
CHAPTER 5

# Advancing Epistemic Justice with Local Knowledge: A Process Indicator for EU Climate Adaptation Policymaking

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**Policy Highlights** To achieve the recommendation stated in the title, we propose the following:

- EU climate adaptation policies need to further integrate local knowledge to advance epistemic justice and ensure their success.
- A process indicator is proposed to advance epistemic justice along three main dimensions, namely distributive, participatory, and recognitional epistemic justice.

The information and views set out in this chapter are those of the author and do not necessarily reflect the official opinion of the European Commission.

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- The indicator serves to assess and evaluate critical ex-ante (problem framing) and ex-post (appraisal of the policy's initial design) aspects of epistemic justice in policymaking.
- The implementation of the indicator will enhance political accountability, fill existing gaps in scientific knowledge at smaller spatial scales, and foster trust among stakeholders.
- The inclusion of multiple types of knowledges and disciplines in policymaking leads to more effective and just climate policies.

**Keywords** Epistemic Justice · Local Knowledge · Climate Adaptation · Process Indicator · EU policymaking

## Introduction

Adaptation is of paramount importance in dealing with the wide-ranging effects of climate change at the local, national, and global levels. This involves processes of adjustment to current and future climates to reduce exposure and vulnerability. To be successful, adaptation relies on two considerations. First, adaptation requires state-of-the-art, evidence-based knowledge about climate and social-ecological systems to ensure its efficiency and feasibility. Second, adaptation calls for fair processes of planning and policymaking to ensure justice. Both considerations—knowledge and justice—are combined in an increasingly recognised political aim,

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namely "epistemic justice", which encompasses criteria and standards that seek to ensure fair and equal recognition, representation, and participation by diverse actors in processes of knowledge production.

The main aim of this chapter is to offer practical recommendations to policymakers while simultaneously underscoring the crucial role of epistemic justice in climate change adaptation and emphasising the importance of locally sourced knowledge. We therefore propose the introduction of a process indicator for the evaluation of epistemic justice, specifically for the degree to which locally available knowledges and practices are acknowledged, supported, reinforced, as well as integrated into local and national policies (and potentially beyond). The inclusion of local knowledge is crucial for: (i) filling existing gaps in scientific knowledge at small spatial scales, (ii) mitigating potential systemic biases that are inherent to the scientific approach (e.g., ontological assumptions, institutionalised cultural norms, and validation standards), (iii) fostering trust between local stakeholders, scientists, and policymakers, (iv) ensuring that adaptation policies consider a diversity of local perspectives and needs, and (v) making adaptation policies more actionable and effective. We suggest implementing the indicator by integrating it into the European Commission's Better Regulation (BR) framework, which seeks to ensure that legislation is evidence-based, simpler, better, and inclusive of all relevant stakeholders affected by ensuing policies.

We substantiate our policy recommendation in the context of a leading European initiative for climate adaptation, namely the EU Strategy on Adaptation to Climate Change. The EU Adaptation Strategy has four main objectives: to make adaptation smarter, faster, more systemic, and to step up international actions for climate resilience. All EU member states are obliged to prepare and implement national energy and climate plans by 2024 in line with the EU-wide strategy to become climate-neutral and resilient by 2050. Despite its merits, we identify two significant problems with the EU Adaptation Strategy that threaten its potential success.

First, the goal of faster adaptation conflicts with the necessity of investing the required time to engage in the laborious tasks that foster justice in systemic changes. Typically, systemic changes call for the development and implementation of adaptation plans and actions at all levels of governance. This demands great concerted efforts and resources, especially in terms of time, which allow for deliberative, noncoercive processes of discussion and negotiation among various stakeholders. Moreover, an explicit priority of the EU Adaptation Strategy for promoting systemic

change is the development of local adaptation actions. To formulate and implement policies that foster just local adaptation actions, it is essential to fully engage with the specificities of each locality, considering both its internal commonalities and heterogeneities, as well as the potential conflicts and synergies with other localities. What is more, some localities might require faster adaptations due to more severe climate risks whereas other areas might have more margin for slower adaptations, thus further highlighting the necessity of developing granular approaches.

