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Another world is possible? – Climate movements' bounded politicization between science and politics

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How we have come to think about climate futures has predominantly been shaped by science- and expert-driven assessments. As research turns to the role of future visions as a driver of social change and overcoming political gridlock, political struggles are understood as conflicts over making (alternative) desirable futures socially performative. The recent advent of the new climate movements (NCMs) has given rise to the assumption that they could contribute to a re-politicization of climate politics by introducing alternative future visions. Their names and slogans articulate future expectations, such as futures "worth studying for" (Fridays for Future) or averting extinction (Extinction Rebellion). Yet, research on the politicizing qualities of the NCMs is inconclusive. I use a new framework for examining (de-)politicization dynamics to study public communication of German factions of both movements from 2019 to 2022. The results underscore climate movements' strong affiliation to science from their inception, yet over time, increasing attempts to adhere to principles of climate justice. However, climate movements still struggle to re-politicize climate futures beyond dominant positive visions of modernization and negative visions of collapse. I argue that this *bounded politicization* is indicative of the broader discursive dynamics that have weakened the ability to formulate alternative visions and discuss to what extent the centrality of scientific imaginative logics and understandings of the science–policy interface act to inhibit the articulation of alternative visions.

KEYWORDS

politicization, de-politicization, climate politics, climate movements, environmental activism, science-policy interface, future visions, temporality

1 Introduction

Climate change already affects the life of many in the present, however, in its dominant public perception in the Global North, it is (still) a problem defined in future tense. Climate futures, expressed through hopes, expectations, or assumed losses are prominently articulated in the names and slogans of prominent new climate movements (NCMs). Fridays for Future (FFF), founded in 2018 in Sweden and soon in many other countries, claims to fight for futures 'worth studying for'. Extinction Rebellion (XR) was founded in 2018 in the UK and soon spread globally, presenting a future vision of 'extinction' both through their slogans and performances such as 'die-ins'. NCMs have been associated with a rise in the public salience and political urgency around climate change, after mobilizing millions of protesters worldwide in 2019, and are attributed to agenda-setting successes, thereby increasing political urgency to

enact climate policies (De Moor et al., 2021). These accomplishments are undisputed (Fisher and Nasrin, 2021); however, the contribution of NCM's to introduce novel understandings and alternative imaginaries that drive deeper social and political change remains unclear. This question looms large considering recent developments in the context of climate politics. While ambition levels have risen, and recent events have strengthened the legal and political base for climate action, researchers have identified a prevailing implementation gap between pledges and actual emission reductions (Stoddard et al., 2021; Perino et al., 2022; Engels and Marotzke, 2023), and a deepening of narrow market-led, technocratic visions of fighting climate change (Asayama and Hulme, 2019; Oomen, 2021; Aykut et al., 2022).

This serves as a backdrop for an inquiry into the extent of politicizing qualities within the NCMs presentation of climate futures. Re-politicization is understood as a challenge to the post-political state of climate politics (Swyngedouw, 2010), defined through trends of technocracy, the foreclosure of deeper political and social questions, and the postulation of "non-negotiable truths" for consensual policy-making (Blühdorn and Deflorian, 2021; Marquardt and Lederer, 2022). Overcoming imaginary lock-ins constitutes a challenge (Kenis and Mathijs, 2014; Marquardt and Nasiritousi, 2022). Yet, scholars from different fields such as sustainability studies and science & technology studies (STS) emphasize the need to go beyond de-politicized, narrow understandings of decarbonization and transformation, and instead call for a stronger consideration of conflict, values and worldviews (Strand et al., 2018; Veland et al., 2018; van Beek et al., 2022). Climate (justice) movements have, for long, promoted anti-capitalist, justice-centered and system-critical understandings of climate change (Parks and Donatella, 2014; Schlosberg and Collins, 2014). The literature on NCMs is so far inconclusive – one the one hand, their discourse features technocratic notions, and the other hand, they refer to principles of climate justice and a critique the economic order (Marquardt, 2020; Zulianello and Ceccobelli, 2020; Kenis, 2021; Knops and De Vydt, 2024).

To advance our understanding of (de-)politicization dynamics around the issue of climate change, I make two contributions: (1) I propose a new framework to study (de)-politicization dynamics related to future-narratives in climate politics; (2) I apply this framework in a comparative case study of FFF and XR in Germany, based on document data from 2019 to 2022. I analyze how two movement groups, in their public communication, construct climate future visions, and how this contributes to the re-politicization of climate future visions. The results suggest that NCMs future narratives entail both politicizing and de-politicizing elements, yet there is an overall struggle to re-politicize climate futures. I discuss these struggles as situated within process understandings, linking to understandings of *consensus* and *urgency* which are closely linked to scientific understandings of climate futures. This *bounded politicization* reflects both a growing distance of climate movements from political and economic systems and the dominant modernization paradigm, while struggling to translate this into positive alternative imaginations.

2 Theoretical considerations

2.1 Future visions and post-politics

The future is a social and cultural fact (Appadurai, 2013; Beckert and Suckert, 2021). Understandings of temporality and of futures influence present actions, as expectations, projections, imaginaries or future visions (Mische, 2014; Jasanoff and Kim, 2015; Beckert, 2016). The 'politics of imagination' (Hajer and Versteeg, 2019; Oomen, 2023) describes political conflicts, such as climate change, as conflicts over different future imaginations and expectations, with actors aiming to make certain images of the future persuasive (Oomen et al., 2022). Broader changes in society are understood to be influenced by changes in the imaginative space of societies and the 'decolonization' of the future from dominant, deeply engrained preconceptions such as certain norms, worldviews or understandings of social order (Jasanoff and Kim, 2013; Feola, 2019). Such struggles are typically understood as interplay of dominant and alternative future-related narratives, both motivated by deeper meta-narratives (Hajer, 1995) and sociotechnical imaginaries of desirable futures, technological development and social order (Jasanoff and Kim, 2009). Institutionalized, materialized and stabilized understandings of desirable futures contribute to the continuation of certain future narratives linked to ideas of progress, modernity and growth, upholding a 'growthist' culture (Schmelzer, 2016; Suckert, 2022). Many sustainability scholars identify social and political inertia, a prevailing dominance of incremental and narrow understandings of change (Adloff and Neckel, 2019; Stoddard et al., 2021), as well as creating powerful imaginary or discursive lock-ins (Marquardt and Nasiritousi, 2022; Simoens et al., 2022) as key obstacles to 'unlocking' transformative change (Strand et al., 2018; Veland et al., 2018). Therefore, the question of how imaginations of possible climate futures become constructed, stabilized and contested is crucial to the politics of climate change, as well as critically connected to dynamics of (de-)politicization.

