



Unpacking local energy conflicts: Drivers, narratives, and dynamics of right-wing populism and local resistance to energy transitions in Germany

Jörg Radtke ^{*} , David Löw-Beer 

Research Institute for Sustainability, Helmholtz Centre Potsdam, Potsdam, Germany

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ABSTRACT

This paper examines the role of populist narratives in local resistance to renewable energy projects in Germany. Using survey data and seven case studies of wind energy and grid expansion projects across diverse geographical and socio-economic contexts, the study analyzes the arguments and strategies of local opponents, highlighting their frequent reliance on populist themes such as anti-elitism, anti-pluralism, and people-centrism. However, rather than being primarily driven by right-wing populist agendas, local resistance is shaped by governance concerns, procedural fairness, and distributive justice. Opposition is often rooted in grievances against distant political and economic elites perceived as imposing energy transition projects without adequately considering local needs and interests. This frustration creates opportunities for populist rhetoric to gain traction, particularly where communities feel unfairly burdened by national or global energy policies.

The case studies show that while right-wing populist parties oppose the expansion of renewable energy, there is limited evidence of their direct influence on local protests. Instead, populist framings emerge organically from within communities, reflecting longstanding dissatisfaction with planning processes and participation mechanisms. Given these dynamics, policymakers should focus on improving transparency, enhancing meaningful participation, and addressing socio-economic disparities in energy transition policies. Rather than dismissing local opposition as inherently populist, a more effective approach involves addressing the underlying concerns that drive resistance. Future research should further explore the conditions under which populist narratives gain influence and whether and how participatory processes can mitigate conflicts and foster equitable energy transitions.

1. Introduction

In Germany, the expansion of renewable energies and grids faces significant local opposition [1–4]. Right-wing populists and extremists are, not the only, but among the most vocal political opponents of renewable energy expansion at the national level [5–10]. However, opposition is not limited to these groups (cf. section 2.3).

This paper, drawing on original research from seven case studies across Germany, investigates the potential links between local resistance to renewable energy and right-wing populism, exploring whether right-wing populists are significant drivers of local resistance.

Our study builds on existing research in environmental populism, environmental conflicts, and the social sciences concerning opposition, participation, and democratic innovations in local energy transitions. A substantial body of literature analyzes populist rhetoric on environmental topics, identifying specific forms of the typical populist

narratives of anti-elitism, anti-pluralism, and people-centrism, along with variants like infrastructural populism. Additionally, extensive research on environmental conflicts highlights a wide range of relevant issues and arguments. Despite varying local contexts, opaque planning processes and perceived disregard for local interests fuel frustration and support for populist narratives. Populist actors often portray themselves as defenders of local concerns against distant elites, exploiting perceived injustices and advocating for recognition of legitimate local interests [6–17]. However, the role of populism in local energy transition discourses remains underexplored. There are indications of “energy populism” in the slogans of citizen initiatives opposing the *Energiewende*, but these may only superficially express deeper conflicts [22–27].

Through our research, we aim to differentiate between superficially adopted populist slogans and the core issues driving local conflicts. We have analyzed five wind energy projects and two grid expansion projects, all planned between 2012 and 2016. Local citizen initiatives and

^{*} Corresponding author. Research Institute for Sustainability (RIFS) at GFZ Helmholtz Centre for Geosciences, Berliner Straße 130, 14467, Potsdam, Germany.
E-mail addresses: jra@gfz.de (J. Radtke), dlb@gfz.de (D. Löw-Beer).

supra-local networks have successfully prevented the completion of these projects up to now. The cases cover a diverse geographical and socio-economic spectrum, including economically weak regions in East Germany and a unique ecosystem in Mecklenburg-Western Pomerania, among other locations with varying economic strengths and social and environmental concerns. Across these cases, we examine the arguments of opponents, identify populist motives within these arguments, and explore connections between citizens' initiatives and populist parties. We argue that while populist elements play a role in local conflicts over energy transition projects, overarching populist narratives such as the *Energiewende* framed as a project by (political and economic) elites, are not as significant as the local concerns of the population - particularly those related to specific locations (place attachments).

The following sections examine these aspects in detail. We begin with a review of existing literature on energy transition conflicts and populism, followed by a discussion of our methodological approach. The empirical section presents key findings from our case studies, highlighting how local resistance is structured and where populist elements emerge. Finally, we reflect on the broader implications of these findings for energy governance and conclude with recommendations for more participatory and just energy transition processes.

2. Literature review: local energy transition conflicts in Germany and the role of populism

2.1. Understanding local energy conflicts: governance, justice, and participation

Recent socio-political developments, such as the establishment of new nationalist agendas in Europe, US and Asia, have intensified uncertainties about the future of the European Union and its sustainable energy transitions [25]. These events intersect with the rise of right-wing populism and post-truth politics, influencing public attitudes toward energy issues at local, national, and European levels [20]. Identity plays a crucial role, shaping beliefs and responses to energy infrastructures [28].

The expansion of renewable energy and grid infrastructure in Germany has sparked intense local resistance. While often framed as technical or environmental debates, these conflicts are deeply embedded in social and political dynamics [29–34]. Recent scholarship highlights how opposition stems from governance concerns, distributive justice, and place-based attachments rather than purely ideological motives [35–37].

In Germany, opposition to wind energy and grid expansion projects has sparked local conflicts, which are well-documented in regional and community-based studies. Social conflict theory provides a useful framework for understanding these tensions, particularly Coser's definition of conflict as a struggle over power and resources [38]. Environmental conflicts often arise from the unequal distribution of environmental resources and the protection of natural habitats [39,40]. However, conflicts over renewable energy projects extend beyond economic or ecological concerns, incorporating broader struggles over governance, values, and local autonomy [41]. Recent research differentiates between conflicts of interest (economic, financial), value-based conflicts (cultural, ideological), competing interests (policy-related), and conflicts of ownership (legal, property rights) [42]. Most local energy conflicts in Germany involve a mixture of these elements, making them complex and multi-dimensional [29–33].

This study integrates three interrelated theoretical lenses—energy populism, environmental justice, and conflict theory—to analyze local opposition to renewable energy projects. While conflict theory addresses governance failures and distributive struggles, energy populism captures how opposition narratives exploit anti-elitist and sovereignty-focused themes [9,24,26,44]. Environmental justice complements this by highlighting procedural fairness and community recognition as key factors shaping resistance [45–48].

These frameworks are not separate analytical lenses but interact dynamically. For example, populist narratives often gain traction in contexts in which procedural justice is perceived as lacking, and unresolved distributive conflicts can fuel populist mobilization [43,49–52]. By integrating these perspectives, we provide a comprehensive approach to analyzing local resistance, showing that opposition is not merely ideological but deeply connected to governance failures and socio-economic inequalities.

2.2. Energy and environmental justice in the context of energy transitions

The frameworks of environmental and energy justice emphasize three crucial dimensions: distribution, process, and recognition. These dimensions are critical for ensuring equal access, fair policy processes, and the recognition of local community aspirations in energy transitions [48,53,54]. However, the decentralized nature of renewable energy siting makes an equal distribution of burdens and benefits nearly impossible [55–57]. Therefore, most case studies stress the importance of procedural justice, emphasizing fair, transparent, and inclusive decision-making processes [58–60]. Research indicates that communities are more likely to accept an undesired outcome if the process is perceived as just and participatory [61–65].

However, procedural fairness alone does not always guarantee acceptance. In certain cases, opposition to renewable energy projects persists even when the decision-making process is transparent and inclusive, indicating the presence of other underlying factors [45,50,71,80,148,182,183]. These may include conflicts of values, competing economic and ideological interests, and concerns over ownership and property rights [1–3,52,66–69]. This complexity underscores the need for a multi-faceted approach that not only improves procedural fairness but also acknowledges the deeper socio-political drivers of opposition.

2.3. The role of populism in energy transition conflicts

The intersection of publicly expressed values and personal interests in energy conflicts creates fertile ground for populist exploitation. Several studies describe strategies employed by right-wing populists to obstruct the energy transition and capitalize on public discontent [12,14,17,23–25,27,70–79]. Populist parties in Germany, such as the "Alternative für Deutschland" (AfD), use climate change skepticism to advance their agenda, framing environmental policies as threats to national interests and economic stability [81,82]. Their rhetoric blends classical populist themes with energy policies, reinforcing a strong connection between populism and energy conflicts [7,65–67]. However, populist opposition is not limited to the right-wing spectrum. Left-wing populist actors, particularly factions within left-wing parties, have also voiced concerns about energy policies [83–88]. Their criticisms primarily focus on the socio-economic burdens of the energy transition, particularly in economically weaker regions where job losses in traditional industries and rising energy costs are of central concern [87–90]. Unlike their right-wing counterparts, they usually do not reject the scientific basis of climate change or the need for renewable energy but demand that the transition be more socially equitable and democratically controlled [91,92]. As a result, their opposition, while potentially obstructive, tends to be less polarizing and less likely to undermine the legitimacy of the *Energiewende* itself. In political science, populism is commonly characterized by three core elements: anti-elitism, which portrays elites as corrupt and detached from the people; anti-pluralism, which emphasizes a homogeneous "true people" in opposition to outsiders; and people-centrism, which upholds the will of the people as the ultimate source of political legitimacy [93–108].