Second, although all EU member states are obliged to prepare and implement national energy and climate plans, the efficient implementation of national strategies and the accomplishment of climate resilience largely rely on the actionability of these plans (i.e., how meaningful and compelling they are). Both the integration of local knowledge and the achievement of epistemic justice radically improve the prospects of adaptation policies in terms of their actionability and subsequent likelihood of success. For instance, the integration of local knowledge promotes a positive affective response (shaped by past experiences), which simultaneously fosters the public's adoption of policies as well as their legitimisation.

This chapter brings together experts on Philosophy and Sociology of Science, Political Science, Geological Hazards, and Geoethics. Through an iterative process of remote and in-person meetings over the course of six months, we have sought to combine our respective disciplinary backgrounds and expertise both in terms of fieldwork experiences and theoretical proficiencies. During our collaboration, we shared and discussed policy documents and the available literature from our own and adjacent academic fields, presented and debated relevant approaches and frameworks, and set up a working document for drafting overviews of core topics and issues, which were subsequently commented on and redrafted as necessary. Based on this process, we establish an interdisciplinary consensus to substantiate our claim that epistemic justice and local knowledge are mutually dependent factors that underpin fair, actionable, and efficient climate adaptation policies. Two disparate, yet related, bodies of literature guide our policy recommendation, namely (i) transdisciplinary research on local, traditional, and indigenous knowledge, and (ii) philosophical research on epistemic justice. In addition to this theoretical knowledge, we draw on our combined experiences in the field in terms of (i) direct engagement with local communities, especially in terms of communication and management of geological hazards, (ii) the development of practical geoethical principles to guide interactions with local

communities, and (iii) involvement in policymaking processes at the EU level.

In what follows, we first explain the concept of epistemic justice and how it might be instrumentalised for policymaking. Next, we briefly elaborate on the importance of local knowledge. Last, we justify the use of our process indicator and discuss the specific problems it seeks to address. To access our indicator prototype, see the Appendix.

## Why Is Epistemic Justice Pertinent?

The term "epistemic *in*justice" emerged in the early 2000s from the work of feminist philosophers working at the interface of ethics and epistemology (e.g., Fricker, 2007). However, its origins can be traced to long-standing problems in political philosophy and ethics. A focus on "*in*justice" (as opposed to justice) is not arbitrary: "Injustices" are what individuals and groups experience in their daily lives, whereas "justice" is a theoretical ideal that is frequently contested and elusive to achieve. Epistemic injustices can be characterised as wrongs to individuals and groups in their capacity as holders and seekers of knowledge. These wrongs include (but are not limited to) the undervaluing, silencing, and exclusion of various knowledges. We conceive epistemic justice as the progressive reduction of these wrongs in multiple ways according to contextually dependent values and norms. In this sense, we claim that achieving epistemic justice is an incremental and relational process that is open to renegotiation and adjustment through public deliberation (Sen, 2009).

To instrumentalise the notion of epistemic justice, we distinguish three mutually supporting components (see Fig. 5.1). First, epistemic justice can be understood in *distributive* terms: who gets what and how. Our indicator asks questions concerning the distribution of various aspects of knowledge production processes, such as services, information, skills, and infrastructure, among others. Our scoring system is "prioritarian", which means that our indicator values distributions that benefit those most affected by epistemic discrimination and marginalisation. We made this decision in order to highlight injustices towards local communities because their knowledges have historically been neglected or undervalued.