This connects to the diagnosis of a *post-political* state of climate change, which states that there is a need for alternative visions to go beyond narrow, economic and technology-centered thinking. According to Swyngedouw, "climate change has no positively embodied political name or signifier" (Swyngedouw, 2011, 271), meaning that in post-political discourses, visions mainly exist in negation, as catastrophe(s) to be averted. Apocalyptic imaginaries have been discussed as contributing factor for de-politicizing dynamics through their focus on emergency and deadlines (Asayama, 2021; Hayes and MacGregor, 2023). Furthermore, they tend to correspond with positive visions of modernity, reducing the debate to technocratic understandings around scientific rationality and emissions, exemplified through discourses around ecological modernization (Bäckstrand and Lövbrand, 2019; Machin, 2020; Leipold, 2021). Ecological modernization builds upon a "master narrative for innovation and growth" (Strand et al., 2018, p. 1850). Taken together, this dimension of de-politicization concerns the failure to consider alternative visions, which effectively narrows the space for societal trajectories, and inhibits linking climate change to questions of the social order (Paterson, 2021; Machin, 2022). Climate/environmental justice and system change visions have been described as influential counter-discourse, mainly supported by non-state civil society and Global South actors (Newell, 2006; Parks and Donatella, 2014), and linked to various visions of transformative socio-ecological change, such as Green (New) Deals or de-growth, which all link climate change to other societal problems (Demaria et al., 2019; Stuart et al., 2019; Hickel, 2021; Ramcilovic-Suominen, 2023). Generally, the uptake of alternative visions can be considered politicizing, as it broadens the consideration of different social and political trajectories, challenging the quasi-naturalized meta-narratives.

Furthermore, politicization is said to take place when actors resist their (non-)role in society (Rancière, 2002). Yet, popular climate change narratives are particularly prone to reducing representation, as diverse interests and vulnerabilities tend to be subsumed into a "global we" fighting against the climate catastrophe. This framing is void of identity frames, which are widely assumed to provide an important basis for political mobilization (McAdam, 2017; Wetts, 2019; Tschötschel, 2023). Not at last, it concerns the authority to speak about climate futures and the agency to make visions become relevant (Leipold and Winkel, 2017; Beckert and Suckert, 2021). As climate change came to public understanding through scientific and quantified ways of representing futures, in particular through the utilization of modeling techniques (Aykut et al., 2019; Braunreiter et al., 2021), scholars highlighted the "cultural authority" of climate science over climate futures (Rödder et al., 2020). The reports of the Intergovernmental Panel on Climate Change (IPCC) shape public, medial and political understandings of possible and plausible climate futures, communicating the risks of future catastrophic effects (Eriksson and Reischl, 2019; Guenther et al., 2024). The IPCCs relatively "generic, untailored and untargeted" communication (Howarth and Black 2015, p. 506) is seen as inadequate as a discursive mode for forming stronger engagement in climate politics (Bellamy, 2023).

Following this, the 'ways of seeing' (Oomen, 2021), meaning which imaginative logics are used, crucially shape the debate over climate politics. Different imaginative logics cast "how" futures are represented, through numerical, artistic, emotional, or temporal logics, as well as logics of appropriateness (valuable, right, reasonable), of desirability or necessity (Mische, 2014; Kleres and Wettergren, 2017; Oomen et al., 2022, p. 262). Imaginative logics also relate to who is able to contribute to the formulation and negotiation of visions and refer to the context through which they become meaningful. This especially relates to the critique of 'climate reductionism' (Hulme, 2011) and a dominance of a 'numerical logic' over other ways of seeing, such as cultural or political (Swyngedouw, 2010; Beck and Mahony, 2018b; Hulme, 2020). This is consequential, as imaginations of possible and desirable futures, such as those produced in the context of the IPCC, fundamentally shape present action and strategies, and are thereby performative in their production of those imagined futures (Beck and Mahony, 2018a). Meanwhile, the models' underlying future imaginations do not normally consider major institutional, economic or social changes (Low and Schäfer, 2020; Braunreiter et al., 2021; van Beek et al., 2022). A scientization of climate change debates is usually associated with a reproduction rather than challenge of underlying hegemonic understandings as the basis for climate governance, while simultaneously urging for consensus on seemingly neutral, techno-scientific questions (Swyngedouw, 2010, p. 223). This de-politicization is generally understood to reduce the space for contestation of contingent social relations (Blühdorn and Deflorian, 2021; Marquardt and Lederer, 2022).

The question of the centrality of 'the science' also concerns the debate about 'consensus' and 'critical' perspectives on climate change, highlighting the divergent understandings of the nature of politicization and how climate change should be governed: through stronger consensus, or by making power, values and conflict behind climate transformations visible? While many studies problematize the politicization over climate science (McCright and Dunlap, 2011; Brulle et al., 2012; Chinn et al., 2020), Pepermans and Maeseele instead identify an "excess of de-politicization" (Pepermans and Maeseele, 2016, p. 481) that shapes public and political discussions around climate change. An idea of '*evidence first*' describes a key orientation in understanding the link between climate science and politics: first, science enlightens politics, based on which political action can follow (Grundmann and Rödder, 2019), which translates to the need for the communication of risk and awareness of climate change. This linear model has been challenged by sustainability and STS scholars, emphasizing that climate change should rather be understood as a socially wicked problem (Levin et al., 2012; Beck and Oomen, 2021).

Summing up, environmental and climate discourses are understood as prone to de-politicization, as shown by a number of studies and contributions (e.g., Swyngedouw, 2010; Kenis and Mathijs, 2014; Pepermans and Maeseele, 2016; Machin, 2020). Politicization would then constitute the elevation of crucial questions concerning power, the social and political order, norms, culture and institutions towards the political sphere and societal debate, which allows for the pluralization of actors, perspectives and pathways, as well as alternative future visions to be formulated.

2.2 Climate movement temporalities and future visions

The post-political state stands against an understanding of social movements as carriers of impulses for politicization. Social movements are generally understood as carriers of beliefs and visions of the future, and through narratives and collective action frames, construct meanings around societal issues (Polletta, 1998; Benford and Snow, 2000; Davis, 2002). As actors outside of institutional power structures, climate movements are seen as potential agents of politicization, as they mobilize large numbers of people and, through their imaginative power, may promote alternative narratives in public and political discourses, or prefigure alternative ways of living (Gillan and Edwards, 2020; Machin, 2022; Oomen, 2023). Environmental and climate (justice) movements have long mobilized against climate inaction, as well as narrow, technocratic understandings of climate change (Newell, 2006; Parks and Donatella, 2014; Schlosberg and Collins, 2014). However, at the same time, social movements often "struggle against pre-existing cultural and institutional narratives and the structures of meaning and power they convey" (Wittmayer et al., 2019; citing Davis, 2002, p. 25).