While right-wing populism is frequently associated with opposition to renewable energy projects, recent research suggests that populism is not inherently anti-environmental [109]. Some progressive populist movements advocate for urgent climate action, challenging the conventional view of populism as purely regressive. The concept of

“infrastructural populism” highlights how right-wing populists frame urban infrastructure as a moral and ideological battleground, influencing socio-political narratives and policies [10]. Environmental populism, particularly in rural areas, reflects local resistance to renewable energy projects that are perceived as an imposition of green, external agendas [27]. This diversity highlights the need to avoid simplistic generalizations and instead recognize the varied and context-dependent manifestations of populism in energy politics [110].

2.4. Populist strategies and public attitudes toward the energy transition

In the context of energy transitions, populist actors often depict the *Energiewende* as an elitist project that benefits urban elites while imposing disproportionate burdens on rural communities [111]. This rhetoric resonates with local frustrations, even among groups that do not identify with populist ideologies.

Table 1 categorizes populism according to three main features: anti-elitism, anti-pluralism/sovereignty, and people-centrism, and further elaborates on these categories within the frameworks of political and technocratic populism.

A nationwide survey indicates that while a majority of Germans support the energy transition, many are dissatisfied with its implementation, citing high costs and a lack of citizen involvement [119]. Populist critiques often focus on the perceived elitism of the *Energiewende*, framing it as benefiting wealthy investors while neglecting local concerns. However, there is also evidence of resilience against populist narratives. Many citizens recognize the diversity of societal interests and reject the notion of a unified “popular will” against renewable energy expansion [3,43]. The idea of a “silent majority” opposing the energy transition is not supported by the findings, indicating that the differences between the uninvolved and active participants are less pronounced than their levels of engagement might suggest.¹ Instead, opposition tends to be fragmented, with different groups mobilizing for diverse reasons.

2.5. Political vs. technocratic populism in energy transition conflicts

In the context of energy transition conflicts, two distinct but inter-related forms of populism emerge: political populism and technocratic populism. While both forms share a common skepticism toward existing elites and decision-making structures, they differ in their framing of authority, expertise, and the perceived role of the people in governance. Political populism in energy conflicts is characterized by anti-elitism, anti-pluralism, and people-centrism, emphasizing the idea that energy transition policies are dictated by distant political elites who disregard local concerns. Technocratic populism, in contrast, critiques expert knowledge and institutional authority, while paradoxically elevating an alternative, allegedly common-sense-based form of expertise that is rooted in the lived experiences of ordinary people [121–126]. This type

¹ We define uninvolved citizens as “spectators” of local energy transition conflicts, comprising a heterogeneous group whose common denominator is that they have not yet been (politically) engaged in relation to the energy transition. In political and academic discussions, this group is often referred to as the “silent majority.” However, since populists use this term themselves, we prefer the term “uninvolved citizens.” In contrast, “active citizens” include all individuals who reported in the survey that they have contacted politicians or administrative representatives, signed a petition, disseminated information, taken a political stance on social media, participated in a rally or demonstration, organized with others in a citizens’ initiative, participated in an action such as a blockade or occupation, or have taken legal action against an energy transition project. The qualitative findings regarding those non-involved in energy conflicts stem from the analysis of individual interviews (n = 31) and group discussions (n = 6) conducted in three case regions in Germany. The quantitative analysis of non-involved citizens in energy conflicts is based on an expanded analysis of a representative survey [120].

Table 1
Research dimensions of political populism and technocratic populism in energy transitions (adapted by Refs. [3,113–118]).

Populist features	Anti-elitism	Anti-pluralism/ Sovereignty	People-centrism
Definition of categories by research into political populism	Discrediting the elite: Elites are corrupt. Blaming the elite: Elites are harmful.	Demanding popular sovereignty: The people are the ultimate sovereign. Denying elite sovereignty: The elites deprive the people of their sovereignty. Politicians are incapable and corrupt (exclusion of politicians). Democracy is self-government by the people (power to the people). Moral hierarchy, ad-hominem critiques, essentialization, delegitimization of the other. Unfettered power for popular leaders.	Stressing the people’s virtues: The people are virtuous. Praising the people’s achievements: The people are beneficial, but they are not prioritized.
Typical features of political populism by research	Detaching the elite from the people: Elites do not represent the people. Unrestrained ‘will of the people’, majoritarianism, direct democracy. Idealization of the people, history and society, homogeneity and exclusion.		Stating a monolithic people: The people are homogeneous. Antagonism, Manicheism, calls for radical change Anti-debate/resistant to countervailing facts/rejects intermediaries/deploying crisis, breakdown or threat.
Definition of technocratic populism by research	Anti-politics and anti-bureaucracy: Critique of politics as lengthy and useless ‘debating’. Critique of traditional parties, cultural elites and mass media as a corrupt cartel. Conception of administration as inefficient and clientelistic.	Technocracy and new technologies: Public policy as a political management problem. Output effectiveness. Emphasis on managerial ‘what works’ strategies borrowed from the private sector. Prominent role of ICT.	Centralization of the command that changes administrative patterns and structures. Reliance on personal loyalists from outside as new executive leaders.
Definition of technocratic energy transition populism by research	Demystification and demythologization of expertise, which anyone can acquire (due to the level of education and information available on the internet); the experts and specialists are not the bearers of power, but the bearers of knowledge (the focus of elite criticism is on the bearers of power).	Due to (human-made) climate change, an energy transition is necessary, for which there is one correct solution (as dictated by technology).	Preference for scientific logic and expertise: It corresponds to common sense to be guided by technical rationalities provided by knowledgeable experts.

of populism is particularly relevant in cases in which local opposition movements position themselves as bearers of “real expertise”, arguing that their lived experiences and traditional knowledge are more reliable than official scientific assessments [127–129]. Skepticism toward institutional expertise is a defining characteristic of technocratic populism [130–132].

These two forms of populism frequently intersect, influencing how energy conflicts unfold and shaping both resistance strategies and public discourse around energy policy. While political populism primarily mobilizes opposition through rhetorical attacks on elites and demands for greater democratic control, technocratic populism seeks to delegitimize expert-driven policy decisions by positioning local knowledge as

superior.

2.6. Integrating perspectives: the intersection of populism and environmental justice

Both right- and left-wing populist critiques of energy transition share a common anti-elitist framing but differ in their focal points. While right-wing populist actors often deny the scientific consensus on climate change and favor continued use of fossil fuels, left-wing populist perspectives tend to emphasize the need for a socially just transition - rooted in their traditional support for structurally disadvantaged regions, particularly in Eastern Germany - where skepticism toward green policies is shaped by concerns over job security and economic stability, especially among industrial workers and labor unions advocating for slower, more compensatory transitions [83,85,87,88,90,112].

This study highlights how populist narratives—whether right-wing or left-wing—are not always decisive in local resistance. Instead, opposition is often driven by governance failures, lack of community involvement, and concerns over procedural fairness [109]. This suggests that addressing opposition requires more than countering populist rhetoric; it demands inclusive decision-making, equitable cost distribution, and recognition of local concerns.

To address local opposition to renewable energy in a more multidimensional manner, this paper complements its political analysis with cultural theoretical considerations. In particular, we acknowledge insights from Douglas and Wildavsky's [133] culture theory, which emphasizes the interplay of cultural biases and risk perception. This perspective helps explain why similar infrastructure projects provoke divergent responses across communities—responses shaped not solely by ideology, but also by communal norms, risk sensitivities, and institutional trust. Future research could further enrich this line of inquiry by explicitly testing typologies derived from cultural theory in the context of energy transition conflicts.

2.7. Research contribution and research questions

This literature review has outlined the complex interplay between energy transition conflicts, populism, and governance concerns. While previous research has examined populist rhetoric and its role in environmental and energy debates, this study contributes to the literature by systematically differentiating between political and technocratic populism in local energy conflicts. Additionally, it highlights how both right-wing and left-wing populist narratives intersect with concerns about democratic legitimacy, governance failures, and procedural justice.