Second, epistemic justice can be understood in *participatory* terms. Participation means that members of society have the opportunity to

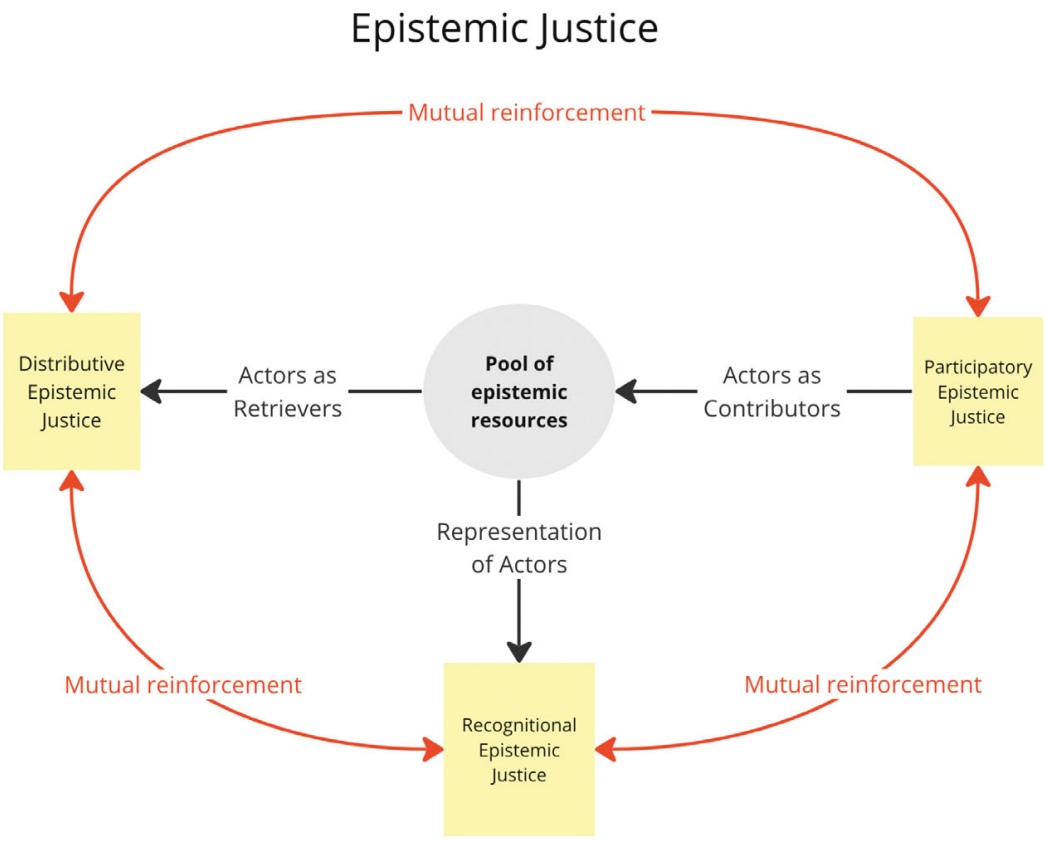


**Fig. 5.1** Epistemic justice as composed of distributive, participatory, and recognitional justice (cf. Mathiesen, 2015)

communicate their views and experiences in processes of shared decision-making. Participatory epistemic justice could be advanced in a "bottom-up" fashion, i.e., through the correction of prejudices, discrimination, and abuses in relations among individuals. However, given our focus on policymaking, we opt for a "top-down", institutional approach. Our indicator seeks to address various forms of participatory epistemic injustice, but two are worth highlighting. First, testimonial injustices, in which local communities receive less credibility than they deserve because of systemic prejudice in institutional contexts. Second, hermeneutical injustices, in which local communities are unable to render their experiences and perspectives intelligible, either to themselves or to others, because systemic discrimination has prevented them from establishing or even finding suitable means (adapted from Fricker, 2007).

Third, epistemic justice can be understood in *recognitional* terms. This means ensuring the fair and accurate representation of all members of society in the broader pool of knowledge. Accurate representation may be facilitated by fairer participation but does not necessarily ensure it: Individuals and groups may participate epistemically while withholding certain distinctive experiences out of historical humiliation, disrespect, lack of social esteem, cultural dominance, and status hierarchy (Honneth, 2004). Local knowledge is particularly susceptible to being ignored. Small and local communities, with their own distinctive experiences and knowledges, frequently face resistance (if not active silencing and abuse) from dominant groups in the shared pool of knowledge (Naess, 2013). Our indicator considers the degree of representation by local communities in order to strengthen their level of epistemic recognition in processes involving different stakeholders, relations, conflicts, and uncertainties.