With the advent of NCMs such as FFF and XR from 2018, scholars have commented on both the similarities and departures to the earlier environmental movements. They identified particular changes, including a return to more a state-centric understanding of climate politics, less focus on global climate justice frames, relatively a-political stances and a focus on science (De Moor et al., 2021; Haunss et al., 2023). So far, only few studies have focused on the understanding and integration of climate science in NCMs discourse (Buzogány and Scherhaufer, 2022; Soßdorf and Burgi, 2022; Rödder and Pavenstädt, 2023; Thierry, 2023). NCMs would tend towards strengthening the (moral) authority of science, yet they also make selective use of science, and re-frame scientific visions through simplification, dramatization, and emotional or moral appeals. A number of studies has focused on politicizing aspects of the new wave of climate activism through agency, such as the drawing of an intergenerational fault in order to

TABLE 1 Dimensions for studying dynamics of (de-)politicization.

Dimensions	Questions
Vision	Linking: how are climate future visions connecting climate change to other societal issues and interests? Broadening: are novel imaginations introduced that contribute to a multiplicity of political and societal trajectories?
Agency	Authority: who is given authority to speak about climate futures, and whose perspectives, visions, pathways and solutions are elevated? Representation: how do future visions recognize the diversity of interests and perspectives on climate change?
Process	Seeing: What are the imaginative logics that guide the formulation of future visions and socio-political trajectories? Governing: What kinds of processes between science, society and policy are envisioned in order to identify solutions and decide on future pathways?

Own table, based on literature review.

form a collective identity (Kenis, 2021; Holmberg and Alvinius, 2022), and a newly formed interest in political participation (Fisher, 2019). Research on their discourse showed ambiguous results, revealing both radical and moderate imaginaries (Marquardt, 2020; Svensson and Wahlström, 2023). Some interpret NCMs as an exemplification of the fight against narratives of everlasting technological progress and visions of control (Knops, 2021; Friberg, 2022), others see the risk of NCMs reproducing scientific authority and technocracy, and with it, rather gradualist ideas of political change (Zulianello and Ceccobelli, 2020; Stuart, 2022). Especially temporalities, namely the use of urgency, deadlines and (post-)apocalyptic visions have been subject to scholarly debate on (de-)politicization (De Moor, 2023; Kenis, 2023). Earlier contributions to the post-political thesis have argued similarly that apocalyptic visions may have a stabilizing effect on socio-political structures, as they correspond to a narrative of control (Swyngedouw, 2013). A focus on 'emergency time' could inhibit the engagement with important questions of material interests, socio-economic power structures, and dominant values (Hayes and MacGregor, 2023, p. 182). Post-apocalyptic narratives could potentially challenge modernist understandings of progress and control (Cassegård and Thörn, 2018), yet they seem for now inconsequential in affecting movement strategies which instead "perpetuat[e] (eco)modernistic notions of solution, control and progress" (De Moor and Marquardt, 2023, pp. 7–8).

2.3 Re-politicizing the climate by narrating the future?

The literature review (see 2.1 and 2.2) has highlighted the connections between post-politics, climate science–policy interfaces, and the crucial role of imaginaries for processes of politicization and social change. Given the inconclusive research on NCMs, I argue that a more detailed analytical framework can shed light on the different dimensions that constitute dynamics of (de-)politicization, and will make use of a framework introduced by Pavenstädt and Rödder (2024) and extended for this article in order to incorporate insights from studies on the role of future visions and imaginaries.[1] It defines three dimensions: First, *visions* that are brought forward that may broaden future trajectories and which may politicize climate discourses by linking climate change to other issues. Visions appear key to (de-) politicization, as they connect to (counter-)hegemonic ideas of future societies, and plausibilize pathways, including responsible actors, preferable courses of action, and solutions deemed possible or acceptable. This, in turn, broadens or narrows the scope for imagining alternative socio-political trajectories. Second, politicization on the dimension of *agency* refers to the representation of identity, diverse voices and previously marginalized perspectives, as well as how activists assume authority to formulate and speak about climate future visions, or if this authority is ascribed to other agents, e.g., scientists. This ties in with a third dimension, *process*. This dimension covers understandings of how to organize governance processes to arrive at meaningful climate action, such as whether a consensus or conflict-perspective is mobilized, as well as which imaginative logics and temporalities are mobilized to make sense of possible futures. These dimensions interact with each other. For example, *process* understandings affect the imagined scope for societal *agency*, as well as which *visions* are considered necessary, possible, plausible or desirable (Oomen, 2021; De Moor, 2023, p. 173). I will center my analysis around the dynamics of these dimensions: *visions*, *agency* and *process*, to examine the future-related narratives of NCMs for their de- and re-politicizing qualities, based on the questions in Table 1.

3 Methodology

3.1 Cases: Fridays for Future and Extinction Rebellion Germany

The study is designed as a comparative case study between the two German factions of the transnational climate movements Fridays for Future and Extinction Rebellion using a most similar research design (Seawright and Gerring, 2008; Tarrow, 2010). Both movements originated around the same time and have their origins in Global North countries, Sweden and the UK, respectively (De Moor et al., 2021; Gardner et al., 2022). Both groups were at the forefront of the advent of new climate activism in 2018–2019, and started visible public campaigns through school strikes and through civil disobedience action, through which they came to be prominent groups in Germany (Haunss and Sommer, 2020). A key difference can be seen in their protest repertoire, and assumed radicalism of the message, where XR is more closely associated with the demand for 'system change' and radical transformation. Yet, both movements relate strongly to 'listen to the science' and 'tell the truth' to go 'beyond politics.'

1 The principle framework of the three dimensions visions, agency and process was introduced and elaborated in Pavenstädt and Rödder (2024). For this article, the framework has been extended through the inclusion of two elements per dimensions, represented through the questions in Table 1.

TABLE 2 Corpus for narrative analysis 2019 and 2021–22.

	FFF GER		XR GER	
Year	2019	2021–22	2019	2021–22
Website (W)	6	2	9	6
News/Blogs (N)	70	11 (138)[b]	41	6 (55)
Press releases (PR)	12	10 (55)	25	7 (25)
Media data (OMM)	209[a]	–	27	–
Total	**297**	**23 (195)**	**102**	**19 (86)**

[a]Theoretical sampling of media data for FFF Germany: 15 August 2019–17 September 2019: 209 articles. [b]Theoretical sampling of document data for 2021–22, based on two steps, considering $N = 281$ documents. Bracketed numbers represent total number of articles per text type before theoretical sampling in 2021-22.

For the analysis, I considered two timeframes: 2019 and 2021–22. While FFF and XR have started to mobilize in 2018 against the background of populist backlash and the rise of post-truth populism, as well as the IPCC's special report on 1.5°C (IPCC, 2018), both movements had their strongest mobilization in 2019. FFF reported to have mobilized over 1.4 million participants to their largest school strike in September 2019,[2] and XR reported that over 6,000 activists engaged in civil disobedience action during a protest week in Berlin in October 2019.[3] Climate change became highly relevant issue in public and political debates, and the German government reacted with the first climate protection law.[4] The pandemic severely impacted the capacity of NCMs to mobilize, and FFF and XR sought to engage in alternative protest practices (Christou et al., 2023; Haßler et al., 2023). While 2019 covers the nascent phase of NCMs, the timeframe 2021–22 covers the further development of the movements, including the decision of the German Federal Constitutional Court against the climate protection law, the return to street protests after the pandemic, major climate strikes and action weeks around the German federal election, two climate conference, the rise of the Green party to government, as well as rising conflict over expanding coal mining to the former village of Lützerath.