Based on this theoretical foundation, this study addresses the following research questions.

1. To what extent do populist narratives influence local opposition to renewable energy projects in Germany?
2. How do political and technocratic populism shape energy transition conflicts at the local level?
3. What role do governance failures and procedural justice concerns play in shaping resistance to renewable energy projects?
4. How can policymakers effectively address populist critiques and improve democratic legitimacy in energy transition planning?

These research questions will guide the empirical analysis that follows, helping to clarify the theoretical contributions and policy implications of this study.

3. Methods

This study employs a mixed-methods approach to investigate the role of populist narratives in local energy transition conflicts in Germany. By integrating qualitative and quantitative data collection and analysis, the study aims to provide a comprehensive understanding of how opposition

to renewable energy projects is shaped by populist discourse, governance issues, and socio-economic factors. The core of this research is qualitative analysis, including four focus groups, document analysis, and in particular semi-structured interviews with 36 local actors directly involved in seven energy transition conflicts across Germany, such as politicians, activists, and representatives of local organizations (see Table A1 for a comprehensive overview of all interviewed persons in the appendix). While a nationwide survey with 2012 respondents was conducted as part of a broader research initiative, the present study draws on these quantitative data primarily for contextualization and comparison; detailed statistical analysis will be published separately in a dedicated article.

Initial desktop research identified conflict actors, mapped conflict progression, and compiled arguments and narratives. Semi-standardized interviews were then conducted with willing conflict actors to capture detailed interpretations and narratives. In two cases – the wind energy conflict in Western Pomerania and the power line dispute in Rhineland-Palatinate – semi-structured interviews and focus groups were also conducted with uninvolved individuals. This was done to understand their knowledge, interpretations, and perspectives on the conflicts and the broader *Energiewende*, ensuring the study accounts for both active and passive positions in local controversies [134]. In total, 21 interviews and four focus groups with 23 uninvolved citizens were conducted, providing a range of perspectives and allowing the analysis of how social dynamics shape opinions [135]. Table 2 provides an overview of the data used.

Data collection followed a triangulated qualitative design, combining document analysis, interviews, and focus groups as described before. Document analysis included local planning documents, meeting minutes, and media coverage [136]. For data analysis, we employed a qualitative content analysis framework, that we applied simultaneously on all data and which was supported by MaxQDA software. Open coding was used inductively to identify themes and patterns [137], followed by focused coding to refine and categorize these themes in line with the research questions and theoretical framework (see Table A2 and the complete coding scheme in appendix) [138]. All interviews and focus groups were transcribed and analyzed qualitatively and reconstructively by a group of researchers. All conflicts could be resolved dialogically.

The categories covered in the case analyses included.

- Conflict object, actors, and progression.
- Framework conditions (political culture, socio-economic structure)
- Criticism of actors and general criticism of the *Energiewende*, strategies of the opponents
- Participation formats
- Reactions and perspectives of the uninvolved citizens
- Indications of populism (communication, argumentation patterns, strategies, behaviors)

The seven cases were selected for their geographical and empirical diversity, focusing on conflicts surrounding the erection of wind turbines (five cases) and the planning of power lines (two cases). Cases with strong public perception were prioritized to enable the reconstruction of conflict narratives and the identification of populist elements. All cases involved some level of citizen participation, though the scope and intensity varied considerably.

To strengthen the analytical lens, this study draws on insights from the **Narrative Policy Framework (NPF)** [1,2], which conceptualizes policy narratives as structured by identifiable elements such as characters, plot, setting, and moral, and highlights their role in shaping public perceptions and policy outcomes. While not a full empirical application of the NPF, this study uses its conceptual tools to examine how actors - including right-wing populists - construct villains, victims, and heroes in order to legitimize opposition to renewable energy projects. As recent NPF reviews suggest [1–3], narrative elements can be operationalized flexibly across different empirical contexts, including meso-level

Table 2
Overview of the qualitative data used regarding the seven case studies.

Seven case studies on local energy conflicts	Wind power conflicts					Power line conflicts	
	Mecklenburg-Western Pomerania	Brandenburg	Hesse	Baden-Wuerttemberg	Bavaria	Rhineland-Palatinate (<i>Ultramet</i>)	Bavaria (<i>Juraleitung</i>)
<i>Analysis of local (daily) newspaper (s)</i>	2	2	2	2	3	2	3
<i>Further material</i>	Analysis of stakeholders' internet presence (websites and social media activity) and, where available, local and county council minutes and Regional Spatial Planning materials.						
<i>Interviews with activists</i>	6	2	7	1	5	5	9
<i>Interviews with bystanders</i>	6			–	–	15	
<i>Focus groups with bystanders</i>	2 (4 and 6 participants)			–	–	2 (6 and 7 participants)	

qualitative case studies such as this one.

While primarily qualitative and exploratory, the study also responds to calls for greater causal clarity,² by outlining a preliminary causal model linking political orientation, local identity, and perceptions of procedural fairness to the intensity of local opposition. Although the qualitative dataset is not suited for multivariate statistical modelling, this model provides a conceptual basis for future quantitative research, which could test these relationships using larger survey samples and regression-based techniques. To enhance transparency, we report not only illustrative quotes but also the coding strategy and distribution of narrative types across cases.³ Regarding survey design, we acknowledge that some questions may evoke emotional responses. This was a deliberate design choice to capture the affective dimension of local conflict, which is central to understanding why individuals take a stand on contested infrastructure projects.

4. Empirical results

4.1. Overview

This section examines cases of local energy transition conflicts, focusing on project settings, arguments and strategies of opponents and proponents, perspectives of bystanders, and forms of energy populism. Due to space constraints, we will focus on specifics of individual cases.

Wind energy cases.

- (1) **Mecklenburg-Western Pomerania:** Wind turbines were planned in a unique lowland moorland ecosystem in an economically weak region of East Germany. Concerns spread beyond typical wind power critics. The state government facilitated a “round table” for coordination and information. The legal proceedings to permit 12 wind turbines began in 2023 and are ongoing.
- (2) **Brandenburg:** A town faced the construction of a third wind farm, sparking debates on local adaptation or overburden. A 2019 citizen dialogue with then-Chancellor Angela Merkel had little regional impact.
- (3) **Hesse:** In a popular tourist destination but economically weak area, an energy cooperative planned wind farms with financial participation offered to residents. The cooperative eventually withdrew, and the county prohibited further wind turbine construction.
- (4) **Baden-Württemberg:** In an economically strong region, one municipality supported and another opposed wind energy plants. Despite local opposition, political decisions could not halt the project, but the energy cooperative withdrew its permit application in 2021.

- (5) **Bavaria:** A referendum narrowly approved a wind energy project (53–47 percent). However, the developer filed for insolvency, leaving the project uncertain.

Grid expansion cases.

- (1) **Juraleitung (Bavaria):** A power line is set to be replaced for higher electricity flow with underground cabling mandated in some sections. Despite early dialogues and information campaigns, citizens' initiatives rejected the proposal, citing concerns for people, nature, and the environment.
- (2) **Ultramet (Rhineland-Palatinate):** This project upgrading power line pylons to carry both DC and AC has been delayed from a 2019 to a 2027 target. Participation opportunities have been offered, but local skepticism remains high.

4.2. Conventional political populism in energy transitions

We focus on the core themes of populism: anti-elitism, anti-pluralism, and people-centrism (see dimensions I-III in Table 3)

First, *anti-elitism* emerges as a widespread sentiment against political and economic elites exploiting renewable energy projects for personal gain. One example is Bavaria, where the Renewable Energy Act is disparagingly referred to as the “Renewable Income Act.”

Second and closely related to this is the theme of *anti-pluralism* and the demand for popular sovereignty. There is a widespread belief that decisions regarding the *Energiewende* should be directly made by the people, reflecting mistrust in current decision-making processes. In regions like Mecklenburg-Western Pomerania, locals demand referendums on energy projects and decry a perceived “sham democracy” in which their objections and concerns are ignored.

Third, people-centrism is also a recurring theme, in which ordinary citizens are seen as inherently virtuous, yet unfairly burdened by the costs of the energy transition. In Bavaria, concerns are raised about the younger generation's disconnection from energy transition reality, risking future democratic processes.

4.3. Extended populist themes

Further elements of political populism (see dimensions IV-VI, Table 4), emphasize that elites are perceived not just as self-serving, but as actively harmful to broader society. A significant portion of survey respondents agree that the established media and political elite collude on the issue of the *Energiewende* and express a pervasive fear of manipulation by those in power. In Bavaria, the discourse even touches on themes of “brainwashing,” citing the one-sided promotion of wind turbines.