## Why Is Local Knowledge Essential for Climate Adaptation?

The literature on local, traditional, and indigenous knowledges and "ways of knowing" is informed by multiple disciplines and diverse approaches from the SSH. Moreover, there are many peoples and communities across the world with varied cultures and understandings of their specific ecological contexts and historical pathways that are profoundly different. It is therefore impossible to provide a single and unified definition of all these different ways of knowing one's local environment and community. One can nevertheless identify some common characteristics of local knowledges: they emerge from close interaction and association with the land and its associated social-ecological systems; they are cumulative and collectively developed and (continue to be) transmitted across generations; and they represent a cohesive bundle of culturally specific practices, values, beliefs, and worldviews about the relationship between humans and their environment (Agrawal, 1995; Naess, 2013).

There are important differences between the qualifiers "local", "traditional", and "indigenous" that cannot be discussed here. We chose the term "local" because it appears to be the most fitting for our needs in the European context, where indigenous groups are relatively sparse, though with some important exceptions. Rather than defining the term "local" in relation to geographical distances or existing geopolitical boundaries, we chose to let the term be defined by the shared level of exposure

and vulnerability of those affected by events related to climate change in a certain geographical area. In the European context, the term "local" can thus apply to particular communities of practice that value and share common concerns, such as, for example, inhabitants of flooded lowlands on the coast of the North Sea or fisherpeople around the Adriatic Sea, whose livelihoods and cultural/natural heritage are exposed to common threats.

Local knowledge is possessed by a wide variety of groups, whether professionals, such as farmers and forest caretakers, or lay/amateur groups and citizens whose activities and local presence endow them with an awareness of changes affecting local social-ecological systems. It is crucial to note that such groups reflect a heterogeneity of knowledge that emerges from their specific engagement with the environment as well as their respective interests, values, and identities. This is the reason why all these local groups will have different epistemic positions in relation to climate risks. The inclusion of local knowledge in climate change adaptation strategies has been deemed an essential means for filling gaps in scientific knowledge at smaller spatial scales, mitigating systemic biases that are inherent to the scientific approach, fostering trust between stakeholders, scientists, and policymakers, and ensuring that adaptation policies address local issues or wider societal concerns (Jasanoff, 2021; Kieslinger et al., 2019; Klenk et al., 2017; Naess, 2013; Wheeler & Root-Bernstein, 2020).

It must be noted, however, that our goal of fostering the integration of local knowledge into institutional frameworks and processes, particularly of large political entities such as the EU, bears certain risks that need to be addressed. Institutionalising local knowledge, for example, could lead to a more hermetic and fixed conceptualisation of local knowledge that does not correspond to its variability or flexibility on the ground, and moreover, cause local knowledge to become subsumed or overshadowed by larger imperatives and therefore undo meaningful integration. Our indicator is not immune to these risks: as with any tool, its merits can be undermined by incomplete implementation.

## Why Use a Process Indicator for Achieving Epistemic Justice in EU Policies?

Indicators are tools that simplify the description of complex phenomena into a few dimensions for qualitative/quantitative and standardised analysis, serving as support for designing or amending legal frameworks. We acknowledge that any indicator of epistemic justice will inevitably fail to cover all existing unjust relations in any local domain. A top-down indicator of epistemic justice for policymaking does not replace the bottom-up relations of care and trust that enable justice to emerge organically. Nevertheless, it can help lessen unequal power dynamics by balancing scientific expertise with the involvement of local knowledge. Climate adaptation calls for action on multiple fronts. Our proposed indicator is only one of many ways to advance epistemic justice in climate adaptation policies, one that is targeted directly at policymakers.