3.2 Data and analysis

In order to study the (de-)politicizing qualities in FFF's and XR's public communication, I follow an interpretative approach, conducting a qualitative narrative discourse analysis, with a specific focus on how climate futures are socially constructed in NCMs' narratives. I understand narratives as regulatory systems in discourses, structuring embedded temporalities of past, present and future, giving meaning and a logical order to social phenomena, ascribing roles and agency, and relating to broader imaginaries or meta-discourses deeply held and culturally resonant in society (Davis, 2002; Jasanoff and Kim, 2015; Oomen et al., 2022). Thus, narratives, and their embedded temporalities and future imaginations enable or limit the space and scope for political action and coalition-building (Leipold and Winkel, 2017; Hajer and Versteeg, 2019; Beckert and Suckert, 2021). The analysis builds on the examination of public communication, using a range of document types with $N = 399$ for the time frame 2019. Document data (websites, blogs, and press releases) was retrieved from the movements' websites.[5] Additionally, a media data sample was used to include appearances in media articles. I used the Online Media Monitor (OMM) database (Brüggemann et al., 2020).[6] The analysis started with the identification of narratives as means to identify the overarching structure of NCMs discourses (Viehöver, 2014; Meer, 2023) and followed a deductive-inductive approach. Each text was coded by two researchers, including the author, using MaxQDA. Starting from deductive narrative categories (problem definition/setting, actors, causal links, solutions, visions, and themes), the codebook was then continuously revised through iterative steps, where the coders would compare and discuss codes, and add additional codes that emerged from the material (DeCuir-Gunby et al., 2011). From these structural codes, inductive manifestations (such as different problem definitions, solutions) were identified inductively as they emerged from the material. All codes were analyzed for recurring patterns, yielding in the identification of five key narratives (see Table 2). The key narratives and emerging patterns found throughout the material were then the basis to inquire the dynamics of (de-)politicization, comparing the observed patterns along the three key dimensions (see Table 1). In order to account for

2 https://fridaysforfuture.de/ruckblick-allefuersklima1/

3 https://extinctionrebellion.de/aktionen/erfolge/ (number of protesters as reported by XR Germany).

4 https://www.bundestag.de/dokumente/textarchiv/2019/kw46-de-klimaschutzgesetz-freitag-667244

5 The text types covered in the sample serve different communicative goals. While press releases and media statements represent communication that is regarded key to the movement organization, news articles, blogs and websites serve multiple purposes such as information, recruiting and inner-movement dialogue, and may provide deeper insights into the narratives of the NCMs. All text types are typically lengthier and more detailed, making them particularly suitable for an in-depth qualitative analysis.

6 NCMs are "polyphonic" and carry diverse ideas, understandings and visions connected to climate change (Bowman, 2020; De Moor et al., 2020), the primary focus of this research was to identify key narratives in public communication, which is especially relevant for how the NCMs are perceived in public and political debates, and which claims they promote to these debates. However, the inclusion of blog articles provides a first tentative step into inquiring the polyphony of movement voices beyond press releases and statements. These differences are highlighted in the results. Further research could investigate the differences between inner polyphony and 'movement-sanctioned' communication, meaning those voices published within movement channels, e.g., through in-depth research on activists, or social media posts of individual activists.

TABLE 3 overview of the key narratives.

"Evidence first"	"Intergenerational divide"	"Climate justice and intersectionality"	"System change"	"Political fight"
Focus on the facts and science in order to create broad awareness and feeling of urgency. Political action will be re-aligned with scientifically-described timelines and temperature goals, if there is enough pressure, ensuring 1.5°C and human survival, or risk for extreme negative consequences or extinction.	Intergenerational injustice due to the greenhouse gas emissions caused by former generations. Fast action on climate is a matter of justice and future freedom in order to secure the future of the children, and restore the intergenerational contract. Otherwise, there may be no future.	Climate change is not just a natural science issue but one relating to global and social injustices. Various forms of injustices and the historical responsibilities of the Global North have to be acknowledged and remedied in climate policies, or there will be negative consequences mainly for be most vulnerable groups.	Overarching fight against an unjust and "toxic system" which needs to be overcome through rebellious action. Through mobilizing a critical mass, radical transformation will happen, in order to achieve a flourishing and harmonious relationship between society and the environment; however, this is not likely.	Win political power through broad alliance-building and issue-linkage between climate change and other issues, fight against powerful actors in politics and economy. Enact transformative policies that reconcile climate, social justice and the economy.

the developments in the NCMs narratives since 2019, I took an additional purposeful sample of relevant movement documents for 2021 and 2022 (Bowen, 2009; Flick, 2018). For this, I considered all published press releases, news articles and websites published by FFF and XR in Germany in 2021–22 ($N = 281$). I reduced the sample in two steps: First, reading the title and introduction sequences; second, reading and summarizing the full text. I sampled for texts that clearly relate to future visions, as well as articles that are related to major protests or political events, scientific reports, as well as extensive reflection pieces, arriving at $N = 42$ for fine coding (see Table 2). I then coded the material along the codebook and analyzed the results along the three-dimensional framework of visions, agency and process.

4 Results

4.1 2019: a new wave of climate activism

The narrative analysis yielded the identification of five ideal-type narratives: *evidence first, intergenerational divide, system change, climate justice and intersectionality,* and *political fight*. In terms of occurrence in 2019, FFF's communication focused on an *intergenerational divide*-narrative, combined with an *evidence first*-narrative. XR also made extensive use of *evidence first*-narratives, but sought to combine this with a *system change*-narrative. While both movements referred to *climate justice and intersectionality*, this narrative was less emphasized in comparison, and both groups only seldom engaged in a *political fight*-narrative before 2021. Table 3 an overview of its key elements.

FFF understands climate change as a human-made crisis, described as "the biggest crisis of humankind" (FFF_19_N_55),[7] particularly for young and next generations, and a threat for the entire human civilization. Likewise, XR uses the metaphor of a "burning house" and narrates a distinctly negative future of the collapse of ecosystems - "the sixth mass dying" (XR_19_W_4, 7). In light of political failure to adhere to the 1.5°C target, urgent action is necessary to avert a catastrophe, and the crossing of tipping points (XR_19_W_4). Both movements, toned differently, refer to scientific evidence in order to justify their claims, mobilizing an *evidence first*-narrative.