Second, regarding anti-pluralism, our survey results indicate fears that opposition to the *Energiewende* is suppressed, with participation opportunities viewed as placation rather than genuine inclusion. Case studies like *Ultramet* show widespread mistrust in engagement formats. Third, concerning people-centrism the survey data reveals that many believe the people are being deceived about the true costs of the

² We thank an anonymous referee for her valuable comments in this regard.

³ Selected quotations exemplify broader patterns identified in qualitative data available for verification upon request from the authors.

Table 3
Research dimensions (I-III) of political populism in the context of the *Energiewende* in Germany and a selection of survey results and interview clips from seven case studies.

Populist features	Anti-elitism	Anti-pluralism/ Sovereignty	People-centrism
<i>Definition by research</i>	<i>Discrediting the elite: Elites are corrupt.</i>	<i>The people are the ultimate sovereign.</i>	<i>The people are virtuous.</i>
<i>Survey results (nationwide, n = 2012)</i>	<i>‘Through the expansion of wind power, entrepreneurs and politicians only seek to enrich themselves.’</i> 9.9 % Fully agree 10.7 % Tend to agree 14.9 % Party yes, partly no 26.1 % Tend not to agree 29.5 % Fully disagree 8.9 % No response	<i>‘All important decisions regarding the Energiewende should be made by the people.’</i> 10.2 % Fully agree 15.8 % Tend to agree 28.2 % Party yes, partly no 27.0 % Tend not to agree 14.4 % Fully disagree 4.4 % No response	<i>‘The cost of the Energiewende is borne by the common people.’</i> 25.0 % Fully agree 25.4 % Tend to agree 21.1 % Party yes, partly no 15.3 % Tend not to agree 8.5 % Fully disagree 4.7 % No response
<i>Empirical case study: Interview clips</i>	<i>‘Only very few people benefit from climate policy.’ (Mecklenburg-Western Pomerania)</i> <i>‘Renewable Energy Act = Renewable Income Act.’ (Bavaria)</i> <i>‘The Odenwald is becoming a playground for big finance.’ (Hesse)</i>	<i>Referendums are being demanded, because if the region has to ‘pay for the Energiewende,’ then it should also be able to vote on it.</i> <i>‘Sham democracy’</i> <i>‘All objections are brushed aside.’ (Mecklenburg-Western Pomerania)</i> <i>‘This is being controlled from above.’ (Bavaria)</i>	<i>‘The people along the power line route do not benefit in any way; ultimately, they only bear the costs.’ (Juraleitung)</i> <i>‘My God, poor young people. (...). They have no idea where this leads. (...) They just do what they’ve been shown.’ (Bavaria)</i>

Energiewende. In the case studies in Brandenburg and Bavaria, discourse around energy transitions is tied to a “destruction of the homeland,” reflecting a deep-seated connection to the land and nature threatened by large-scale energy projects.

Table 4
Research dimensions (IV-VI) of political populism in the context of the *Energiewende* in Germany and a selection of survey results and interview clips from seven case studies.

Populist features	Anti-elitism	Anti-pluralism/Sovereignty	People-centrism
<i>Definition by research</i>	<i>Blaming the elite: Elites are harmful.</i>	<i>Denying elite sovereignty: The elites deprive the people of their sovereignty. Politicians are incapable and corrupt (exclusion of politicians).</i>	<i>Praising the people’s achievements: The people are beneficial.</i>
<i>Survey results (nationwide, n = 2012)</i>	<i>‘Regarding the Energiewende, the established media and politics are in cahoots.’</i> 9.0 % Fully agree 13.2 % Tend to agree 17.7 % Party yes, partly no 25.3 % Tend not to agree 24.0 % Fully disagree 10.8 % No response	<i>‘Regarding the Energiewende, the true costs are being concealed from the population.’</i> 22.2 % Fully agree 29.4 % Tend to agree 21.4 % Party yes, partly no 12.7 % Tend not to agree 7.0 % Fully disagree 7.3 % No response	<i>‘Anyone who speaks out against the Energiewende is immediately silenced.’</i> 8.2 % Fully agree 14.3 % Tend to agree 18.6 % Party yes, partly no 30.6 % Tend not to agree 20.9 % Fully disagree 7.5 % No response
<i>Empirical case study: Interview clips</i>	<i>‘Politicians are ignorant’ (Mecklenburg-Western Pomerania)</i> Local politicians say that they feel ‘betrayed’ by the Federal Network Agency in the Ultranet case study. Opportunities for participation and public engagement were ‘undermined’ under the guise of the COVID-19 crisis (Ultranet).	<i>‘Intransparency’ (Bavaria and Ultranet)</i> <i>‘Brainwashing-like education. They say, “Wind turbines are the solution to everything,” and there is a brainwashing-like repetition of the advantages of wind turbines. You have to see the other side too.’ (Bavaria)</i>	<i>‘Destruction of the homeland’ (Brandenburg)</i> <i>‘Nature feeds us. Not wind turbines.’ (Bavaria)</i> <i>Participation as ‘a tactic by the authorities to catch people off-guard’. (Ultranet)</i>

4.4. Further dimensions of populism

Completing this overview of conventional elements of political populism in energy conflicts, we illustrate via the dimensions VII-IX (see Table 5) that anti-elitism is deepened by the belief that elites are increasingly detached from the people they are supposed to represent. Survey data reflects the sentiment that climate protectors are disconnected from the practical concerns of rural citizens. This divide is particularly pronounced in cases like Mecklenburg-Western Pomerania, where locals feel they shoulder the burdens of urban energy consumption. Anti-pluralism concerns the populist demand for direct involvement in energy decisions with survey results and case studies showing dissatisfaction with current participation formats, The reference to the wind energy veto group “Vernunftkraft” in Hesse, which positions itself as a grassroots movement against elite-driven decisions, further underscores the populist dichotomy of “the people” versus “the elites.”

People-centrism is represented through the idea that the common people are a homogeneous group whose virtues and perspectives are systematically ignored by the elites. The broader theme of the rural versus urban divide is starkly portrayed within the case studies.

4.5. Forms of technocratic populism in energy transitions

Describing a specific outflow of populism, the technocratic variation puts the spotlight on the growing skepticism toward experts and the technocratic approach to the *Energiewende*, while simultaneously expressing a preference for scientific logic and expertise when it aligns with perceived common sense and perceived rationality (see Table 6).

Anti-elitism in technocratic populism is characterized by a demystification of expertise, a belief that expert knowledge is accessible to anyone in the age of the internet. Survey data indicates distrust in the neutrality of expert assessments. In the Brandenburg case, the administration is criticized for being an “extended arm of politics”. Anti-pluralism asserts that the energy transition is necessary due to human-induced climate change, but there is only one correct solution dictated by technology, thereby polarizing debates by dismissing alternatives. This is a clear form of techno-populism. Survey data indicates that a notable portion of the population views the coal phase-out as driven by “climate hysteria.” In the case studies, concerns are raised that the *Energiewende* represents a “Deutscher Sonderweg” (a uniquely German path of energy policy) that might not be appropriate or effective in a global context. Taken together, this does not result in a clear picture: The critical individuals are not convinced by the “answer” in the form of the

Table 5
Research dimensions (VII-IX) of political populism in the context of the *Energiewende* in Germany and a selection of survey results and interview clips from seven case studies.