Having stated this, we argue that our indicator possesses evident strengths because it is: (i) generalisable; (ii) concrete and actionable; and (iii) a measurement tool that simultaneously provides guidance on how to increase epistemic justice in EU policymaking. EU climate policymaking often focuses on setting quantifiable targets for drivers of climate change such as level of emissions or energy use. While certain social goals (including attention to epistemic justice) may be considered horizontally during the policymaking process, assessing a policy's success would usually focus on measuring these quantifiable targets. Our indicator seeks to address this gap by providing policymakers with a tool to systematically measure the level of epistemic justice in EU climate adaptation policies. The tool is designed as a "process" (as opposed to "outcome") indicator in the form of a checklist to be used by policymakers. The indicator is not case-dependent, which makes it applicable across multiple policies in the climate adaptation realm. Its use can provide policymakers with instant feedback on the successful integration of epistemic justice considerations within the initiative that is being developed, guiding the drafting of more just policies. Lastly, its structure and functioning allow it to be integrated into the European Commission's Better Regulation Toolbox and thus feed into the EU's existing policymaking workflow, making the indicator concrete and actionable.

In developing the indicator, we conceptualise the policymaking process as consisting of two main stages. First, an *ex-ante* stage (i.e., before the policy is designed) in which the problem is explored and framed with

relevant stakeholders. Second, an *ex-post* stage (i.e., after the policy is designed but not yet finalised and implemented) in which the prospective policy is tested in consultation with relevant stakeholders. Our indicator assesses the three above-mentioned components of epistemic justice (distributive, participatory, and recognitional) during these two stages of policymaking. The assessment is performed using a checklist with binary and multiple-choice questions. The answers are then counted and evaluated, enabling a score by module and stage. As a tool for advancing epistemic justice in policymaking, our indicator is directly intended for policymakers. However, the indicator could in principle also be used by other stakeholders to hold policymakers accountable or to challenge policies. For example, stakeholders might critically assess or even denounce aspects of the policymaking process using the standardised metric provided by the indicator. Ultimately, successful implementation of the indicator will depend on various contextual aspects, including the infrastructural capacities and limitations of territorial and local institutions. Our prototype, together with further instructions, can be found in the Appendix.

## Conclusions and Recommendations

Our process indicator allows for the advancement of epistemic justice, by providing criteria for assessing the extent to which local knowledge informs policymaking, both in problem framing and policy appraisal stages. We assert—based on our interdisciplinary collaboration—that this makes climate adaptation policymaking not only more just, but also ensures that policies are more actionable and efficient in addition to making policymakers more accountable.

Our process indicator contributes directly to addressing specific gaps in the EU Better Regulation (BR) framework. In principle, the BR framework already contains the seeds for advancing epistemic justice because it states that all interested parties should be able to participate in policymaking. Our indicator addresses the shortcomings of the BR framework, specifically its failure to provide concrete and comprehensive instructions for advancing epistemic justice at the ex-post stage as well as to provide any ex-ante evaluation mechanism. The integration of our indicator into the BR framework would strengthen the mechanisms for collecting evidence from diverse stakeholders and evaluating their implementation. We therefore suggest that our process indicator is added to

the BR toolbox to explicitly guide policymaking and facilitate the development of more epistemically just policies. Subsequently, the scope of epistemic justice can be expanded to policymaking in areas beyond climate adaptation.

The next steps would include encouraging territorial and local institutions to exploit this opportunity at the local level. For example, we hope that programmes such as the Regional Hubs Network will make use of our indicator to assess how epistemically just their processes are and to make the proper amendments if necessary. Only once local knowledges and concerns are better integrated into broader policy frameworks can more effective and just climate policies be properly enacted.

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## Appendix

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For an updated version of the indicator, please visit this live document: https://docs.google.com/document/d/1MehlBjdoLmr5QYts8AfEsdJMmG_poVCo/edit

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