This dualism between political inaction and scientific evidence is at the core of FFF's discourse. Politicians have not acted responsibly, yet they need to ensure to meet the 1.5°C target in "cooperation with the science" (FFF_19_W_1). A lack of understanding, denial, refusal or lack of courage are used as explanations for past political inaction. FFF understands itself as acting "*in the name of science*" (FFF_19_W_3), collaborates with scientists to formulate demands, and sees its protest as way to make the science heard. FFF integrates this with a moral notion of *intergenerational injustice*, highlighting the dire future outlook, identifying themselves as a marginalized group. Inactive politicians, as well as economic actors and lobby interests from the fossil fuel industry would "steal" the future from the children (FFF_19_N_67). This intergenerational fault line is not strongly represented in the narratives of XR, who instead engage in a '*system change*'-narrative that puts seemingly no trust in political and economic actors, who are representative of a "murderous system" (XR_19_W_2, PM_24). As a reaction, FFF demands that science should be the basis of policy-making to achieve climate action, and that policy-makers should work together with scientists on possible solutions. XR, by contrast, wants to trust a citizen assembly, informed by scientists/experts, to deliberate on climate policies (XR_19_W_3). There is a need to tell people 'the truth' about the climate crisis, in order to engage them in civil disobedience to pressure the government. Notably, the truth goes beyond just 'the science' and centers on a moral truth about the 'climate catastrophe,' in contrast to 'lies' told by the media and politicians. Yet, this also builds on the idea of building awareness.

Less frequent, FFF and XR engage in narratives of *climate justice and intersectionality*, highlighting the historical responsibility of Germany and the EU living at the expense of the Global South, the adverse effects of climate change in Global South countries, as well as the need to combine climate protection with other issues, such as anti-fascism. This motivates imaginations of futures to be more democratic, feminist, and just (global, social and intergenerational). However, these futures are rather vague and only refer to general principles, and both movements resist to formulate concrete pathways, measures or ideas for socio-political change.

Media reports mainly reiterate general statements of the movements. XR is portrayed as a radical movement, with controversial reporting about the civil disobedience methods and its distrust against politicians and economic actors, as well as the movements' relation to

7 Refers to the document from the material in which element was found, as "movement_year_document-type_number".

TABLE 4 Differences in key movement narratives between 2019 and 2021–22.

Key narratives	Fridays for future GER		Extinction rebellion GER	
Year	2019	2021–22	2019	2021–22
Evidence first	XX[c]	XX	XX	XX
Intergenerational divide	XX	X	O	O
Climate justice and intersectionality	X	XX	X	XX
System change	O	O	XX	XX
Political fight	O	X	O	X

[c]Frequency of occurrence in the material, from O (low) to XX (strong).

democracy (XR_19_OMM_13). The media reports reproduce the crisis narrative (XR_19_OMM_11, 14), yet tend to undermine the 'system change' message in favor of the *urgency* message. By comparison, FFF is often represented in positive terms, and is hailed for their successes in agenda-setting, moral guidance, and uniting the society against a 'common enemy' (FFF_19_OMM_81). Media reports focus on FFF message to 'listen to the science' (FFF_19_OMM_91) or highlight the science's support of the movement in form of Scientists for Future (FFF_19_OMM_77, 96), and highlight prominent figures and the intergenerational divide-narrative. While some articles highlight that FFF criticizes economic growth (FFF_19_OMM_97), the main demands that are cited are fossil fuel phase-out, CO2 tax, and a general alignment with temperature and emission targets and timelines for keeping the 1.5°C target. Conservative media outlets tend to be more critical and see the youth activist as being instrumentalized by 'the left,' and XR as anti-democratic, and engage in climate delay arguments.

4.2 2021–22: NCM's turn to climate justice

Between 2019 to 2021–22, there are two major developments in the key narratives of FFF and XR: (1) a stronger recognition and use of the *climate justice and intersectionality*-narrative, highlighting global injustices and differentiated responsibilities as well as the effects on different world regions; and (2) a diversification of critical perspectives, which includes stronger notions of issue-linkages, a 'system-critical' rhetoric and imaginations of encompassing changes in societal values, goals and perspectives. Especially in the case of FFF, there are also notions towards the need of organizing (broad) alliances and building political power (*political fight*). The *intergenerational divide*-narrative has become less frequent for FFF, shifting from school strikes to afternoon protests to accommodate workers. It is notable that both movements keep the '*evidence first*'-narrative central to their communication. Table 4 highlights the development over time.

4.3 Dimensions of (de-)politicization

After this brief presentation of key future-narratives as found in the material, I now turn towards the dimensions of *visions*, *agency* and *process* to identify the dynamics of (de-)politicization, which will be presented per dimension, comparing the two timeframes 2019 and 2021–22.

4.3.1 Visions

In 2019, XR and FFF mobilize a critical juncture between action and non-action in line with the temporalities set by the 1.5°C target and model-based pathways found in reports of the IPCC, motivating the understanding of a 'deadline' and 'emergency', as "*time is running out*" (XR_19_W_007) and "*our house is on fire*" (FFF_19_N_10). Both XR and FFF refer to scientific scenarios and models projecting accelerated warming beyond 1.5°C to have drastic negative consequences and cause "*unrepairable damage*" (FFF_19_W_2) in forms of extreme weather like droughts or floods, as well as food shortages, migration, dying of species, destabilization of economic and political systems, and adverse effects on health:

> *"If the planetary boundaries are crossed, however, and thousands of species are extinct, it is already too late for future generations: in order to still prevent this, real action is now needed." (FFF_19_PM_1).*[8]

Positive futures tend to be vague, and closely associated with (technical) targets: FFF imagines "*a future worth living for*" (FFF_PM_1, N_14) as a climate neutral society without fossil fuels until 2030, or 2035 respectively, achieving 1.5°C. While climate justice is mentioned both as a problem and a principle, it is not systemically included in considerations of future pathways, similar to criticism of aspects of the economic system (profits, neoliberalism, and consumption). Proposed solutions and pathways relate mostly to general targets and reforms, such as a CO2 tax, a coal phase-out, a speed limit, or supporting the roll-out of renewable energy to reach 100% clean energy (FFF_19_W_1). Similar for XR, system-critical and climate justice elements articulate a desire to depart towards other political and economic systems, yet again, imaginations tend to be vague. They describe the future as a world with "*flourishing connections within society and with nature*" (XR_19_W_3), without hierarchies and with climate justice. In blog articles, I find references to concepts like circular economy, zero waste or de-growth (XR_19_W_004, N_21), however without becoming a central demand. Instead, XR focuses on communicating the need for emergency action to achieve 'net-zero 2025.'

In 2021–22, gloomy negative futures reported in scientific studies and reports continue to motivate how both NCMs narrate climate futures and temporalities. Both NCMs report the rise of pessimism, de-mobilization and hopelessness given the urgently approaching deadlines, and started considering post-apocalyptic narratives in which disastrous effects can only be mitigated, but not averted: "*it's not about limiting warming to 1.5 – that is over*" (XR_2122_N_46). This frames future action as being about damage control, meaning calculating how

8 Quotes from the material were translated from German to English.

many people will die, how many heat heaves, how many forest fires there will be. Similarly, FFF argues that "*we cannot allow ourselves to give up*" (FFF_2122_N_80), and seek to promote links between climate protection and ideas of a just transformation of society. This corresponds with a stronger use of a *climate justice & intersectionality*-narrative, establishing connections between the climate crisis and other structural injustices. This shift towards narrating the climate crisis as a global and social crisis, as well as a part of an overarching history of global injustices translates into the demand that climate protection needs to happen in line with climate justice. Also, both movements regularly highlight and show their support for protest movements from non-western countries. Moreover, issue-linkages between climate protection and problems like housing, social security, anti-racism and peace show narratives reaching beyond climate change as their sole concern.