Populist features	Anti-elitism	Anti-pluralism/ Sovereignty	People-centrism
<i>Definition by research</i>	<i>Detaching the elite from the people: Elites do not represent the people.</i>	<i>Democracy is self-government of the people (power to the people).</i>	<i>Stating a monolithic people: The people are homogeneous.</i>
<i>Survey results (nationwide, n = 2012)</i>	<i>'The so-called climate protectors are naive do-gooders.'</i> 9.6 % Fully agree 14.8 % Tend to agree 19.8 % Party yes, partly no 22.1 % Tend not to agree 27.9 % Fully disagree 5.8 % No response <i>'It's easy to demand the energy transition in the city when the rural population bears the consequences.'</i> 14.8 % Fully agree 25.1 % Tend to agree 24.2 % Party yes, partly no 18.1 % Tend not to agree 9.5 % Fully disagree 8.3 % No response	<i>'Citizens are not involved enough.'</i> 17.4 % Fully agree 36.3 % Tend to agree 25.7 % Party yes, partly no 13.8 % Tend not to agree 2.8 % Fully disagree 3.3 % No response	<i>'The common people are against the Energiewende.'</i> 3.7 % Fully agree 11.4 % Tend to agree 23.5 % Party yes, partly no 33.6 % Tend not to agree 18.4 % Fully disagree 9.4 % No response
<i>Empirical case study: Interview clips</i>	<i>'We're producing electricity for Berlin.' (Mecklenburg-Western Pomerania)</i> <i>'One almost has to smile pityingly when hearing about five wind turbines being installed in the forest of Ebersberg while massive deforestation occurs in pristine forests worldwide. These are the global climate factors we need to address.'</i> (Bavaria)	<i>'Participation formats generate more mistrust than they build trust.'</i> (Ultranet) <i>'Lack of opportunities for citizen participation.'</i> (Hesse)	<i>Regarding the Odenwald case study, the wind energy veto player 'Vernunftkraft' (translation: 'energy powered by common sense') uses phrases such as 'at grass roots' to describe the local level vs. 'elites' at the top.</i> (Hesse) <i>'You must never lose respect for those who think differently, and only then can you find a path that everyone can somewhat agree on. But that's not happening, and I blame economic interests for it again.'</i> (Hesse)

Energiewende as a response to climate change, but what the "correct" answer should look like remains unclear. As a key characteristic, the shared skepticism and mistrust toward the government's *Energiewende* concepts persist. It is important to consider the connection between the rejection of energy infrastructure in the residential environment and doubts about the general necessity of the measures, which is logically consistent. However, the case study investigations show that this must be understood in connection with local concerns and place attachments, from which a coherent picture of rejection emerges - driven by concerns about energy facilities in the surrounding area, the perceived non-necessity of measures due to misguided energy transition strategies,

and the notion that better solutions remain unused.

Popular sovereignty emphasizes that scientific logic and expertise should guide decision-making, but only when it aligns with common sense and is accessible to the public. The survey results indicate doubts about the feasibility of current renewable energy plans, and case studies highlight the accusation of a selective use of science to support pre-determined narratives.

The findings suggest that these populist perspectives are not just fringe opinions but have the potential to become increasingly mainstream, reflecting broader societal concerns about fairness, representation, and the future of democratic governance in the context of energy policy. However, if we take a closer look at the seven case studies, we will see that local concerns are the most important in terms of the reception and reactions of local communities to energy projects in their backyard.

4.6. Local energy conflicts: issues of negotiation

Beyond the scope of political populism, our findings reveal that local energy conflicts in Germany's *Energiewende* are heavily influenced by region-specific concerns, which outweigh broader populist attitudes (see Table 7). Central to these conflicts is the criticism of decision-making processes, with many feeling that political and planning procedures lack fairness and social justice. Survey data and case studies show widespread dissatisfaction with the perceived exclusionary nature of current practices.

Additionally, there is significant support for alternative energy strategies, with many advocating for decentralized, locally-managed projects instead of large-scale renewable energy installations and for a reduction in energy consumption. Concerns about the negative impacts of energy infrastructure on ecology, health, and the economy further fuel opposition. Overall, these conflicts highlight deep-seated frustrations with the current energy transition strategies, suggesting that more inclusive, equitable, and responsive approaches are needed to address the diverse concerns of local communities effectively.

As we have shown, the opposition to local energy projects is driven by a variety of concerns that are specific to each community. These concerns range from issues with transparency in planning processes and the unfair distribution of costs to environmental and health impacts. Thus, arguments by the opponents cover a broad range of locally specific concerns, but they can be categorized into four distinct types, each requiring different approaches to conflict resolution (see Table 8). Competing interests involve ideological and cultural differences, in which conflict arises from varying beliefs about the role of energy projects in society, necessitating dialogue and inclusive decision-making processes. Conflicts of interest are more financially and economically driven, with concerns about the distribution of costs and benefits, which can be addressed through equitable compensation and economic incentives. Conflicts of values are deeply personal and situational, often related to environmental and health impacts, requiring sensitive mitigation strategies and thorough impact assessments. Finally, technological alternatives reflect a preference for different energy solutions, demanding innovation and the exploration of more sustainable or locally acceptable technologies. Each category highlights different underlying concerns and therefore requires tailored participatory, open-minded and reflective solutions to address the specific needs and values of the affected communities in local energy transitions.

4.7. Strategies and interactions of proponents and opponents

The interactions between supporters and opponents of energy transition projects are complex and multifaceted (see Image 1). Proponents typically include project developers and occasionally organized advocacy groups, who provide information and sometimes facilitate financial participation for the local population. Spatial planning authorities, who are responsible for technical planning, often seek expert opinions to

Table 6

Research dimensions (X-XII) of technocratic populism in the context of the *Energiewende* in Germany and a selection of survey results and interview clips from seven case studies.

Technocratic energy transition populism features	Anti-elitism	Anti-pluralism	Popular sovereignty
<i>Definition by research</i>	<i>Demystification and demythologization of expertise, which anyone can acquire.</i>	<i>Due to (human-made) climate change, an energy transition is necessary, for which there is one correct solution as dictated by technology.</i>	<i>Preference for scientific logic and expertise: It corresponds to common sense to be guided by technical rationalities provided by knowledgeable experts.</i>
<i>Survey results (nationwide, n = 2012)</i>	<i>'Studies for the expansion of wind energy are ideologically biased.'</i> 6.4 % Fully agree 16.7 % Tend to agree 24.1 % Party yes, partly no 24.5 % Tend not to agree 12.2 % Fully disagree 16.2 % No response	<i>'The coal phase-out is a sign of climate hysteria.'</i> 8.9 % Fully agree 12.3 % Tend to agree 13.9 % Party yes, partly no 22.1 % Tend not to agree 40.7 % Fully disagree 2.2 % No response	<i>'The true environmentalists are against this Energiewende.'</i> 3.5 % Fully agree 9.3 % Tend to agree 20.0 % Party yes, partly no 25.8 % Tend not to agree 25.5 % Fully disagree 15.9 % No response
<i>Empirical case study: Interview clips</i>	In several case studies, it is criticized that assessments for evaluating locations are financed and selected by the project developers, which means they are not neutral ('obliging assessments') (Baden-Wuerttemberg, Bavaria, Hesse, Mecklenburg-Western Pomerania). The administration is seen as an 'extended arm of politics,' which would 'prove its incompetence'. (Brandenburg).	<i>Energiewende is a 'Deutscher Sonderweg'. (Bavaria + Ultranet)</i> <i>'And taking the path now to shut everything down here and then buy electricity from abroad, well, that can't be the solution either!'</i> (Ultranet) <i>'Where is any democratic understanding in that? Where is the attention to science? No, they listen to individuals who fit the desired narrative, they listen to specific lobby groups, but not to the actual situation. This creates frustration, it polarizes. It also makes many people increasingly radical.'</i> (Hesse)	<i>'So, when I, as a politician, stand up and say, we're going to build 12,000 wind turbines, meaning we are going to quadruple it, I know from a species protection standpoint that it simply can't work. It doesn't work now, and yet they want to build even more.'</i> (Hesse) <i>'The power line does not serve the Energiewende.'</i> (Ultranet)

guide decisions, but do not engage the public to gauge their preferences. Nature conservation groups may oppose wind energy projects, leveraging their assessments to influence planning decisions. The general public, especially those not directly involved, tend to remain neutral or supportive, valuing comprehensive information, transparency, fairness, financial participation, and local community benefits.

Within municipal councils, opinions on energy projects are often

Table 7

Research dimensions (XIII-XIV) of predominant issues in local energy conflicts in the context of the *Energiewende* in Germany and a selection of survey results and interview clips from seven case studies.

