studies dominate the field and are often perceived as superior to other sciences (including SSH).
- Qualitative studies might be more difficult to comprehend and transform to measurable indicators that policymakers often use for measuring success.
- It is difficult to generalise from epistemic justice research as the case studies are specific to a certain context.
- There is lack of mutual understanding and cooperation between STEM and SSH scientists [9].

STEM research is established as undoubtedly critical for identifying and addressing climate, energy, and mobility issues [27]. However, the issues are often rooted in the complexity of socio-economic systems that we live in and that is challenging to translate into quantitative form [28]. **SSH research can offer contextual, social, policy, governance, and epistemic justice lenses to the complex problems and further address the diversity of needs and values of various social groups** [LS, 29]. The roles of STEM and SSH are both fundamental in the design of policies that can be translated into specific measures and actions [MS]. The collaborations, mutual acknowledgement, and basic understanding between STEM and SSH are necessary if those policies are to be successful [LS, 30]. Moreover, a creation of space for recognition and respect of diverse knowledge systems, cultural practices, perceptions of reality and manners of being, and challenging



the Eurocentric, capitalist and other dominant perspectives can lead to more just, equitable and sustainable world that addresses complex and interconnected problems [31].

■ Emerging Practices

There are some practices that are emerging in SSH and epistemic justice from the perspectives of climate, energy, and mobility. These are still in early stages and need to be further developed and enhanced for better incorporation into practice, including:

(1) **Amplifying the voices of marginalised communities in research, policy-making and public discussions while supporting capacity building and creating opportunities for communities to participate in knowledge production and dissemination.** For example, UNFCCC established the Local Communities and Indigenous People's platform that is trying to integrate the diverse knowledge systems in international and national climate action and provides opportunities to shape policies from indigenous perspectives [32]. However, there are still material (e.g. funding, lack of translation), procedural (e.g. technical and scientific jargon), and recognition-based (e.g. lack of political will, tokenism) constraints that indigenous people experience while participating which requires deeper institutional transformations [33].

(2) Participatory processes have gained more attention in recent years, especially in drafting and co-developing climate change strategies and in local planning for adaptation, mitigation, or sustainable mobility [34] (e.g. Cascais adaptation strategy [35], Vancouver's Greenest city action plan [36]). **There is an uptake in inclusion of stakeholders and citizens via participatory approaches while designing plans and policies. These processes are often designed by the ones in power or/and coming from dominant epistemological perspectives.** Despite engaging with participation, this design, this may lead to the reproduction of the same understandings and knowledge [MS].

Community-led initiatives are an essential part of equitable planning and can address the challenges of effectively engaging communities in transformational processes. For example, a case study of socio-economic transformation led by the community initiative Common Unity Project Aotearoa demonstrates how involvement of a marginalised community in planning processes of adaptation to climate change contributes to justice, general well-being and success of the plan, and highlights the importance of engagements of local government and community development [37].

In terms of mobility, participatory processes are particularly important. Lack of transportation network can exclude communities from shopping for basic needs and job opportunities, even lead to violence. A good example of an increase in mobility for bridging the injustice gap is a cable car transportation system in Medellín, Colombia [38]. It was designed by the city to connect informal settlements on a steep hill with the city centre while engaging with the local communities and running workshops [39]. The increase in mobility led to a better well-being and drop in violence [40]. The case in Medellín has been very successful and many cities, especially in Latin America, has replicated the model with the expectation of benefits. Not all of them, nevertheless, have been successful. For instance, in Rio de Janeiro, Brazil, the replication of cable car transport model failed as it was designed without

the consideration of local context, engagement of local communities, their knowledge, values and needs [40]. **It is important to acknowledge that seemingly similar problems have different contextual settings of injustice and need to be addressed appropriately.** The intervention, hence, need to be led by people and communities, with the public policy behind, if they are to be successful.

(3) **Decolonisation of knowledge production, acknowledgement of past colonialism shaping current environment and knowledge systems and recognition of marginalised indigenous knowledge systems** [41]. For example, research on water regimes in New Zealand demonstrates how historical sequences of policies based around western hegemonic values of colonial settlers can transform land and waterscapes, leading to increased vulnerability to flood events. The resiliency to flood events can be increased by recognition of indigenous Māori values and knowledge in policies and implementation of actions that break the historical constraints to decision-making [49].

Many colonial dependencies are still being actively negotiated, particularly in Global South. Many African governments sought foreign investments as the aid was declining. A lot of land was acquired by Asian and Gulf states, often for agriculture and carbon credit purposes while imposing their own knowledge systems in a foreign context [42]. Marginalised communities that are directly impacted by the land grabs are often excluded and ignored in decision-making process. This further lead to displacement of communities, loss of access to natural resources, land degradation and deforestation, deepening inequity and worsening climate change and its impacts [42]. **The negative impacts of foreign investments can be minimised if the government ensures the inclusion of marginalised communities, creation of a dialogues with affected communities and amplifying their voices in decision-making processes.**

Similarly, other issues related to climate, energy and mobility can benefit from inclusion of epistemic justice concept in a practice. For instance, **just transitions for energy access and sustainable development need to engage a wide range of stakeholders, including historically marginalised communities to address inequity and energy poverty, ensuring better policy outcomes** [11].