A number of articles indicate the existence of more detailed climate future visions beyond targets and timelines. Activists engage in system-critical notions, arguing that the capitalist system itself is "*incompatible with climate protection and planetary limits*" (FFF_2122_N_48). Meanwhile, a blog article series on 'utopian' visions builds on broadening ideas to create synergies between climate protection with positive effects in social welfare, accompanied by an overall value change based on principles of solidarity, localization, circularity, re-distribution of wealth, animal welfare and sufficiency. This represents a departure from techno-modernist and market-led approaches to climate action, where FFF argues that the climate crisis about "*so much more than just CO2*" (FFF_2122_N_34). Notably, while these imaginations do exist within the movement discourse, they are still not integrated as part of their overall political or communicative strategy, or their key political demands.

4.3.2 Agency

The representation of the youth and the resistance against their current role in society can be seen as a key politicizing element of FFF. This *intergenerational divide*-narrative contrasts the 'youth', who has to act responsibly, making sacrifices and fearing for their future, against an older generation, who has acted and continues to act irresponsibly:

> *"Why build on a future that will soon no longer exist?"* (FFF_19_W_3).

In this role, the youth emerges as a formerly unrecognized group to represent (future) injustice. At the same time, FFF positions itself as a broker between politics and science, and argues that they act "*in the name of the science*" (FFF_19_W_3). Their understanding is that through public and political awareness of the science, and a re-orientation of the relationship between science and policy-making, political changes can be achieved. Scientists themselves are supportive of the movement and their claims, and help the movement to formulate demands. Similarly, XR's calls for civil disobedience as a non-violent, yet rebellious resistance against their typical role as (consumers and) citizens in society, and as a "logical consequence" in the face of political inaction (XR_19_N_14). In a sacrificial theme, they declare rebellion against powerful actors like politicians and fossil fuel interests:

> *"We will not stand idly by while the economy and politics lead our societies to disaster. We will fight with conviction, tenacity and peace, in the spirit of all those who have fought for our freedoms before us." (XR_19_W_3).*

XR sees the current political and economic system as unable to act on the climate crisis, and promotes the implementation of a scientists/expert-informed citizen assembly, which they see as a central vehicle for deciding on pathways and solutions. Generally, economic and political actors are depicted as opponents, and key aspects of economic systems (such as profit, neoliberalism, consumption, or growth) become subject to criticism. However, there is also a tendency to frame certain practices as, in moral terms, irresponsible action pursued by proponents of 'business-as-usual' and fossil fuel interests. In 2019, the Global South is mainly depicted as a 'victim' of climate change, highlighting the historical responsibility of the Global North, prevailing power asymmetries and the adverse effects of climate change in the Global South already today.

By 2021–22, the turn towards *climate justice and intersectionality*-narratives has had an influence on the representation of diverse voices. FFF actively refers to the need of representing the voices of the "most affected people & areas" (MAPA) in their activism, which was especially emphasized in international settings such as the COP27 or in international alliances, but also incorporated into their response to the new German federal government:

> *"The climate crisis is a global, social and economic crisis. Climate disasters, such as the floods in July, hit those hardest who are least able to protect themselves from them. Existing injustices such as structural racism, sexism, classism, (neo-)colonialism* etc. *cause the unjust distribution of climate impacts."* (FFF_19_W_2).

Moreover, FFF, in line with reducing the use of an '*intergenerational divide*'-narrative, opted to change their striking tactics to allow employees to join protests. In their calls, they highlight how they represent diverse groups, such as trade unions, sports clubs, traders, farmers, teachers, and promote broader alliances like the social justice campaign "#unteilbar." Yet at the same time, such calls tend to get homogenized as protests for "*our existence, our today, our tomorrow*" (FFF_2122_N_34), narrating that workers should join as without climate protection, there would be no future and no jobs (FFF_2122_PM_14). XR's calls to action for "*everybody concerned about the future of our planet*" (XR_2122_PM_20) also tend towards homogenization, while I also find references to intersecting injustices, or to the demands of civil society in the Global South affected by fossil fuel extraction.

4.3.3 Process

'Unite behind the science!' has been a major slogan for FFF from its inception, and it relates to a key component of how FFF understands pathways of change. As noted before, we find that both movements, in 2019, have focused strongly on proposing *processes*, rather than concrete solutions or visions. Promoting a *consensual* perspective, FFF's goal is to (re-)align political decision-making with the key insights from 'the science':

> *"[..] it was only in Brussels that Greta Thunberg emphasized that we demand that politics should not seek dialogue with us, but with science."* (FFF_19_N_ 10).

Politicians should thus focus on these facts and environmental concerns in all political decisions, as "*you cannot negotiate with the laws of physics*" (FFF_19_W1, N_11, N_19). XR's understanding of process appears more radical, in which XR engages in an

unforgiving rhetoric highlighting the need to change 'the system', built on a deep distrust of key actors:

> *"We understand that we need to organize ourselves to achieve our goals - in the context of XR this means working to balance power by breaking down the usual power structures that dominate our lives." (XR_19_W_004).*

Yet, the logic of their key demands, to "tell the truth, "act now" for net-zero 2025 and a citizen assembly to go 'beyond politics' align with a consensual perspective (XR_19_W_3, 4). It motivates a linear logic of awareness and enlightenment, to which end policy-makers, the public or the citizens engaged in a citizen assembly will realize and act on what is necessary to stay within temperature and carbon limits:

> *"Our focus, on the other hand, is on the creation of decision-making systems such as the Citizens' Assembly. [..] The prerequisite for this, as formulated in demand 1, is that society, politics and the economy become aware of the deadly extent and urgency of the ecological crisis." (XR_19_W_003).*

In 2021–22, scientific temporalities, tipping points and carbon budgets continue to be the main temporality for NCMs, motivating understandings of urgency and impeding deadlines. As the "business-as-usual" of politics is too slow or inadequate, both movements promote processes that bind politics closer to these temporalities. This builds on changes in the epistemic rather than the political order and power structures. XR states that "*the truth is at the core of our theory of change* "(XR_2122_W_4), and FFF has shifted from speaking about the 1.5°C target as a target, and instead calls 1.5°C a 'limit', hereby strengthening the logic of *necessity*. In response to the latest IPCC report, FFF argues:

> *"Everything has been said - now actions count. All political measures must be derived directly from the latest independent scientific findings. To prevent the worst consequences, emissions must be reduced rapidly now." (FFF_2122_PM_37).*

The pathways that are presented here are dependent on the existing institutions and success in creating awareness and (outside) pressure. In the case of FFF, a possible tension within this narrative can be witnessed in their reaction towards the German federal election: while criticizing continuing political inaction, as such that none of the parties has made promises in line with 1.5°C, they appeal to the new government, re-affirming its central agency in the transformation:

> *"During the election campaign, every democratic party committed to the 1.5° target. However, no party has yet presented sufficient plans to implement this. We therefore call on the new coalition to set the right course in the first 100 days in order to be able to meet the 1.5° target." (FFF_2122_W_002).*

Despite the short timescales, XR affirms their demand of 'net-zero 2025', and argues that politics is a hindrance to act on the necessary measures from a scientific perspective, and that such a short timeframe would enforce societies to engage in an emergency response, which could lead to a societal tipping point:

> "*Furthermore, the mere attempt to meet this deadline would require action at the necessary speed […] A "point of no return" will then quickly be reached in society, at which the changes can no longer be reversed*" (XR_2122_W_006).