Local energy conflicts: Predominant issues	Critique of decision-making, participation and fairness	Belief in better alternatives	Ignorance, denial and negative impacts on ecology, health, and economy
<i>Survey results (nationwide, n = 2012)</i>	<i>'Social justice is given too little consideration.'</i> 19.5 % Fully agree 27.6 % Tend to agree 25.0 % Party yes, partly no 16.7 % Tend not to agree 6.5 % Fully disagree 4.1 % No response	<i>'Approaches for decentralized energy supply are being neglected (e.g. smaller plants in the local area).'</i> 19.9 % Fully agree 39.4 % Tend to agree 21.1 % Party yes, partly no 7. % Tend not to agree 1.6 % Fully disagree 9.9 % No response	<i>'Health risks are being given too little consideration in the expansion of wind power.'</i> 7.4 % Fully agree 12.3 % Tend to agree 21.5 % Party yes, partly no 32.0 % Tend not to agree 20.7 % Fully disagree 6.1 % No response <i>'The endangerment of threatened animal species by Energiewende measures is unacceptable.'</i> 18.0 % Fully agree 22.4 % Tend to agree 28.0 % Party yes, partly no 18.8 % Tend not to agree 9.0 % Fully disagree 3.7 % No response
<i>Empirical case study: Interview clips</i>	<i>'This will tear the community apart.'</i> (Brandenburg). Citizen initiatives criticize the threat posed to the tourism region by the wind turbines and lament the lack of opportunities for participation within the planning process. (Mecklenburg-Western Pomerania)	<i>'The German nuclear phase-out was premature'</i> (Bavaria), the phase-out of Russian fuels was unreasonable. (Mecklenburg-Western Pomerania) In the Hesse case study, the effectiveness of wind power is doubted ('obsolete in 20 years,' 'industry is being pushed'), and the lack of consideration for alternatives is criticized (instead of wind power in forests, energy consumption should be reduced and areas for photovoltaics should be utilized).	<i>'The large power companies and grid operators are a mafia that, out of greed for profit, want to destroy our landscape and do not care about health consequences like leukemia or Alzheimer's for the residents.'</i> (Juralitung) <i>'Nature sustains us. Not wind turbines, not concrete [...]'</i> (Bavaria)

divided, with factions supporting, opposing, or remaining neutral. These divisions can occur even within political parties. Active obstruction of projects by municipal councils is rare; support often hinges on electoral concerns, particularly for mayors who may prefer a passive stance but occasionally play a mediating role. The most vocal opponents are usually local citizen initiatives aiming to block specific projects. Their

Table 8
Typology of local energy conflicts by individual argumentation and motivation of opponents.

Competing interests (ideological, cultural)	<i>Political and planning procedures:</i> Criticism centers on the lack of transparency and participation opportunities with claims of mistrust in the planning process and concerns about incomplete disclosures.
Conflicts of interest (financial, economic)	<i>Equity:</i> The adversaries complain about a geographically and socially unfair distribution of costs and benefits with regions already overburdened with energy infrastructure. <i>Economy:</i> Opponents describe negative local economic effects, including impacts on tourism, wind energy companies paying taxes outside of the region and inadequate compensation payments.
Conflicts of values (personal, situational, disciplinary)	<i>Ecology:</i> These refer to threats to nature, water and species, and are mentioned less in the grid expansion cases. <i>Health:</i> This involves fears of noise emissions, infrasound and mental stress, particularly prevalent in pipeline expansion cases.
Technological alternatives (rational, ideological)	<i>Better options:</i> There is a strong belief in better alternatives like decentralized energy supply, nuclear energy, photovoltaic installations, and reduced consumption.

strategies include public demonstrations, social media campaigns, formal objections, lobbying, commissioning expert studies, and, in some cases, legal action or physical blockades.

A notable aspect of these conflicts is the limited interaction between different groups. Local citizen initiatives often collaborate with supra-local organizations, such as “Vernunftkraft,” a nationwide group opposing wind power expansion. However, these initiatives struggle to mobilize a cohesive national movement, due to their focus on local

issues rather than broader agendas.

5. Discussion: the dynamics of support and opposition in energy transitions

5.1. Local energy conflicts

This study has demonstrated that local resistance to renewable energy projects is shaped by a complex interplay of political, social, and economic factors, with populist narratives playing a significant but context-dependent role. Our findings highlight that while both political and technocratic populism emerge in opposition to energy transition projects, they do not operate in isolation. Instead, these forms of populism intersect with governance failures, procedural justice concerns, and socio-economic inequalities, reinforcing distrust in political elites and decision-making institutions. Political populism manifests through anti-elitist rhetoric, skepticism toward centralized governance, and demands for greater direct democracy in energy planning. Technocratic populism, in contrast, critiques expert-driven decision-making and promotes alternative knowledge claims that challenge mainstream environmental and energy policies. By examining these dynamics, our study contributes to a more nuanced understanding of how populist framings influence energy transition conflicts and provides insights into potential strategies for mitigating opposition.

Our analysis highlights several critical insights into the nature of local energy transition conflicts, of which we describe five key aspects in the following:

Conflicts surrounding energy transition projects are heavily influenced by key actors, including project developers, local government officials, and citizen initiatives. Effective conflict resolution requires ongoing engagement from all stakeholders. Communities typically divide into opponents, who form citizen initiatives, and proponents, including developers and political representatives. Opposition often



Image 1. Comparison of population groups with different attitudes in energy transition conflicts.

arises from concerns related to landscape alterations, environmental impact, and potential health effects.

Populist narratives about the energy transition are largely driven by supra-regional groups like “Vernunftkraft,” while local initiatives focus on immediate concerns. This fragmentation complicates the formation of large-scale coalitions capable of influencing national energy policies. Mayors and officials generally support energy projects but remain cautious to avoid alienating voters, illustrating the political sensitivity of such developments. Within municipal councils, opposition is often led by parties like the AfD and Free Voters. However, diverse motivations—ranging from environmental concerns to broader ideological objections—hinder unified resistance, weakening opposition efforts. Public participation formats are often inadequate, occurring too late to influence decisions and favoring well-organized stakeholders while excluding marginalized groups. This lack of genuine participation fuels frustration and polarization, limiting the potential for consensus. Populist discourses further escalate conflicts by radicalizing initially local protests, shifting criticism from specific projects to the broader energy transition as an elite-driven agenda. These narratives mobilize disengaged citizens, turning private concerns into public opposition, and often depict project supporters as betraying local interests. Such framing erodes trust in decision-making and encourages hostility.

Populists attempt to unify disparate opposition groups under a broader political agenda, intensifying conflicts and, in some cases, leading to radicalization and violent confrontations. What begins as localized resistance can evolve into a broader rejection of government policies, undermining social cohesion. This interplay of actors, narratives, and structural weaknesses complicates conflict resolution. While local opposition is often rooted in tangible concerns, populist influences and ineffective participation processes exacerbate polarization. Addressing these challenges requires reformed participation formats, greater transparency, and stronger dialogue between stakeholders to reduce fragmentation and prevent further conflict escalation.

This complex interplay of actors, narratives, and structural limitations underscores the challenges in managing conflicts related to the energy transition. While local opposition is often grounded in tangible concerns, the influence of populist discourses and inadequate participation structures exacerbate polarization and hinder consensus-building. Addressing these issues requires reforming public participation processes, enhancing transparency, and fostering dialogue between different stakeholders to prevent further fragmentation and conflict escalation.

5.2. Broader implications of energy transition conflicts

The complex dynamics of energy transition conflicts reveal the diverse attitudes and strategies of various stakeholder groups. Proponents, such as developers and advocacy groups, typically focus on providing information, transparency, and financial incentives to garner public support, emphasizing local economic benefits [139–141]. In contrast, opponents, often organized into local citizen initiatives, engage in actions such as protests, legal challenges, and social media campaigns to address concerns about health, environmental, and landscape impacts [3,4,52,66,67,69,141–146].

This divergence is exacerbated by populist discourse, which can radicalize local opposition by framing energy transitions as elite-driven agendas. Populist narratives often portray supporters as betrayers of local interests and government officials as corrupt elites, undermining trust in the planning processes [3,145,147–149]. This framing fosters a “Not In My Backyard” (NIMBY) mentality that can evolve into a broader “Not In Any Backyard” (NIABY) stance, in which opposition extends beyond local projects to any energy transition initiatives, regardless of their local impact [63,66,150–152].

Our findings align with core findings of many studies on energy conflicts, showing that regional and local contexts significantly shape the intensity of these conflicts. In rural areas, where local identities are

closely tied to the landscape, opposition is often stronger, due to perceived threats to their way of life [27,43,68,153–156]. Conversely, urban areas may show more support for energy projects, especially when they promise economic benefits and align with technological progress [1,139,147,150]. Increasing professionalization and networking among local citizen initiatives, which increasingly collaborate with supra-local organizations, strengthen their opposition to energy projects [3,4,146,149,150,154].

Effective conflict resolution requires active engagement from all key actors throughout planning and implementation. However, current public participation formats are often inadequate, lacking the diversity and specificity needed to address stakeholders’ concerns [1,4,139,157–161]. This inadequacy underscores the importance of addressing both procedural and distributive justice in participation processes to build trust and reduce conflicts [2,43,48,140,154,159,162,163].

Our study has several limitations. First, populism is a complex and contested concept and attributing populist strategies to specific actors demands careful contextual interpretation. Distinguishing between legitimate democratic critique and populist rhetoric—such as anti-elite narratives or appeals to the “ordinary citizen” allegedly betrayed by energy policy—remains methodologically challenging, and precise categorization criteria are difficult to establish. Additionally, while we typologize conflicts around renewable energy projects, further research is needed to explore how specific conflict characteristics, actor constellations, and institutional frameworks interact. Finally, we lack in-depth perspectives from both proponents and opponents, who often cite concerns about limited public discussion and perceived biases favoring corporate interests.