(4) Research on social and human dimensions of climate and energy policies that intersects with a range of social identities such as, for example, gender, race, ethnicity, socio-economic status. **The understanding of disparities in climate change impacts [43] and policies [44], providing access to knowledge and knowledge production are the starting points bridging the epistemic injustice gap in policymaking.**

(5) Transdisciplinary approaches to tackle the wicked nature of climate change, including issues of energy and mobility, based on collaborations of STEM and SSH researchers and integration of the fields [LS, 8, 45]. There are emerging studies combining the two approaches, for example, by using participatory processes combined with mapping or modelling. Delgado-Aguilar et al. [46] combined remote sensing (STEM) with participatory mapping (SSH) to better understand forest degradation and ecosystem services in Ecuadorian tropical rainforest while engaging the local community, governmental and non-governmental organisations.



■ Future SSH Priorities

Consideration of epistemic (in)justice in research and policy agendas has a high potential to contribute to understanding and mitigating the problems related to climate, energy, and mobility. SSH can help to bridge the gap in research by shifting from the dominant paradigms and opening up space for more diverse and inclusive perspectives in science (including STEM and SSH) [9]. **Interdisciplinary research and bridging the gap between SSH and STEM scientists through respectful and equitable collaborations are a priority if the solutions are to be successful.** There are several barriers to effective collaboration. However, basic mutual understanding of the STEM and SSH fields can help to navigate through potential misunderstandings or undervaluation of methods, perspectives, and types of results, and further develop and improve interdisciplinary methods to tackle wicked challenges [LS].

SSH research has a capacity to bring epistemic justice to the fronts of policy agendas, especially when considering European Green Deal aims for fair transitions and the “no one left behind” principle. The question of what the principle really means and how to achieve it still needs more definition and investigation [MS]. SSH can facilitate that through the engagement with communities and exploration of methods and approaches that let communities organise themselves [MS] (such as done e.g. in BOLSTER¹ project that is trying to understand the impacts of European Green Deal related policies on marginalised communities and the effect of community involvement in decision making processes on the increase in support for transitions [47, 48]). This ensures that marginalised voices are given space and are properly recognised, and that the benefit of contributions of a range of people’s perspectives and knowledge in effectivity of practices and policies is demonstrated.

The SSH language (jargon) and theoretical frameworks can seem complicated and inaccessible to anyone who comes from other disciplines [LS, MS]. Further, qualitative results can seem more difficult to present (e.g. for media) and challenging to build policies on as they do not have the quantitative information or (usually) do not come in a graphical format [LS]. The approaches and tools for recognition of qualitative data and their use as a steppingstone for policies need to be better examined and put into practice.

- When seeking to narrow the epistemic injustice gap, it is important to acknowledge that marginalised communities often lack resources to participate (e.g. time, financial) and thus, provide sufficient compensation so they are represented in decision-making processes.
- There is a need to reconsider what kind of data are used to scrutinise policies, incorporate qualitative research that enriches the simplified realities and brings a wide range of epistemological narratives.
- When implementing policies, it is important to set up monitoring mechanisms for impacts on affected communities and reflect on possible maladaptation with flexible adjustments also based on perceptions of communities

■ Takeaways for Stakeholders and Businesses

- When thinking about epistemic justice, it is necessary to recognise the ways in which existing and historical power structures shape knowledge production, dissemination, and hierarchy within an institution, prioritise inclusivity and equity in knowledge generation, actively seek out and value diverse perspectives, and regularly evaluate and adjust policies and practices to ensure they align with epistemic justice.
- To enhance an uptake of epistemic justice practices, institutions can provide and invest in trainings on understanding of how to participate in processes (e.g. institutional, administration, specific jargon), support participation and provide resources, encourage employee-led initiatives and diversify the teams to reflect the communities it is serving.

■ Takeaways for the SSH CENTRE project

- Collaborations between SSH and STEM scientists contribute to bridge the gap of epistemic injustice. The SSH CENTRE project can facilitate collaborations through established networks as a part of WP2 Epistemic laboratories for the European Green Deal.
- There are opportunities to engage with epistemic justice in many aspects of research, it is important to focus on better understanding of decolonisation of knowledge and engagement of a wide range of identities and exploring the ways of community-led approaches.

Takeaways

■ Takeaways for the European Commission

- Epistemic justice is a cross-cutting theme for many EU priorities that needs to be appropriately addressed in policymaking processes. This may include participatory processes that give enough space to marginalised communities, recognising and amplifying voices of marginalised communities, or community-led initiatives, among others.
- Marginalised groups are increasingly being heard and their voices need to be further amplified as they offer new ways of seeing and understanding for those coming from Western and Euro-American ontologies.

1 <https://bolster-horizon.eu/>

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