Even for XR, who imagine a '*system change*' through civil disobedience as necessary, this pathway is enacted through 'truth telling' and state-action, such as emergency states or calling in a citizen assembly. Although they argue for the plurality of perspectives, in that affected groups, experts and scientists should inform the assembly, its primary focus is to construct *consensus*. XR refers to 'the science' as providers of solutions:

> *"[...] Science has been working on solutions for several decades: There is already a plan on the table for every question and every problem." (XR_2122_W_3).*

A number of articles engage in the idea of "climate grief" to in order to understand personal (non-)commitment to climate action (XR_2122_W_4, N_32), and present activists pondering over the right way to communicate drastic negative climate futures more effectively to create a sense of awareness and urgency. Here, they mostly affirm an understanding of a linear process towards awareness (yet, with the need for better communication, e.g., emotional appeals). Finally, some notions found in the material highlight the limits of this approach. For example, one article reflects critically upon the rising pessimism and de-mobilization in climate activism and the role of the 'now or never'-rhetoric that XR has promoted. Others engage more deeply in aspects of power, injustices and underlying structural causes of climate change. FFF thus calls the government to reflect on intersectionality and the interconnections between climate change and other structural injustices, as well as to integrate voices of MAPA in decision-making processes:

> *"They should therefore not only get their land back, but also be included in climate policy negotiations." (FFF_N_80).*

Overall, while multiple perspectives are represented more frequently, governance is imagined with institutionalized actors. Demands for the new government are certified with reference to scientific necessity, reports on the (technical) feasibility of 1.5°C are used to strengthen the authority of their claims, and there is a demand for "*a new trust in science*" (N_104). Additionally, FFF refers to the authority of the rule of law, which has "*confirmed what the natural science has shown (us) for years*" (FFF_2122_PM_12), referring to the decision of the federal constitutional court in Germany against the climate protection law. XR continues to promote the citizen assembly, informed by scientists and experts, and quotes by scientists are used to support the narrative of the possibility of an 'end of civilization' (XR_2122_W_2, 3).

5 Discussion

5.1 Dynamics of (de-)politicization

To sum up the results of applying the framework on dynamics of (de-)politicization, I find diverse notions within the NCMs narratives

that can be interpreted as both de- and re-politicization, which may, in part, explain the diverging results regarding the NCMs in previous research (see 2.2). Both on the dimensions of *agency*, as well as *visions*, I find politicizing elements which link to the formulation of 'youth' as marginalized group in an *intergenerational divide*-narrative, the call for disobedient action, and I find frequent critiques of the current dominant economic and political power structures, which motivates imaginations of a *system change* and *climate justice*. These have especially grown in relevance in 2021–22. Also, both NCMs, over time, more strongly engaged in presenting diverse voices and perspectives on climate change, linking the issues to other (justice) concerns, or highlighting the disperse effects between the Global North and Global South. Yet, while there is an increasing integration of principles of *climate justice*, these are not translated into process understandings that would reflect the encompassing structural societal changes that correspond to the claims of *climate justice* and *system change*. The particular process dimension that is inscribed in the *evidence first*-narrative continues to drive imaginative and temporal logics of apocalypse. This informs the formulation of deadlines, such as 2025 or 2030, urgency temporalities (calls for emergency or crisis responses) and imaginations of extinction or being the last generation. In short, while NCMs have sought to engage in politicizing notions of agency and visions, de-politicization in the process dimensions continues to inhibit the translation of future-related principles into more concrete alternative future visions.

5.2 A bounded politicization?

The results show a nuanced and complex picture, which may be best described as '*bounded politicization*' (Pavenstädt and Rödder, 2024). Two key elements connected to this appear to be the notions of *consensus* and *urgency*, informing how climate movements formulate climate futures, and especially how they understand processes of change. Given the authority of science's future work in the field of climate change, the material showed that the German NCMs strongly associate with the linear model that is inscribed into the logic underlying to work of the IPCC (Grundmann and Rödder, 2019). Scientific evidence or awareness of it is relevant for public debate and informed policy-making, yet, it may overcharge what consensus on the science can actually deliver given the "wicked problem" of climate change (Sarewitz, 2011; Levin et al., 2012), and undermine engagement in the multiple reasons for disagreement or non-action (Hulme, 2009; Pohlmann et al., 2021). By re-iterating carbon budgets, technical feasibility and scientific rationality to highlight the *necessity* of action, the NCMs may seek to make use of the cultural authority of science to certify the demand for radical change. However, as Pepermans and Maeseele (2016) argue, a strong focus on consensus necessarily re-embeds climate politics within current power structures and institutional set-ups, and inhibits deeper critical engagement with dominant meta-narratives. This especially concerns the extent of the transformation to climate neutrality, affecting every sector, existing power structures, the 'imperial way of life', and the state institutions that work to reproduce dominant values and understandings of a good life (Brand and Wissen, 2017; Blühdorn, 2020; Blühdorn et al., 2020; Stoddard et al., 2021).

Many of these systemic issues have indeed been named in a number of documents by the NCMs, and they started forging multi-issue alliances, especially from 2021 to 2022. However, it is the connection to the temporality of urgency that re-affirms a process that focuses on aligning the given political system with an emergency timeline through *consensus*. Other contributions have already highlighted how *urgency*, despite contributing to the NCMs' initial mobilizing power and agenda-setting success, may be limited in sustaining long-term activism, offers only limited agency and may risk de-politicization (De Moor, 2023; Hayes and MacGregor, 2023). In highlighting future catastrophic impacts and the need for urgent (state) responses, both current injustices as well as questions of institutional change or changes in power structures may become underemphasized (Swyngedouw, 2013; Whyte, 2020). Scientists (and experts) are placed in a central position to inform about possible solutions. Yet, as studies from the field of STS show, part of the dominant hegemony of the current political and economic order and adjacent narratives become re-produced in environmental and climate science (Beck and Oomen, 2021; Turnhout, 2024). As suggested by some of the more controversial debates around model-based pathways, such as the introduction of overshoot and the large-scale use of negative emission technologies, or the naturalization of economic growth scenarios (Hickel et al., 2021; Cointe and Pottier, 2023), the danger of co-optation looms large, and may give way towards more interventionist techno-fixes. It has become apparent that large parts of NCMs seek to combine the call for climate action with demands for social and global climate justice and reject an ecological modernization paradigm. However, through communication which is comparably neutral towards the systemic components in terms of pathways, demands and future visions, process understandings may come into tension with principles for transformative *climate justice*.