Second, while this research follows a mixed-methods design, its emphasis lies on qualitative narrative analysis. The survey conducted as part of the broader research initiative was designed primarily as an exploratory tool to contextualize qualitative findings rather than as a statistically representative dataset. As such, we acknowledge limitations regarding reproducibility, statistical generalizability, and variable operationalization. In response to this, we position the study as hypothesis-generating, offering empirical insights and preliminary causal assumptions that future research should test through larger, representative samples and multivariate models.

5.3. Recommendations for managing energy transition conflicts

The study suggests that effective responses to local resistance should move beyond merely condemning populism or solely advocating for climate policy. Our findings indicate that opposition often stems from procedural concerns, a perceived lack of transparency, and socio-economic disparities in project implementation. Therefore, policymakers must directly address these underlying concerns by ensuring inclusive and participatory planning processes. For example, in the case of the wind project in Bavaria, early and meaningful engagement led to higher acceptance levels. Furthermore, our case studies show that economic disparities play a significant role, particularly in regions in which financial participation models were absent or perceived as unfair. Tailoring participatory mechanisms to local needs and ensuring equitable distribution of benefits can enhance the social legitimacy and sustainability of energy transition projects. By explicitly linking these recommendations to our empirical findings, we move beyond generic best practices and provide actionable insights that reflect the dynamics observed in our case studies.

To mitigate populist influence and enhance public acceptance, we propose several strategies.

- (1) **Genuine Participation:** Replace token efforts with meaningful participation, including decision-making processes. Transparent information should be provided to foster public trust. Early engagement is crucial, as late consultations often lead to heightened opposition. Interestingly, the Bavarian WEP was the

most successful example studied and it had the most far-reaching participation.

- (2) **Tailored Approaches:** Managing local energy transition conflicts requires a balance between universal guidelines and local adjustments. Tailored approaches address diverse opposition, ranging from radical opponents to those with specific criticisms. Engaging the bystanders as a “silent majority” through broad, regional discussions can foster wider societal support for the energy transition.
- (3) **Democratic Conflict Culture:** Promoting a democratic conflict culture involves engaging with critics, including populists, and avoiding dismissing arguments without independent evaluation. The perception of a “black box” energy transition should be prevented by ensuring transparency and neutral discussion platforms.
- (4) **Address Economic Disparities:** Managing the unequal distribution of benefits and burdens associated with the transition is crucial. Economic disparities, e.g. rising rent and energy costs can fuel populist backlash if unmanaged.
- (5) **Decentralized Energy Transition:** Supporting a decentralized energy transition involves enhancing local involvement and emphasizing energy efficiency and sufficiency, while addressing distrust in political and administrative processes.
- (6) **Skill-Building for Decision-Makers:** Local decision-makers should be equipped with the skills needed to navigate complex discussions and engage with stakeholders effectively. Mayors in particular can balance interests and act as mediators.
- (7) **Enforce Democratic Processes:** Maintain constructive discourse by enforcing rules against threats, misinformation, and personal attacks.

A combination of meaningful participation, economic fairness, decentralized governance, and robust democratic safeguards can create the conditions for a more inclusive and widely supported energy transition.

6. Conclusion

This paper examines how populist narratives emerge in local conflicts over energy projects and the dynamics that shape these disputes. While previous research has primarily focused on the influence of national populist parties on climate and energy policy, our case studies reveal that populist discourses frequently originate within local contexts. Opposition to the energy transition is often not rooted in a fundamental ideological rejection of renewable energy but rather stems from dissatisfaction with procedural justice, the unequal distribution of costs and benefits, and cultural narratives opposing perceived external control. These findings advance the understanding of energy and infrastructure conflicts by highlighting the interplay between governance failures and populist mobilization.

A key finding of our analysis is that external populist actors, particularly right-wing populist parties, rarely succeed in fully co-opting local energy protests. Instead, populist narratives often emerge in a bottom-up manner, as local actors adopt populist framings—often selectively and unconsciously—without direct ties to established populist movements [164]. This dynamic is particularly pronounced in regions in which public participation mechanisms are seen as tokenistic or insufficient, municipal governance is perceived as ineffective, and decision-making processes are regarded as opaque or dominated by external interests. Governance failures and a lack of political responsiveness thus create an environment in which populist rhetoric gains traction as an expression of local frustration [3,66,140,154,165–167].

However, opposition to energy projects is not inherently populist. Many conflicts arise from legitimate concerns over the lack of meaningful participation opportunities, the unequal distribution of economic benefits, and the insufficient integration of local perspectives into

planning processes. These grievances exist independently of populist rhetoric but can become politicized when they align with broader anti-elite narratives [168–172]. Effective policy responses must therefore distinguish between populist narratives that amplify discontent and substantive governance issues that require structural reforms.

Addressing populist opposition requires more than delegitimizing populist movements or defensively advocating for climate policies. Instead, policymakers should ensure that the energy transition is not only technologically and economically feasible but also socially just and democratically legitimate. This requires strengthening participatory decision-making, increasing transparency in planning, and ensuring that affected communities see tangible benefits from renewable energy projects [173,174]. Our analysis shows that opposition to projects significantly decreases when communities are granted meaningful influence and participation. In this regard, decentralized and locally managed energy projects can help counteract populist narratives by fostering community ownership and retaining economic benefits within the region.

Furthermore, a proactive approach to public engagement is essential. Consultation processes should not be reduced to formalities but must provide real opportunities for communities to shape project design and implementation. In economically weaker regions, in which renewable energy projects are often perceived as benefiting external investors while imposing burdens on local populations, equitable benefit-sharing mechanisms are crucial. Financial participation models, local value creation, and targeted economic development programs can help strengthen social acceptance and reinforce the legitimacy of the energy transition [28,175,176].

Ultimately, our findings suggest that local opposition—often rooted in concrete, place-based concerns rather than ideological extremism—can signal democratic vitality. However, such conflict strengthens democracy only if it unfolds through fair, inclusive, and transparent deliberation that accommodates diverse perspectives without marginalizing dissent. The future of the *Energiewende* lies not in suppressing conflict, but in fostering open, democratic negotiation at the local level, where disagreement is not only tolerated, but recognized as essential to democratic legitimacy.

While local resistance has been well-documented in the literature, this study adds by systematically linking it to narrative strategies and political mobilization in the German context. Crucially, we show that much opposition is not ideologically driven, but reflects deeper frustrations with democratic procedures, distributive fairness, and perceived exclusion. This differentiation advances debates on legitimacy in energy governance [177–180].

Finally, further research is needed to examine the long-term role of populist narratives in energy and infrastructure conflicts. Future studies should investigate the conditions under which populist narratives gain traction, their impact on public support for the energy transition, and how different forms of citizen participation influence populist mobilization [181]. A comparative perspective would also be valuable in determining whether the patterns observed in Germany apply to other countries undergoing similar energy transitions.

Overall, energy transitions present both significant opportunities for civic engagement and major challenges related to conflict resolution, social equity, and public participation. These challenges are particularly pronounced in regions in which local identities are closely tied to the landscape and where the perceived distribution of costs and benefits is uneven. A socially sustainable energy transition requires a nuanced, justice-oriented approach that prioritizes procedural fairness, distributive equity, and democratic participation. Only through such an inclusive strategy can the energy transition be not only technologically and environmentally successful but also socially accepted and politically stable.

CRedit author statement

The corresponding author is responsible for ensuring that the descriptions are accurate and agreed by all authors.

Jörg Radtke: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision, Project administration, Funding acquisition.

David Löw-Beer: Methodology, Validation, Formal analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization

Appendix

Table A1

Overview of interviewed persons in the case studies.

No.	Location	Type of Conflict	Thematic Focus/Societal Sector	Year
1	Bavaria (<i>Ebersberg</i>)	Wind Power	Politics and administration	2021
2	Bavaria (<i>Ebersberg</i>)	Wind Power	Opponents	2021
3	Bavaria (<i>Ebersberg</i>)	Wind Power	Opponents	2021
4	Bavaria (<i>Ebersberg</i>)	Wind Power	Nature and environmental protection	2021
5	Bavaria (<i>Ebersberg</i>)	Wind Power	Politics and administration	2021
6	Bystanders (<i>cross-case distribution</i>)	Diverse	Regional economy	2020
7	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
8	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
9	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
10	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
11	Bystanders (<i>cross-case distribution</i>)	Diverse	Opponents	2020
12	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
13	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
14	Bystanders (<i>cross-case distribution</i>)	Diverse	Civil society	2020
15	Bystanders (<i>cross-case distribution</i>)	Diverse	Civil society	2020
16	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
17	Bystanders (<i>cross-case distribution</i>)	Diverse	Politics and administration	2020
18	Bystanders (<i>cross-case distribution</i>)	Diverse	Civil society	2020
19	Bystanders (<i>cross-case distribution</i>)	Diverse	Civil society	2020
20	Bystanders (<i>cross-case distribution</i>)	Diverse	Nature and environmental protection	2021
21	Bystanders (<i>cross-case distribution</i>)	Diverse	Press	2021
22	Bystanders (<i>cross-case distribution</i>)	Diverse	Nature and environmental protection	2021
23	Bystanders (<i>cross-case distribution</i>)	Diverse	Civil society	2021
24	Bystanders (<i>cross-case distribution</i>)	Diverse	Nature and environmental protection	2021
25	<i>Juraleitung</i> (Bavaria)	Power Line	Opponents	2021
26	<i>Juraleitung</i> (Bavaria)	Power Line	Opponents	2021
27	<i>Juraleitung</i> (Bavaria)	Power Line	Nature and environmental protection	2022
28	<i>Juraleitung</i> (Bavaria)	Power Line	Opponents	2022
29	<i>Juraleitung</i> (Bavaria)	Power Line	Opponents	2022
30	<i>Juraleitung</i> (Bavaria)	Power Line	Opponents	2022
31	<i>Juraleitung</i> (Bavaria)	Power Line	Regional economy	2022
32	<i>Juraleitung</i> (Bavaria)	Power Line	Politics and administration	2022
33	<i>Juraleitung</i> (Bavaria)	Power Line	Mediation and project organisers	2022
34	<i>Juraleitung</i> (Bavaria)	Power Line	Mediation and project organisers	2022
35	<i>Ultranet</i> (Rhineland-Palatinate)	Power Line	Politics and administration	2021
36	<i>Ultranet</i> (Rhineland-Palatinate)	Power Line	Opponents	2021
37	<i>Ultranet</i> (Rhineland-Palatinate)	Power Line	Opponents	2021
38	<i>Ultranet</i> (Rhineland-Palatinate)	Power Line	Opponents	2021
39	<i>Ultranet</i> (Rhineland-Palatinate)	Power Line	Mediation and project organisers	2021
40	<i>Ultranet</i> (Rhineland-Palatinate)	Power Line	Opponents	2021
41	Baden-Wuerttemberg	Wind Power	Nature and environmental protection	2021
42	Baden-Wuerttemberg	Wind Power	Mediation and project organisers	2022
43	Brandenburg (<i>Crussow</i>)	Wind Power	Opponents	2021
44	Hesse (<i>Odenwald</i>)	Wind Power	Regional economy	2022
45	Hesse (<i>Odenwald</i>)	Wind Power	Opponents	2021
46	Hesse (<i>Odenwald</i>)	Wind Power	Nature and environmental protection	2021
47	Hesse (<i>Odenwald</i>)	Wind Power	Nature and environmental protection	2022
48	Hesse (<i>Odenwald</i>)	Wind Power	Opponents	2022
49	Hesse (<i>Odenwald</i>)	Wind Power	Politics and administration	2022
50	Hesse (<i>Odenwald</i>)	Wind Power	Politics and administration	2022
51	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Nature and environmental protection	2021

(continued on next page)

Table A1 (continued)

No.	Location	Type of Conflict	Thematic Focus/Societal Sector	Year
52	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Opponents	2021
53	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Opponents	2021
54	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Politics and administration	2021
55	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Opponents	2021
56	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Opponents	2021
57	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Politics and administration	2021
58	Mecklenburg-Western Pomerania (<i>Friedländer Wiese</i>)	Wind Power	Politics and administration	2021

Table A2

Overview of the research and coding categories of the qualitative data analysis.

No.	Research Categories	Coding Categories	Coding Schemes
1	Biography, Life Situation and Attitude of the Interviewees	Personal Attachment to the Place of Residence Work/Commitment Life Course/Current Life Situation Attitudes/Motivations Relations/Networks	Deductive Deductive Deductive Deductive Deductive
2	General Conditions in the Region	Historical Development Ecological Conditions Socio-economic Conditions Demographic Development Regional Development/Structural Change Influential Actors in the Region Co-Conflicts Historical Development Ecological Conditions Socio-economic Conditions Demographic Development Regional Development/Structural Change Influential Actors in the Region Co-Conflicts	Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive Deductive
3	Media	National Media Local Media Social Media	Deductive Deductive Deductive
4	Conflicts/Protests	Criticism of the Process Subject of Conflict Understanding of Conflict Conflict Resolution Arenas/Modes Conflict History/Key Events Actors/Conflict Parties Alliances/Networks	Deductive Deductive Deductive Deductive Deductive Deductive Deductive
5	Conflict Issues	Generational Gaps and Identity Loss Nature Conservation vs. Energy Transition Citizen Participation and Voice Distrust in Top-down Governance Structures Conflicts of Interest and Transparency Technology Change and Infrastructure Economic vs. Ecological Futures	Inductive Inductive Inductive Inductive Inductive Inductive Inductive
6	Conflict Management	Conflict Dynamics Conflict Management Strategies Influence of Actors Framing of Conflicts Framing through Personal Responsibility and Action Conflict Avoidance through Constructive Engagement Use of Public Platforms to Counter Criticism "Doers vs. Complainers" Narrative Influence of Informal Networks Frustration with Procedural Rigidity Desire for Flexible and Responsive Governance	Inductive Inductive Inductive Inductive Inductive Inductive Inductive Inductive Inductive Inductive Inductive
7	<i>Energiewende</i>	Alternative Proposals for the <i>Energiewende</i> Positive View Negative View Political governance Implementation of the <i>Energiewende</i>	Deductive Deductive Deductive Deductive Deductive
8	Conceptions of Democracy	Citizen Participation and Voice Transparency and Information Flow Interest Representation and Lobbying Interest Representation and Citizen Initiatives (Alternative Formulation) Accountability and Responsibility Local Agency and Self-determination Distrust in Bureaucratic Systems Civic Engagement as Democratic Practice	Inductive Inductive Inductive Inductive Inductive Inductive Inductive Inductive

(continued on next page)

Table A2 (continued)

No,	Research Categories	Coding Categories	Coding Schemes
9	Perception of Politics	Democracy through Action, not Ideology	Inductive
		Conflict between Formal Authority and Lived Experience	Inductive
		Desire for Dialogue-based Governance	Inductive
		Regional Planning Association	Deductive
		Political Parties	Deductive
		Politics at Local/Regional Level	Deductive
		Politics at Federal Level	Deductive
		Politics at State Level	Deductive
		Coal Commission	Deductive
10	Intermediaries	EU Politics	Deductive
		Interest Representation and Advocacy Groups	Inductive
		Media and Public Discourse	Inductive
		Authorities and Public Administration	Inductive
		Voluntary Associations as Community Connectors	Inductive
		Local Business Owners as Bridge-builders	Inductive
		Women as Local Leaders	Inductive
		NGOs and Civic Actors as Facilitators	Inductive
		Entrepreneurs as Social Innovators	Inductive
		Frustration with Political Gatekeepers	Inductive
11	Participation	Citizen Participation and Voice	Inductive
		Information Flow and Transparency	Inductive
		Civic Engagement and Grassroots Initiative	Inductive
		Initiative-driven Participation	Inductive
		Bottom-up Project Development	Inductive
		Co-creation through Workshops and Networks	Inductive
		Lack of Formal Participation Pathways	Inductive
		Political Fatigue vs. Practical Commitment	Inductive
		Community Organizing as Substitute for Public Support	Inductive
		Spatial Perception/Place Attachment	Deductive
12	Self-Perception	“Us” – Group Construction	Deductive
		Description of People in the Region	Deductive
13	External Perception	“Those at the Top” (elites)	Deductive
		“The Others”	Deductive
		Infrastructure and Public Services	Inductive
14	Urban-Rural	Natural Environment and Environmental Protection	Inductive
		Structural Change and Outmigration	Inductive
		Pride in Local Identity and Belonging	Inductive
		Perceived Neglect by Central Institutions	Inductive
		Resistance to Urban-centric Decision-making	Inductive
		Rural Innovation and Resourcefulness	Inductive
		Challenges of Youth Retention	Inductive
		“Smartphone Culture” vs. “Hands-on Culture”	Inductive

Data availability

The data that has been used is confidential.

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