Previous studies generally report that there are both moderate and radical positions in the NCMs, which in part explains the co-existence of both de- and re-politicizing notions that I also found in the analysis (e.g., Marquardt, 2020; Svensson and Wahlström, 2023). However, the observed pattern of politicizing and de-politicizing elements compares well to other elements, such as the observation that NCMs display a limited trust in political and economic systems, a commitment to climate justice and a rejection of notions of modernity, yet, NCMs continue to understand changes mainly in terms of existing institutional and dominant temporal structures of apocalypse or emergency action and control (Kenis, 2021; Knops, 2021; Knops and De Vydt, 2024). Furthermore, a similar analysis focusing on NCMs in the United States (Pavenstädt and Rödder, 2024) showed an overall politicizing tendency, yet already more elements of conflict around fights for a Green New Deal as early as 2019. Nevertheless, the results may reflect a broader trend: the post-political consensus and adjacent narratives of progress and wealth appear weakened (Marquardt and Lederer, 2022). Still, the formulation of alternative positive signifiers or positive visions appears to be inhibited (Swyngedouw, 2011; Blühdorn et al., 2020, 17). Some climate activists shift towards post-apocalyptic visions, which other authors describe as challenging the "*modern arrow of time*" (Friberg, 2022; Hanusch and Meisch, 2022; Knops, 2023). However, I found that NCMs narratives continue to focus on criticizing the political inaction and immorality of actors that continue to support fossil fuels, instead of engaging in the deeper social root causes (Stuart, 2022; Swyngedouw, 2022; De Moor and Marquardt, 2023).

This situation encapsulates the essence of the seminal work of Mark Fisher on capitalist realism, in which he highlights that it is "*now easier to imagine the end of the world than the end of capitalism*" (Fisher, 2009, p. 2).

6 Conclusion

Is another world possible? This article compared the future-related narratives of two of the most prominent new climate movements in Germany, Fridays for Future and Extinction Rebellion from 2019 to 2022. I proposed a new framework for studying dynamics of (de-) politicization based on the dimensions of *visions*, *agency* and *process*, with a particular focus on how climate futures are formulated, and which epistemic and imaginative logics are used, and how it ascribes authority to specific ways of formulating climate futures. The analysis shows important dynamics of politicization along the lines of an *intergenerational divide*, and especially from 2021 to 2022 of *climate justice and intersectionality*. Over time, both movement groups have sought to combine calls for climate protection with climate and social justice and became ever more critical of 'the system'. Yet, there are ongoing struggles for NCMs to imagine and communicate alternative climate futures that depart from the dualism of *collapse* and *modernity*, understood as the post-political state of climate politics. By utilizing this framework, I was able to situate the origins of these struggles at the dominant *process* understandings around consensus and urgency, which link to the IPCC-based framing of climate change. Here, agency is given back to institutions of the state and science, and as a result, more comprehensive visions and pathways of systemic and institutional changes are not frequently formulated. This undermines a more systematic inclusion of important politicizing elements that correspond with principles of climate justice. This co-occurrence of both politicizing and de-politicizing elements can be described as a *bounded politicization*.

The presented case study is limited as it only covered two movement groups (FFF and XR) in one country (Germany) and focused on public communication in two timeframes. Further insights into other forms of communication, as well as comparing the results to transnational NCMs in other countries would be valuable. Given the advent of new climate activist groups, a comparison could shed light on continuities and developments. Moreover, more systematic studies of how movement narratives and especially its (de-)politicizing elements disseminate to other arenas (politics, media, economy, science, local) are desirable. Finally, this research covered mainly public communication. Given that individual blog posts in the sample departed more strongly from other types of public messaging such as press releases, in-depth research through interviews and observations, as well as discourse networks around movements on social media may now help to situate the existing diversity of perspectives and understand how they might be integrated into movement strategies and communication in the future. The latest developments, such as XR's rejection of the net-zero target, the adoption of de-growth demands,[9] and FFF's ongoing strategical development towards forming long-term alliances with groups like trade unions[10] highlight that the NCMs might start to depart towards alternative process understandings beyond *consensus* and *urgency*.

Given the relevance of model-based imaginative logics, driving emergency and consensus-orientation in NCMs' discourses, we may also wonder about the wider consequences of this '*epistemological monoculture*' (de Sousa Santas, 2020; Stoddard et al., 2021), and how it might involuntarily contribute to reproducing post-political elements in climate politics, as its ideals of neutrality and relevance correspond to upholding dominant political, economic institutions and dominant narratives (Turnhout and Lahsen, 2022; Turnhout, 2024). This risks to narrow the corridor of what is deemed possible and what is necessary (Beck and Mahony, 2018b; Braunreiter et al., 2021), and delay discussion about other possible mitigation pathways (Lövbrand et al., 2015; Andersson and Westholm, 2019; Pielke and Ritchie, 2021). Scholars therefore call for a 'reflexive turn' in the dominant practices of environmental science (Hulme, 2011; Beck and Mahony, 2018a; Braunreiter et al., 2021), and a stronger engagement with other disciplines such as critical social sciences (Lövbrand et al., 2015; Sultana, 2022; Turnhout and Lahsen, 2022), diverse ways of knowing, and other ways of representing climate futures (Milkoreit, 2017; Veland et al., 2018). These considerations about the epistemic and political order, power and hegemony highlight that transformative changes may not only necessitate facilitating fast political action on climate change, but also constructing forms of 'green knowledge' (Jamison, 2010) through the engagement of various actors. Jamison describes this knowledge as explicitly change-oriented, focused on values of justice and fairness, and "*[mix] natural and social, local and global, academic and activist forms of knowledge in new combinations*" (Jamison, 2010, 819), in order to formulate 'hybrid imaginations'. Such knowledge and imaginations however, may need to reach beyond calls for urgency and consensus, and center around the varied reasons for disagreement about climate change (Hulme, 2009). While time matters for climate change, a shift towards acknowledging conflict, pluralism and differentiated temporalities (Machin, 2022; De Moor, 2023) might provide novel opportunities to problematize dominant narratives, cultivate alternative visions of climate futures, and contribute to transformative long-term changes.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

CP: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing.

9 https://extinctionrebellion.de/wer-wir-sind/unsere-forderungen/; https://public.extinctionrebellion.de/index.php/s/PKd2nNWpS6AexJD

10 https://fridaysforfuture.de/wirfahrenzusammen/

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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